



SOUTHERN NEVADA
WATER AUTHORITY

AGENDA

SOUTHERN NEVADA WATER AUTHORITY BOARD OF DIRECTORS

REGULAR MEETING
9:00 A.M. – JULY 17, 2014

BOARD CHAMBERS, SOUTHERN NEVADA WATER AUTHORITY
100 CITY PARKWAY, SEVENTH FLOOR, LAS VEGAS, NEVADA
(702) 258-3100

Board of Directors

Mary Beth Scow, Chair
Sam Bateman, Vice Chair
Susan Brager
Bob Coffin
Duncan McCoy
Steve Sisolak
Anita Wood

John J. Entsminger,
General Manager

Date Posted: 07/10/2014

The Southern Nevada Water Authority makes reasonable efforts to assist and accommodate persons with physical disabilities who desire to attend the meeting. For assistance, call Katie Horn at (702) 870-2011 at least 24 hours prior to the meeting.

THIS MEETING HAS BEEN PROPERLY NOTICED AND POSTED IN THE FOLLOWING LOCATIONS:

City of Boulder City, City Hall
401 California Street
Boulder City, Nevada

City of Henderson, City Hall
240 Water Street
Henderson, Nevada

City of North Las Vegas, City Hall
2250 Las Vegas Boulevard North
North Las Vegas, Nevada

City of Las Vegas, City Hall
495 South Main Street
Las Vegas, Nevada

Clark County Government Center
500 S. Grand Central Parkway
Las Vegas, Nevada

Clark County Water Reclamation District
5857 E. Flamingo Road
Las Vegas, Nevada

Southern Nevada Water Authority
100 City Parkway, Suite 700
Las Vegas, Nevada

Las Vegas Valley Water District
1001 S. Valley View Boulevard
Las Vegas, Nevada

All items on the agenda are for action by the Board of Directors, unless otherwise indicated. Items may be taken out of order. The board may combine two or more agenda items for consideration, and the board may remove an item from the agenda or delay discussions relating to an agenda item at any time.

CALL TO ORDER

COMMENTS BY THE GENERAL PUBLIC

NO ACTION MAY BE TAKEN: This is a period devoted to comments by the general public pertaining to items on this agenda. If you wish to speak to the Board about items within its jurisdiction, but not appearing on this agenda, you must wait until the "Comments by the General Public" period listed at the end of this agenda. Please limit your comments to three minutes or less and refrain from making comments that are repetitious, offensive, or amounting to personal attacks. No action may be taken upon a matter not listed on the posted agenda.

ITEM NO.

1. *For Possible Action:* Approve agenda with the inclusion of tabled and/or reconsidered items, emergency items and/or deletion of items, and approve the minutes of the regular meeting of May 15, 2014.
2. *For Possible Action:* Appoint a chairman and vice chairman to preside over the Board of Directors for fiscal year 2014/2015, and appoint three directors to serve as commissioners of the Colorado River Commission for one-year terms.

BUSINESS AGENDA

3. *For Possible Action:* Approve and authorize the General Manager to enter into an assistance agreement between the Bureau of Reclamation and the Authority, to accept a grant to conduct bird surveys in the Las Vegas Wash, and authorize the General Manager to approve future modifications only if the future modifications do not fiscally impact the Authority.
4. *For Possible Action:* Approve an agreement between the Water Environment Research Foundation and the Authority for the "Evaluating Fate Mechanisms for Contaminants of Concern in BNR Treatment Systems" study, and accept funds for this research work.

5. *For Possible Action:* Approve an agreement between the University of Cincinnati and the Authority for the University of Cincinnati's participation as Co-Principal Investigator in the Water Environment Research Foundation's "Evaluating Fate Mechanisms for Contaminants of Concern in BNR Treatment Systems" study.
6. *For Possible Action:* Approve Project Services Agreement No. 2A: Eastern Nevada Transmission Project Development Agreement among the Silver State Energy Association and its specified members: City of Boulder City, Lincoln County Power District No. 1, Overton Power District No. 5, and the Authority.
7. *For Possible Action:* Approve a Solar Project Power Purchase Agreement between River Mountains Solar LLC and the Authority to purchase electrical power from a solar photovoltaic generation facility located at the River Mountains Water Treatment Facility.
8. *For Possible Action:* Approve an agreement, in substantially the same form, between the Wyoming Water Development Office and the Authority to provide supplemental funds for the Wyoming Weather Modification Program.
9. *For Possible Action:* Approve an agreement, in substantially the same form, among the Bureau of Reclamation, the Arizona Department of Water Resources, the (California) Six Agency Committee, the Colorado Water Conservation Board, the New Mexico Interstate Stream Commission, the Utah Division of Water Resources, the Wyoming State Engineer's Office, and the Authority to fund the Next Steps Phase I Activities Related to the Colorado River Basin Water Supply and Demand Study
10. *For Information Only:* Receive an update from staff on water resources including, but not limited to, drought conditions in the Colorado River Basin, the results of the implementation of the Authority's Water Resource and Conservation Plans, activities on the Colorado River, the development of in-state water resources, and the status of the third intake project.

COMMENTS BY THE GENERAL PUBLIC

NO ACTION MAY BE TAKEN: At this time, the Board of Directors will hear general comments from the public on matters under the jurisdiction of the Southern Nevada Water Authority. Please limit your comments to three minutes or less and refrain from making comments that are repetitious, offensive, or amounting to personal attacks. No action may be taken upon a matter not listed on the posted agenda.

Visit our website at www.snwa.com/apps/agenda/snwa/index.cfm
for Southern Nevada Water Authority Agenda Postings and Approved Minutes

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
REGULAR MEETING
MAY 15, 2014
MINUTES**

CALL TO ORDER 9:05 a.m., SNWA Board Chambers, Southern Nevada Water Authority
100 City Parkway, Seventh Floor, Las Vegas, Nevada

BOARD MEMBERS PRESENT Mary Beth Scow, Chair (Via phone for item no. 6)
Sam Bateman, Vice Chair (Acting chair)
Susan Brager (via phone for item no. 9)
Bob Coffin
Duncan McCoy
Steve Sisolak
Anita Wood

BOARD MEMBERS ABSENT None

STAFF PRESENT John Entsminger, Greg Walch, David Wright, Dave Johnson, Julie Wilcox,
Marc Jensen

OTHERS PRESENT None

Unless otherwise indicated, all members present voted in the affirmative.

Agenda Item No. 6 was taken out of order.

COMMENTS BY THE GENERAL PUBLIC

For complete comments, audio is available online at snwa.com

There were no persons wishing to speak.

1. For Possible Action: Approval of Agenda & Minutes

FINAL ACTION: A motion was made by Director Sisolak to approve the agenda for this meeting, and the meeting minutes of March 20, 2014, and the special meeting of April 17, 2014. The motion was approved.

6. For Possible Action: Authorize the General Manager to extend existing leases for a period of two years on shares in the Muddy Valley Irrigation Company, the Bunkerville Irrigation Company, and the Mesquite Irrigation Company, execute ministerial documents to effectuate the transactions, and pay the associated administrative costs of the irrigation companies for an amount not to exceed \$3,000,000.

John Entsminger, SNWA General Manager, provided a brief overview of the item, noting that leased and purchased water rights on the Muddy and Virgin rivers allow the SNWA to protect Lake Mead elevations when demand does not require their use. Additionally, these water rights can be utilized to meet demands during declared shortages on the Colorado River.

FINAL ACTION: A motion was made by Director Wood to follow staff's recommendation. The motion was approved.

2. For Possible Action: Conduct a Public Hearing on the Tentative Budget for the Authority and subsequently adopt a Final Budget for fiscal year 2014/2015.

Mr. Entsminger and David Wright, SNWA Chief Financial Officer, gave a presentation on the tentative budget for the Authority. Dave Johnson, SNWA Deputy General Manager – Engineering and Operations, provided an update on SNWA's asset management program. A copy of their presentation is attached to these minutes.

Director Wood asked about the impacts experienced by rate payers since implementation of the recent rate increase. Mr. Entsminger responded that response to the rate increase has been minimal, but noted that it was implemented in winter, when water consumption is typically low among water users.

Director McCoy thanked staff for a clear and easy-to-understand presentation of the budget.

In response to an inquiry from Director Coffin, Mr. Entsminger outlined the activities underway to assist outplaced employees, and indicated that staff will research possible additional actions.

Following no additional comments or questions from the Board, Vice Chair Bateman opened the Public Hearing.

Ed Uehling, Las Vegas, discussed the SNWA's recent rate increases and employee wages.

With no additional people wishing to speak, Vice Chair Bateman closed the public hearing.

FINAL ACTION: A motion was made by Director Sisolak to follow staff's recommendation. The motion was approved.

CONSENT AGENDA Items 3 - 4 are routine and can be taken in one motion unless a Director requests that an item be taken separately.

3. ***For Possible Action:*** Approve an interlocal agreement between the Clark County Water Reclamation District and the Authority for Las Vegas Valley shallow groundwater quality data gathering, storage, and gap analysis, and accept funds in the amount of \$200,000 for the Authority's participation costs.
4. ***For Possible Action:*** Approve an interlocal agreement among the City of Henderson, the City of Las Vegas, the City of North Las Vegas, Clark County, the Clark County Regional Flood Control District, the Clark County Water Reclamation District, and the Authority to establish funding allocations and the budget for Las Vegas Wash activities in fiscal year 2014/2015.

FINAL ACTION: A motion was made by Director McCoy to follow staff's recommendations. The motion was approved.

BUSINESS AGENDA

5. ***For Possible Action:*** Approve an agreement between Carollo Engineers, Inc., and the Authority for participation in a Texas Water Development Board study, "Testing Water Quality in a Municipal Wastewater Effluent Treated to Drinking Water Standards," and accept funds in the amount of \$33,000 for the Authority's participation costs.

Director Sisolak asked for clarification of Carollo Engineers' disclosure statement, specifically the statement that the firm was unaware of any conflicts of interest between the firm and the SNWA, but some might exist. Greg Walch, General Counsel, confirmed that the disclosure statement was fair.

Director Coffin asked about the SNWA's level of awareness of pharmaceuticals and other characteristics that are not regulated by state and federal drinking water standards within the community's water supply. Mr. Johnson reported that the SNWA conducts extensive research on the topic and is often sought out as an industry expert from other utility agencies. He went on to discuss the SNWA's monitoring program for the community's raw and treated water, and how Lake Mead Intake No. 3 will access better quality water in Lake Mead.

FINAL ACTION: A motion was made by Director Wood to follow staff's recommendation. The motion was approved.

7. ***For Possible Action:*** Authorize the Authority's intervention in Nevada Power Company's General Rate Case.

Mr. Walch noted that while he does not anticipate that NV Energy's rate case will impact the SNWA, the SNWA needs the ability to intervene in the event the organization needs to file testimony.

FINAL ACTION: A motion was made by Director McCoy to follow staff's recommendation. The motion was approved.

8. For Possible Action: Adopt the Authority's Water Conservation Plan.

Mr. Entsminger noted that state of Nevada requires water utilities to maintain a five-year water conservation plan and that the SNWA's existing plan requires an update in 2014. He went on to add that the SNWA's Integrated Resource Planning Advisory Committee will be evaluating the SNWA's conservation program and making recommendations for the Board's consideration early next year. Should any approved recommendations impact the existing conservation plan, the SNWA will update the plan.

FINAL ACTION: A motion was made by Director Wood to follow staff's recommendations. The motion was approved.

9. For Information Only: Receive an update from staff on water resources including, but not limited to, drought conditions in the Colorado River Basin, the results of the implementation of the Authority's Water Resource and Conservation Plans, activities on the Colorado River, the development of in-state water resources, and the status of the third intake project.

Mr. Walch gave a presentation on drought conditions, which is attached to these minutes. Director Sisolak noted a California desalination plant coming online and asked for the SNWA's opinion on desalination as a long-term solution. Mr. Entsminger noted that desalination remains a long-term component of the SNWA's water resource portfolio, but significant challenges remain for Southern Nevada including water production and price per acre-foot. Mr. Entsminger noted a more feasible option, including an exchange of Colorado River water for desalinated water in Mexico, as part of Minute 319. Director Sisolak requested an annual update on desalination activities in California and Mexico. Director Coffin agreed with Director Sisolak, reiterating the importance of understanding desalination and integrating the resource when it's appropriate for Southern Nevada.

Marc Jensen, SNWA Engineering Director, provided a brief update on Lake Mead Intake No. 3.

NO ACTION NECESSARY.

Public Comment

Ed Uehling, Las Vegas, discussed issues related to water quality including the Las Vegas Wash discharge into Lake Mead, the cost of financing the SNWA's Groundwater Development Project, desalinated resources and using water rates to promote water conservation.

Adjournment

There being no further business to come before the board, the meeting adjourned at 10:06 a.m.

APPROVED:

Mary Beth Scow, Chair

John J. Entsminger, General Manager

Copies of all original agenda items and minutes, including all attachments, are on file in the General Manager's office at the Las Vegas Valley Water District, 1001 South Valley View Boulevard, Las Vegas, Nevada.



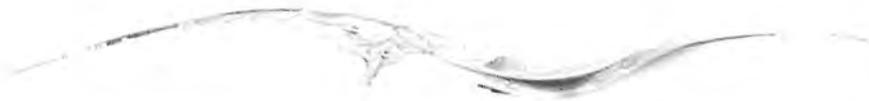
SOUTHERN NEVADA WATER AUTHORITY®

2014/15 Fiscal Year
Budget Public Hearing
May 15, 2014

1

Fiscal Year 2014-15 Budget

- **Recession Impacts**
- **Response to Economic Conditions**
- **Current Environment**
- **Strategic Plan Development**



2

Strategic Plan - Goals

- **Assure quality water through reliable and highly efficient systems**
- **Deliver an outstanding customer service experience**
- **Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment**
- **Develop innovative and sustainable solutions through research and technology**
- **Ensure organizational efficiency and manage financial resources to provide maximum customer value**
- **Strengthen and uphold a culture of service, excellence and accountability**



3

Organizational Direction

- **The SNWA Board of Directors has provided direction:**
 - Streamline the organization to address current and future community needs
 - Make operational efficiency and service to purveyors and customers ultimately the hallmarks of the realigned organization
 - Begin to focus on long-term asset management
 - Provide rate stability



4



Asset Management: Existing Infrastructure

- **Gross book value of all SNWA water facilities: \$3 billion**
 - Subject to depreciation
 - Current replacement value is much higher

- **Includes facilities constructed by the Colorado River Commission (CRC) and Bureau of Reclamation (BOR)**
 - Construction beginning in 1968
 - Intake No. 1 construction completed in 1971
 - SNWA construction beginning in 1995

- **CRC and BOR facilities transferred to SNWA in 1996**



Asset Management: Major Components

- **Water Treatment Facilities**
 - Alfred Merritt Smith
 - River Mountains
- **Lake Mead Intake 1 and 2 (#3 under construction)**
- **Water Quality Laboratory**
- **28 Pumping Stations**
- **38 Reservoirs**
- **Approximately 163 miles of lateral**



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Asset Management Goals

- **Reduce life-cycle costs while meeting water quality standards and reliability goals by:**
 - Developing maintenance and repair strategies that extend infrastructure life and prevent failures
 - Assessing condition of critical assets to prioritize short-term renewal requirements
 - Planning for long-term expenditures required to maintain high quality service levels
 - Keeping costs to a minimum over the long run by maximizing asset life



8

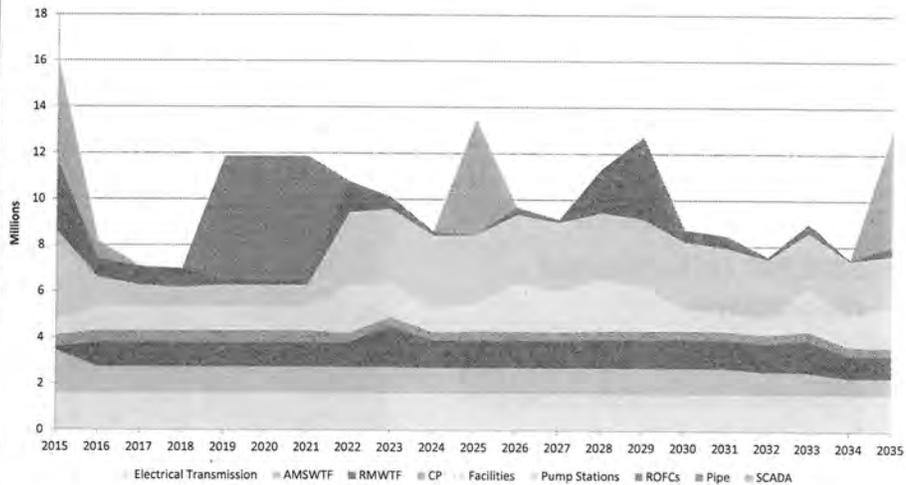
Asset Management: Renewal Needs

- Major infrastructure cost projections include:
 - AMSWTF and RMWTF - \$2M per year
 - SCADA upgrades - \$5M every 10 years starting in 2024
 - Rate-of-Flow Control Stations - \$4M 2026-2028
 - Electrical Transmission Infrastructure – \$1.6M per year
 - Pumping Station Infrastructure-\$3M per year



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Asset Management: 20 Year Forecast



Asset Management

Infrastructure	Short Term (2015 to 2021)	Long Term (Avg Annual Cost)	Every 10 Years	Every 20 to 30 Years	More Than 30 Years Out
Electrical Transmission System		\$ 1,600,000			
AMSWTF	\$ 8,708,815	\$ 1,125,863			
RMWTF	\$6,494,000	\$ 1,129,192			
Cathodic Protection	\$3,500,000	\$ 381,167			
Facilities	\$6,813,392	\$1,230,189			
Pump Stations	\$9,795,980	\$3,067,419			
Rate of Flow Control Stations	\$6,084,402	\$454,472			
Pipe	\$16,136,863	\$0	\$0	\$0	\$2,500,000
SCADA	\$5,150,000		\$5,000,000	\$40,000,000	
TOTAL	\$62,683,452	\$8,988,301	\$5,000,000	\$ 40,000,000	\$2,500,000

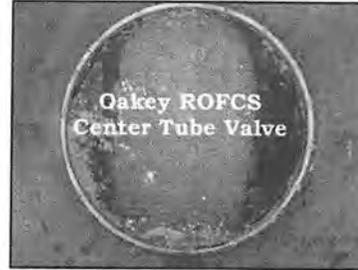
Asset Management: Short-Term Needs

- **\$600,000 - Ozone generator rehabilitation**
- **\$400,000 - Rebuild 2 treatment tanks at AMSWTF**
- **\$300,000 - Hitachi motor replacements**
- **\$150,000 - Refurbish 2 sodium hypochlorite generators**



Asset Management: Short-Term Needs

- \$3.05 Million - Replace Stage II Valves and Venturi Meters
- \$700,000 - Pumping station 1B and 2B isolation valves
- \$500,000 - Cathodic protection upgrades
- \$300,000 - Pumping station roof repairs



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BUDGET

14

FY 2013-14 vs. 2014-15 Budget Highlights

- **Sources of Funds to increase by \$36 million**
 - \$20 million from IRPAC recommended rate adjustments
 - \$18 million from Connection Charges due to growth
 - Sales tax revenues steadily improving
- **Uses of Funds to increase by \$10 million**
 - Debt Service to increase \$20 million as “debt spike” begins
 - Payroll to decrease by \$2.6 million, but \$6 million lower than originally projected in tentative budget
 - Asset management to increase by \$6 million for multi-year deferrals
 - Construction expenditures decreased by \$17 million
- **IRPAC**
 - On track to meet IRPAC recommended New Expansion Debt Service fund balance target of \$280 million plus adequate funding to pay debt service through 2021

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Sources of Funds

FY 2013-14 Budget vs. FY 2014-15 Budget

	Budget	Budget	Difference	
	2013-14	2014-15	\$	%
Wholesale Delivery Charge	\$ 122.0	\$ 123.4	\$ 1.4	1.1%
Infrastructure Charge	77.4	87.2	9.8	12.7%
Connection Charges	13.1	30.7	17.6	134.4%
Regional Water Rates	44.0	54.3	10.3	23.4%
Sales Tax	51.3	53.7	2.4	4.7%
All Other	20.6	15.5	(5.1)	-25.0%
TOTAL SOURCES	\$ 328.4	\$ 364.8	\$ 36.4	11.1%

millions

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Uses of Funds

FY 2013-14 Budget vs. FY 2014-15 Budget

	Budget	Budget	Difference	
	2013-14	2014-15	\$	%
Power	\$ 44.3	\$ 45.8	\$ 1.5	3.4%
Construction Expenditures	127.7	110.5	(17.2)	-13.5%
Payroll	68.6	66.0	(2.6)	-3.8%
Operating Expenses	27.9	30.2	2.3	8.2%
Capital Expenses	34.9	40.6	5.7	16.3%
Debt Service	150.7	170.5	19.8	13.1%
TOTAL USES	<u>\$ 454.1</u>	<u>\$ 463.6</u>	<u>\$ 9.5</u>	<u>2.1%</u>
NET ACTIVITY	<u>\$ (125.7)</u>	<u>\$ (98.8)</u>	<u>\$ 26.9</u>	<u>-21.4%</u>

millions

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IRPAC Recommendation No. 6

- IRPAC modeled that \$20.9 million would be collected from phased-in rates during FY 2013-14 and FY 2014-15. Those funds being set aside in fund balance to pay future debt service.
- Budget forecasts currently show revenues are on target with IRPAC phased-in rate projections.

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IRPAC Recommendations No. 7 and No. 8

- **No. 7 – Connection Charges over 2014 base year of \$16.1 million; and**
- **No. 8 – Fund balance above \$280 million (not including funds identified to pay debt service) only used to:**
 - Redeem outstanding bonds, thereby reducing outstanding debt and future debt service requirements
 - Acquire capital assets that would otherwise need to be funded with borrowed money, thus avoiding additional debt and debt service
 - Moderate further the impact of future rate increases
 - Reduce water rates

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IRPAC Recommendations No. 7 and No. 8

- **FY 2014-15 Budget Projections:**

	<u>Proposed June 30, 2015</u>
Excess Connection Charges (#7)	\$ 19.1
Funds in Excess of Target Balance (#8)	<u>3.1</u>
	\$ 22.2
	(millions)

- **At June 30, 2015, Fund Balance in excess of IRPAC projection of appx. \$22 Million will be available for the options recommended by IRPAC**
- **Staff recommends reviewing the IRPAC recommendation reserve levels twice a year:**
 - When the budget is considered each spring
 - When the audit is considered in the fall

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Budget Summary

	Wholesale Delivery Operations	New Expansion Debt Service	MCCP Construction	Groundwater Program	Las Vegas Wash	Total
Beginning Balance (July 1, 2014)	\$ 26.7	\$ 340.7	\$ 150.2	\$ 1.7	\$ -	\$ 529.3
Sources of Funds:						
Wholesale Delivery Charge	123.4	-	-	-	-	123.4
Other Revenue	1.3	1.4	0.1	-	-	2.8
Regional Connection Charge	-	80.7	-	-	-	80.7
Regional Infrastructure Charge	-	87.2	-	-	-	87.2
Regional Commodity Charge	-	49.4	-	-	-	49.4
Reliability Surcharge	-	4.9	-	-	-	4.9
Sales Tax	-	50.2	-	-	8.5	58.7
Groundwater Program Fees	-	-	-	0.8	-	0.8
LV Wash Program Fees	(1.2)	-	-	-	2.0	0.7
Intra-Fund Loans	-	(6.6)	-	-	6.8	-
Debt Issuance Proceeds	-	-	-	-	-	-
Grant Proceeds	0.2	0.7	-	-	8.2	9.1
Interest Income	0.1	1.1	0.3	0.0	-	1.5
Total Sources of Funds	123.6	219.1	0.4	0.8	20.7	364.6
Uses of Funds:						
Energy	44.4	-	1.4	-	-	45.8
Payroll	37.0	20.4	6.6	0.5	1.5	66.0
Operating Expenses	28.7	-	-	0.7	0.8	30.2
Capitalized Expenses	-	5.5	31.1	-	-	40.6
Cap/Cont Expenditures	-	-	92.2	-	-	92.2
Debt Service	13.0	157.6	-	-	18.3	170.9
Total Uses of Funds	123.0	187.4	111.4	1.2	20.6	443.6
FY14-15 Net Change	0.6	31.7	(111.0)	(0.3)	0.1	(98.9)
Ending Balance (June 30, 2015)	\$ 20.3	\$ 372.4	\$ 25.2	\$ 1.4	\$ 0.1	\$ 425.4

Amounts may be slightly off due to rounding.

millions

Fiscal Year 2014-15 Budget

- Is responsible to customers and operations
- Enhances SNWA's implementation of the new Strategic Plan
- Continues to provide high level service to purveyors and customers
- Maintains payroll costs at sustainable levels which are below 2009-10 expenses
- Increases funding of asset management efforts
- Tracks IRPAC recommended balance levels



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Update on Drought Conditions and Water Use

May 15, 2014

Drought Monitor (May 6, 2014)

Author:
Mirk Svoboda
National Drought Mitigation Center

Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

USDA

<http://droughtmonitor.unl.edu/>



Colorado River Basin Conditions

April Inflow to Lake Powell:
91% of average

Snow Pack: 119% of average

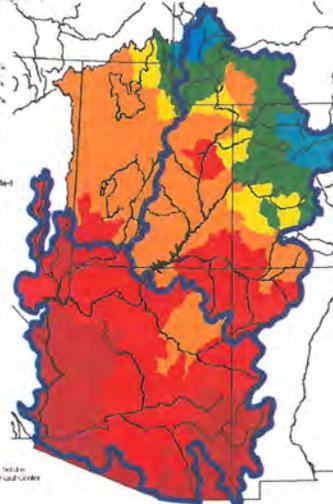
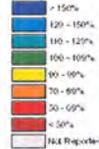
Water Year 2014 Precipitation:
101% of average

Forecasted Water Year 2014 Inflow to Lake Powell: 100% of average

Seasonal Precipitation, October 2013 - April 2014

(Averaged by Hydrologic Unit)

% Average



Prepared by:
Bureau of Reclamation, Lower Colorado Water Supply
Colorado River Division, Fort Collins, Colorado
Full Lake (2014) Map
www.fws.gov/rlw/



Precipitation and Inflow Forecast – Lake Powell

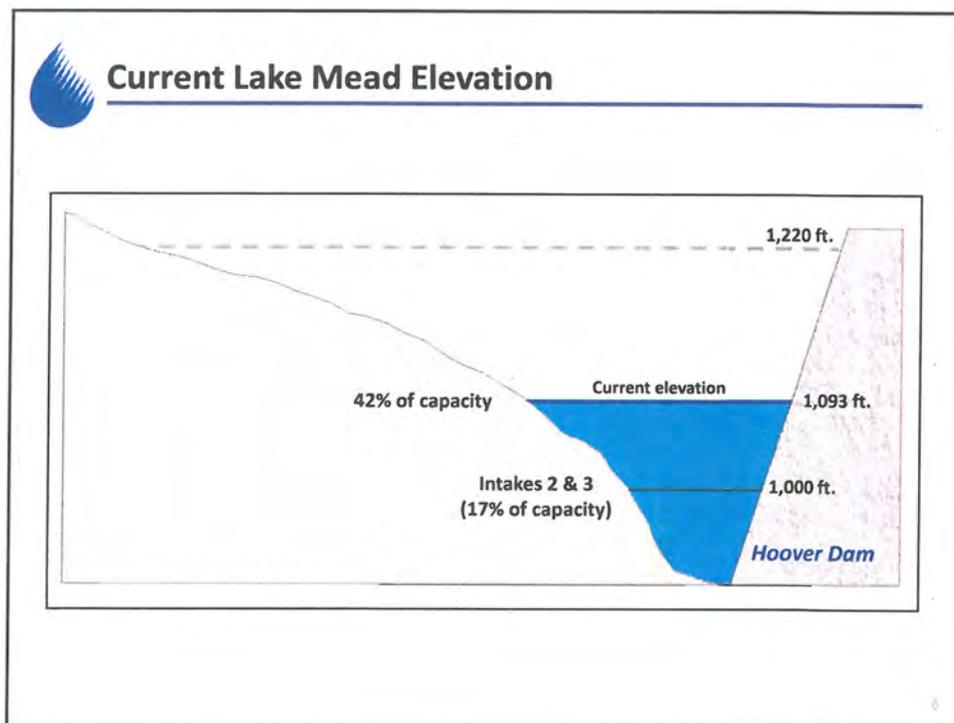
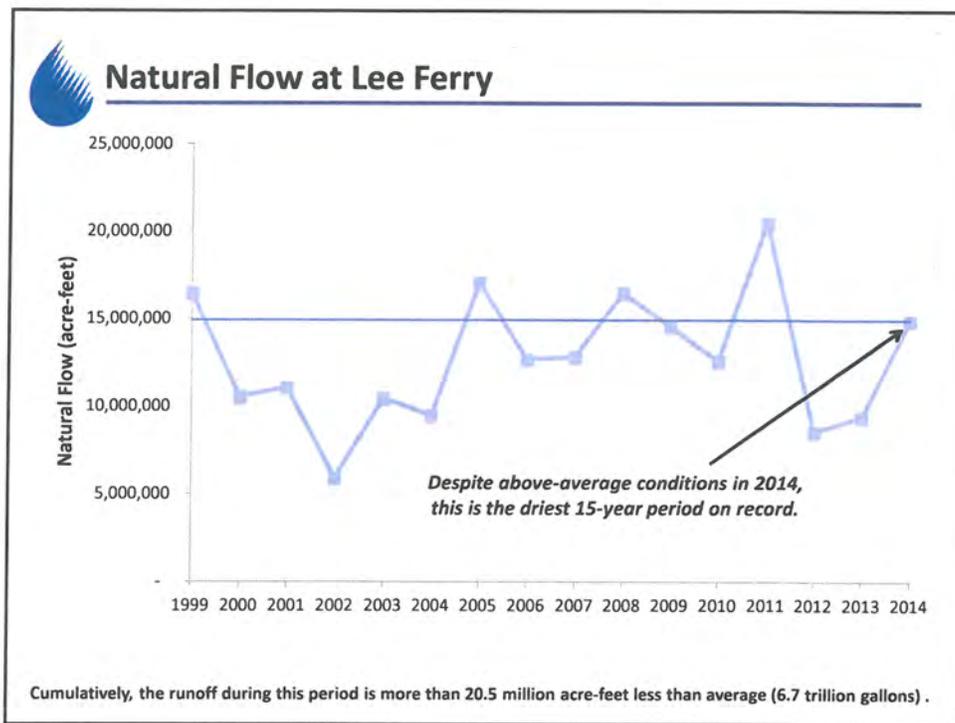
2013 Water Year

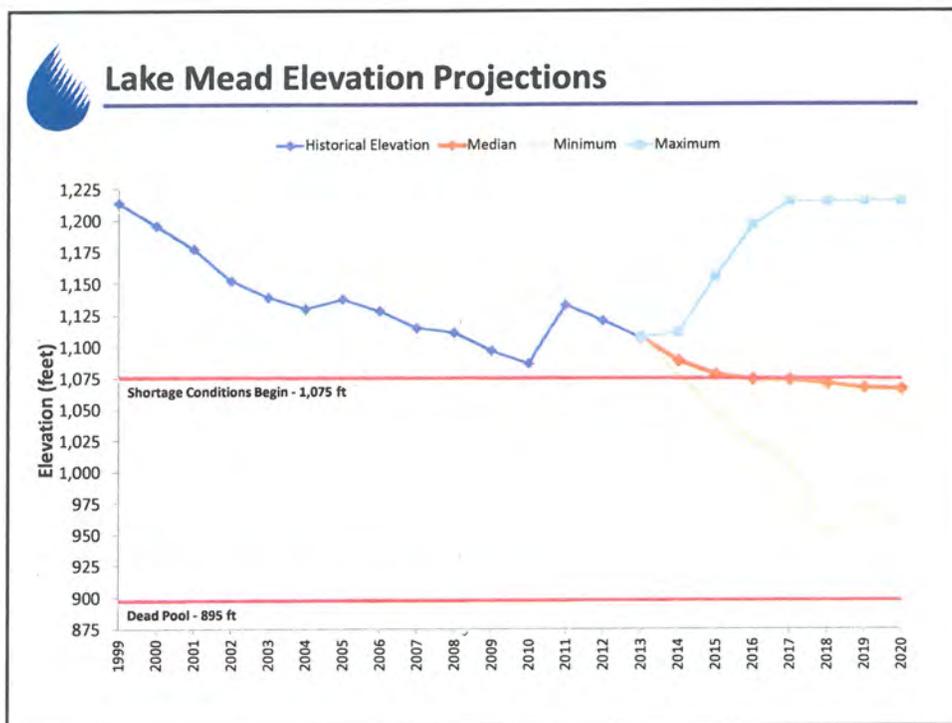
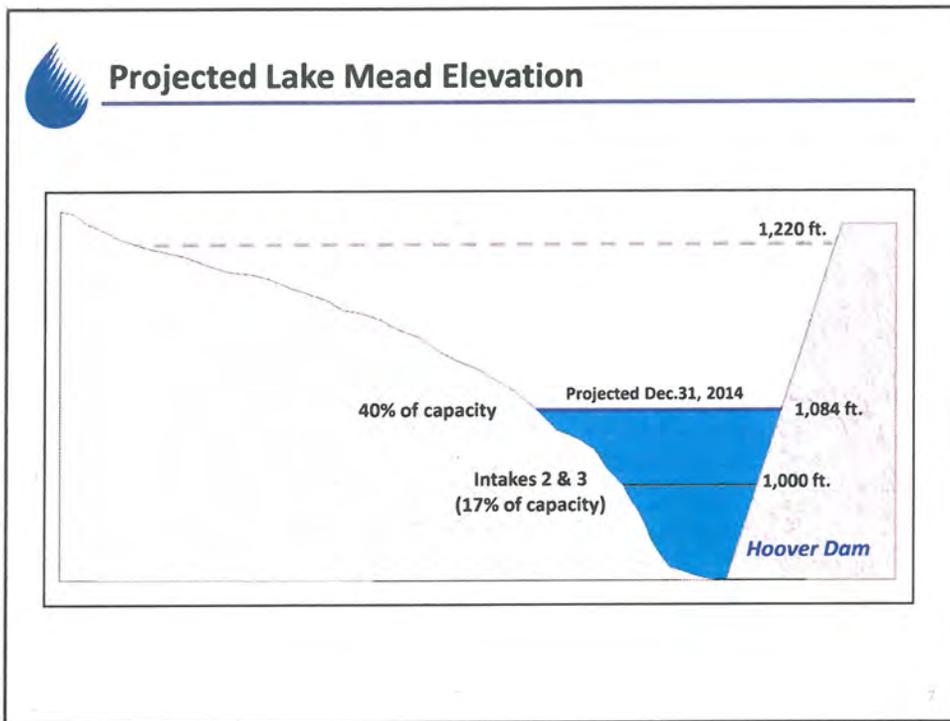
Month	Actual Precipitation	Inflows Forecast
Jan	72%	61%
Feb	78%	54%
Mar	76%	49%
Apr	78%	42%
May	80%	45%
Jun	77%	44%
Jul	80%	41%
Aug	81%	40%
Sept	90%	46%
Actual	91%	47%

2014 Water Year

Actual Precipitation	Inflows Forecast
96%	93%
102%	96%
103%	105%
103%	103%
101%	100%

Source: Bureau of Reclamation, Lower Colorado Water Supply Reports



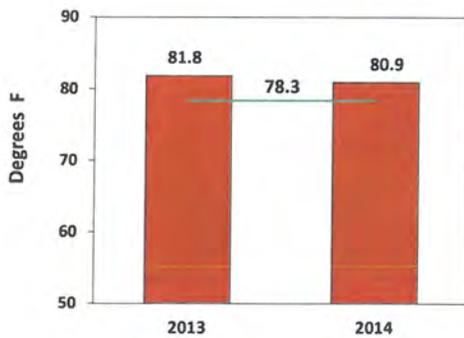


SNWA Water Use

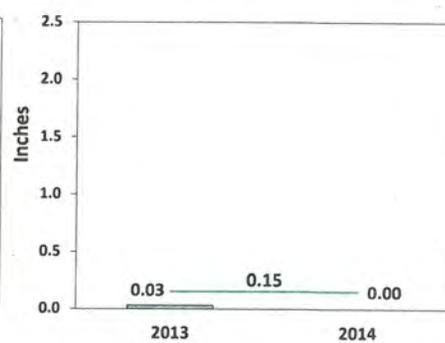


Weather Comparison (April 2014)

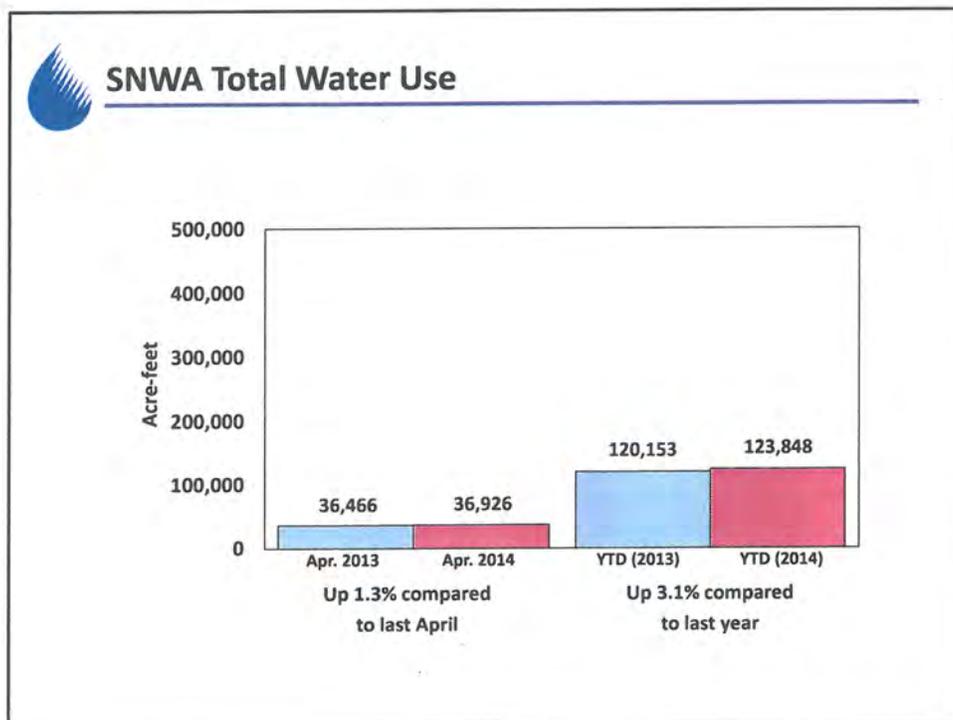
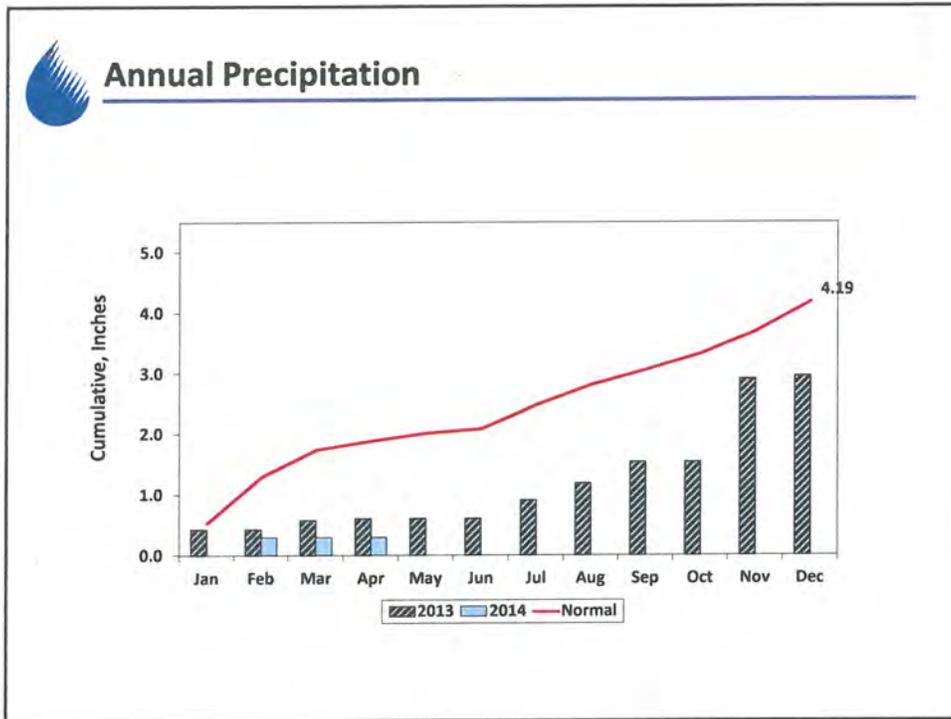
Temperature

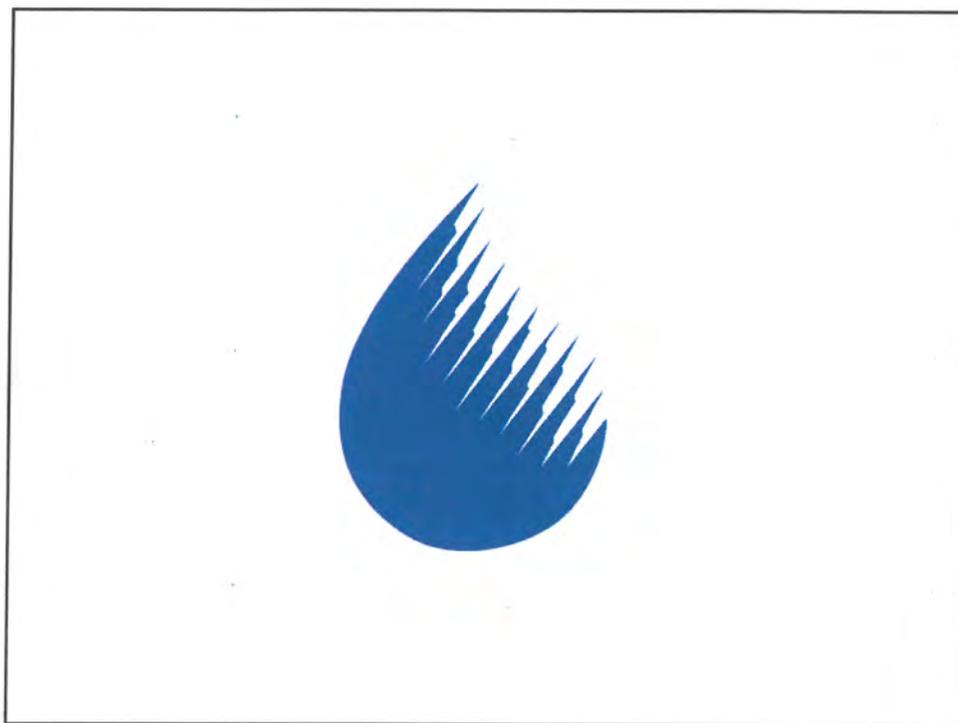


Precipitation



— Normal values





**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Appointment of Chairman and Vice Chairman, and Appointment of Authority Directors to the Colorado River Commission	Director's Backup
Petitioner: John J. Entsminger, General Manager	
Recommendations: That the Board of Directors appoint a chairman and vice chairman to preside over the Board of Directors for fiscal year 2014/2015, and appoint three directors to serve as commissioners of the Colorado River Commission for one-year terms.	

Fiscal Impact:

None by approval of the above recommendation.

Background:

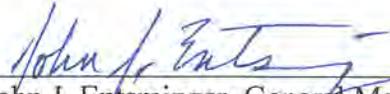
Section 20(a) of the SNWA 1995 Amended Cooperative Agreement requires the Board of Directors to appoint a chairman and vice chairman from its membership. Currently, Mary Beth Scow serves as chair and Sam Bateman serves as vice chair.

NRS 538.051 provides for the appointment of three directors of the Authority to serve as commissioners on the seven-member Colorado River Commission of Nevada (CRC). Currently, Directors Bob Coffin, Duncan McCoy, and Steve Sisolak serve as Authority representatives on the CRC.

At this time, the Board is being asked to appoint a chairman and vice chairman for fiscal year 2014/2015, and appoint three of its directors to serve as commissioners of the CRC for a one-year term.

This action is authorized pursuant to NRS 538.051 and Section 20(a) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved this item.

Respectfully submitted:


John J. Entsminger, General Manager
JJE:PDS:JAW:AMB:JCD:KH

AGENDA
ITEM #

2

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Assistance Agreement	Director's Backup
Petitioner: Julie A. Wilcox, Deputy General Manager, Administration	
Recommendations: That the Board of Directors approve and authorize the General Manager to enter into an assistance agreement between the Bureau of Reclamation and the Authority, to accept a grant for an amount not to exceed \$59,663 to conduct bird surveys in the Las Vegas Wash, and authorize the General Manager to approve future modifications only if the future modifications do not fiscally impact the Authority.	

Fiscal Impact:

None by approval of the above recommendation.

Background:

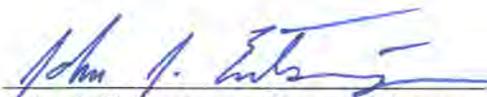
On January 20, 2000, the Board of Directors approved the Las Vegas Wash Comprehensive Adaptive Management Plan (CAMP), which outlines actions required to achieve the long-term stabilization, management, and enhancement of the Las Vegas Wash (Wash). Since that time, substantial progress has been made in the Wash, including the construction of 16 erosion control structures; stabilization of nearly 11 miles of banks; removal of more than 1,300 acres of exotic plants; and the re-vegetation of more than 400 acres of wetland, riparian, and upland areas.

In the CAMP, the Las Vegas Wash Coordination Committee (LVWCC) recommended the development of long-term management and monitoring plans. By approval of this assistance agreement, the Bureau of Reclamation (Reclamation) will provide \$59,663 to conduct bird counts in the Wash, which will further contribute to accomplishing the CAMP goals. This specific agreement requires no matching contribution by the Authority. However, pursuant to an existing Memorandum of Understanding between Reclamation and the Authority that addresses the broader Lake Mead/Las Vegas Wash program (Program), the Authority has a cost-share responsibility of 35 percent, with the remaining 65 percent borne by Reclamation. The Authority provides Reclamation non-federal cost-share documentation annually that lists the in-kind and direct expenditures related to the Wash Program.

At this time, the Board is being asked to approve the assistance agreement, which includes the provisions necessary for the Authority to obtain federal funding.

This agreement is being entered into pursuant to NRS 277.180 and Section 6(o) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved the agreement.

Respectfully submitted:


John J. Entsminger, General Manager

JJE:PDS:JAW:AMB:JCD:KH:kf
Attachment

AGENDA
ITEM #

3

**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
ASSISTANCE AGREEMENT**

1A. AGREEMENT NUMBER R14AP00023		1B. MOD NUMBER N/A		2. TYPE OF AGREEMENT <input checked="" type="checkbox"/> GRANT <input type="checkbox"/> COOPERATIVE AGREEMENT		3. CLASS OF RECIPIENT Special District Government	
4. ISSUING OFFICE Bureau of Reclamation Lower Colorado Region P.O. Box 61470 Boulder City, NV 89006-1460				5. RECIPIENT Southern Nevada Water Authority 1001 S. Valley View Boulevard Las Vegas, NV 89153 EIN #: 88-0278492 County: Clark DUNS #: 135965650 Congress. Dist: 01			
6. GRANTS MANAGEMENT SPECIALIST Diana Blake (LC-10104) Bureau of Reclamation P.O. Box 61470 Boulder City, Nevada 89006-1470 Phone: (702) 293-8550; E-mail: dmblake@usbr.gov				7. RECIPIENT PROJECT MANAGER Kathy Flanagan Southern Nevada Water Authority 1001 S. Valley View Boulevard Las Vegas, NV 89153 Phone: (702) 258-3173; E-mail: kathy.flanagan@snwa.com			
8. GRANTS OFFICER TECHNICAL REPRESENTATIVE Becky Blasius (LC-2628) Bureau of Reclamation P.O. Box 61470 Boulder City, Nevada 89006-1470 Phone: (702) 293-8109; E-mail: bblasius@usbr.gov				9A. INITIAL AGREEMENT EFFECTIVE DATE: See Block 17a		9B. MODIFICATION EFFECTIVE DATE: N/A	
				10. COMPLETION DATE September 30, 2015			
11A. PROGRAM STATUTORY AUTHORITY Lake Mead / Las Vegas Wash Program, P.L. 110-161, Section 206, in furtherance of Section 529, as amended, P.L. 106-541, Section 529, as amended, S.1751, Report Number 110-127						11B. CFDA Number 15.530	
12. FUNDING INFORMATION		RECIPIENT/OTHER		RECLAMATION		13. REQUISITION NUMBER 0020046593	
Total Estimated Amount of Agreement		\$0		\$59,663.00		14A. ACCOUNTING AND APPROPRIATION DATA WBS: RX.19306030.0110000 Fund: 14XR0680A1 Fund Center: RR03026000 Commitment Item: 411C00	
This Obligation		\$0		\$59,663.00		14B. TREASURY ACCOUNT FUNDING SYMBOL 14X0680	
Previous Obligation		\$0		\$0.00			
Total Obligation		\$0		\$59,663.00			
Cost-Share %		0%		100%			
15. PROJECT TITLE: Las Vegas Wash (LVW) Birds Survey							
16a. Acceptance of this Assistance Agreement in accordance with the terms and conditions contained herein is hereby made on behalf of the above-named recipient BY: _____ DATE: _____				17a. Award of this Assistance Agreement in accordance with the terms and conditions contained herein is hereby made on behalf of the United States of America, Department of the Interior, Bureau of Reclamation BY: _____ DATE: _____			
16b. NAME, TITLE, AND TELEPHONE NUMBER OF SIGNER John J. Entsminger General Manager (702) 258-3100 <input type="checkbox"/> Additional signatures are attached				17b. NAME OF GRANTS OFFICER Shawna M. Thompson Grants Officer (702) 293-8570			

Approved as to form:

Mary E. Madden
Mary E. Madden

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**Grant Agreement
Between
Bureau of Reclamation
And
Southern Nevada Water Authority (SNWA)
For
Las Vegas Wash (LVW) Bird Surveys**

I. OVERVIEW AND SCHEDULE

1. AUTHORITY

This Grant Agreement (Agreement) is entered into between the United States of America, acting through the Department of the Interior, Bureau of Reclamation, hereinafter referred to as “Reclamation,” and the Southern Nevada Water Authority, hereinafter referred to as the “SNWA” or “Recipient,” or “Grantee,” pursuant to P.L. 110-161, Section 206, in furtherance of Section 529, as amended, P.L. 106-541, the Lake Mead / Las Vegas Wash Program, S.1751 Report Number 110-127. The following section, provided in full text, authorizes Reclamation to award this Financial Assistance Agreement:

The Secretary of the Interior shall continue to participate in and delegate the authority for continued support and implementation of the Project at Las Vegas Wash (LVW) and Lake Mead in accordance with the LVW Comprehensive Adaptive Management Plan (CAMP), to provide financial assistance to the SNWA to carry out implementation of the Project at the Las Vegas Wash and Lake Mead in accordance with the LVW CAMP: Provided, That issuance of any such grants shall not modify the cost-sharing requirement of 35% for SNWA and 65% for Reclamation.

2. PUBLIC PURPOSE OF SUPPORT OR STIMULATION

This proposal is intended to help meet the following LVW CAMP action items:

1. Action Item 1 – Install Erosion Control Structures
2. Action Item 37 – Ensure Implementation of Mitigation Measures
3. Action Item 41 - Conduct Additional Research.

The measures implemented under the Agreement assist SNWA with meeting LVW Comprehensive Adaptive Management Plan (CAMP), Action Item 1 - Install Erosion Control Structures, Action Item 37 – Ensure Implementation of Mitigation Measures and Action Item 41 - Conduct Additional Research. By implementing the measures SNWA partially fulfills the LVW CAMP Action Items which develop strong collaborative partnerships; coordinate financial and human resources to prevent duplicative sampling and monitoring activities; and ultimately achieve individual goals of the stakeholders and cumulative goals of the LVW CAMP.

3. BACKGROUND AND OBJECTIVES

This proposal is a priority for the comprehensive management of the Las Vegas Wash (LVW) because it helps the Southern Nevada Water Authority (SNWA) meet action items in the Las Vegas Wash Comprehensive Adaptive Management Plan (LVWCAMP).

The work performed, as outlined in this agreement will use standard point count monitoring techniques to survey for birds and a vegetation monitoring protocol at each survey point that was developed by Gerald Braden of the San Bernardino County Museum, the contractor who conducted the project during its first four years, after which time Great Basin Bird Observatory (GBBO) conducted the surveys.

This work is specifically listed in the Las Vegas Wash Wildlife Management Plan (Action Item 40 - Develop long-term management and monitoring plans) as work that should be conducted. It not only partially fulfills the recommended action to “[r]egularly monitor the abundance and diversity of wildlife,” but functions as effectiveness monitoring, which is also recommended in the plan. This Agreement supports the project as a sole source award to the SNWA, mandated by the public law cited above, which has been reviewed and approved by the Lake Mead/Las Vegas Wash Project Manager, who recommends the award.

4. PERIOD OF PERFORMANCE AND FUNDS AVAILABILITY

This Agreement becomes effective on the date shown in Block 17a of Form 7-2279, United States of America, Department of the Interior, Bureau of Reclamation, Assistance Agreement. The Agreement shall remain in effect until the date shown in Block 10 of Form 7-2279, United States of America, Department of the Interior, Bureau of Reclamation, Assistance Agreement. The period of performance for this Agreement may only be modified through written modification of the Agreement by a Reclamation Grants Officer (GO).

No legal liability on the part of the Government for any payment may arise until funds are made available, in writing, to the Recipient by the Grants Officer. The total estimated amount of federal funding for this agreement is \$59,663.00 of which the initial amount of federal funds available is limited to \$59,663.00 as indicated by “this obligation” within Block 12 of Form 7-2279, United States of America, Department of the Interior, Bureau of Reclamation, Assistance Agreement. Subject to the availability of Congressional appropriations, subsequent funds will be made available for payment through written modifications to this agreement by a Reclamation Grants Officer.

5. SCOPE OF WORK AND MILESTONES

Through this Agreement the Southern Nevada Water Authority will contract with GBBO to conduct point counts for birds at the 31 Wash sites established during the original 2005-2011 survey. The surveys will begin in September 2014 and be conducted bi-weekly for one year. Vegetation monitoring will be conducted once at each survey point in the fall.

Milestone / Task / Activity	Planned Start Date	Planned End Date
1. Agreement executed	July 2014	August 2014
2. Point count bird monitoring	September 2014	August 2015
3. Vegetation monitoring at points	Fall 2014	Fall 2014
4. Agreement concluded	September 2015	September 2015
5. Final Agreement report	October 2015	December 2015

6. RESPONSIBILITY OF THE PARTIES

6.1 Recipient Responsibilities

6.1.1 The Recipient shall carry out the Scope of Work (SOW) in accordance with the terms and conditions stated herein. The Recipient shall adhere to Federal, state, and local laws, regulations, and codes, as applicable, and shall obtain all required approvals and permits. If the SOW contains construction activities, the Recipient is responsible for construction inspection, oversight, and acceptance. If applicable, the Recipient shall also coordinate and obtain approvals from site owners and operators.

6.1.1.a. The Recipient will submit all expenditure documentation (i.e. invoices or payroll documentation) that supports the ASAP reimbursement request.

6.1.1.b. The Recipient will agree to requests made by Reclamation conduct financial reviews with appropriate notification received and reasonable notice provided.

6.1.1.c. The Recipient shall provide copies of contracts and contractor selection documentation to Reclamation to support budget.

6.2 Reclamation Responsibilities

6.2.1 Reclamation will monitor and provide Federal oversight of activities performed under this Agreement. Monitoring and oversight includes review and approval of financial status and performance reports, payment requests, and any other deliverables identified as part of the SOW. Additional monitoring activities may include site visits, conference calls, and other on-site and off-site monitoring activities. At the Recipient's request, Reclamation may also provide technical assistance to the Recipient in support of the SOW and objectives of this Agreement.

6.2.2 Substantial involvement by Reclamation is not anticipated during the performance of activities funded under this cooperative agreement.

7. BUDGET

7.1 Budget Estimate. The following is the estimated budget for this Agreement. As Federal financial assistance agreements are cost-reimbursable, the budget provided is for estimation purposes only. Final costs incurred under the budget categories listed may be either higher or lower than the estimated costs. All costs incurred by the Recipient under this agreement must be in accordance with any pre-award clarifications conducted between the Recipient and Reclamation, as well as with the terms and conditions of this agreement. Final determination of the allowability, allocability, or reasonableness of costs incurred under this agreement is the responsibility of the Grants Officer. Recipients are encouraged to direct any questions regarding allowability, allocability or reasonableness of costs to the Grants Officer for review prior to incurrence of the costs in question.

BUDGET ITEM DESCRIPTION	COMPUTATION			Year 1	Year 2	TOTAL COST
	Price	Unit	Quantity			
SALARIES AND WAGES (SNWA or equivalent)						
Environmental Biologist II – conducts and manages tasks.	\$ 58.00	hour	80	\$ 4,640.00		\$ 4,640.00
						\$ -
Subtotal				\$ 4,640.00		\$ 4,640.00
FRINGE BENEFITS (SNWA or equivalent)						
<ul style="list-style-type: none"> • FICA - 8.46% • Group Insurance - 9.06% • Vacation - 7.49% • Disability - 3.64% • Holiday - 4.68% • Service Recognition - 2.35% • Pension - 24.06% • Workers Comp. - 0.64% • Total - 60.38% (rounded down to 60% below) 						
Environmental Biologist II	60.00%	percent		\$ 2,784.00		\$ 2,784.00
		percent		\$ -		\$ -
Subtotal				\$ 2,784.00		\$ 2,784.00
SUPPLIES AND MATERIALS						
None				\$ -		\$ -
Subtotal				\$ -		\$ -

TRAVEL					
None		\$		\$	
		-		-	
	Subtotal	\$		\$	
		-		-	
PROFESSIONAL SERVICES/CONTRACTS					
GBBO (or equivalent)					
	Subtotal	\$		\$	
		52,239.00		52,239.00	
TOTAL DIRECT COSTS					
	Subtotal	\$		\$	
		59,663.00		59,663.00	
INDIRECT COSTS					
	percent	\$		\$	
		-		-	
TOTAL PROJECT/ACTIVITY COSTS:		\$		\$	
		59,663.00		59,663.00	

7.2 Cost Sharing Requirement

In accordance with Section 529(b) of P.L. 106-541, the cost-share for the SNWA is 35 percent, Reclamation's is 65 percent. The SNWA meets its cost share in the form of construction and associated support efforts as defined in MOU # 03MU00003. The SNWA provides Reclamation with non-Federal cost-share documentation yearly which lists the efforts and expenditures for costs associated with the Lake Mead/LVW Program. Therefore, individual financial assistance agreements are not entered into at a 65/35 cost share.

7.3 Pre-Award Incurrence of Costs

The Recipient is not authorized to incur costs prior to the award of this Agreement. Costs incurred prior to the award of this agreement are not allowable.

7.4 Allowable Costs (2 CFR Part §225)

Costs incurred for the performance of this Agreement must be allowable, allocable to the project, and reasonable. The following Office of Management and Budget (OMB) Circular, codified within the Code of Federal Regulations (CFR), governs the allowability of costs for Federal financial assistance:

2 CFR Part 225 (OMB Circular A-87), "Cost Principles for State, Local, and Indian Tribal Governments"

Expenditures for the performance of this Agreement must conform to the requirements within this Circular. The Recipient must maintain sufficient documentation to support these expenditures. Questions on the allowability of costs should be directed to the GO responsible for this Agreement.

The Recipient shall not incur costs or obligate funds for any purpose pertaining to operation of the program or activities beyond the expiration date stated in the Agreement. The only costs which are authorized for a period of up to 90 days following the project performance period are those strictly associated with closeout activities for preparation of the final report.

7.5 Changes (43 CFR §12.70)

(a) *General.* Grantees and subgrantees are permitted to rebudget within the approved direct cost budget to meet unanticipated requirements and may make limited program changes to the approved project. However, unless waived by the awarding agency, certain types of post-award changes in budgets and projects shall require the prior written approval of the awarding agency.

(b) *Relation to cost principles.* The applicable cost principles (see 43 §12.62) contain requirements for prior approval of certain types of costs. Except where waived, those requirements apply to all grants and subgrants even if paragraphs (c) through (f) of this section do not.

(c) *Budget changes.*

(1) *Nonconstruction projects.* Except as stated in other regulations or an award document, grantees or subgrantees shall obtain the prior approval of the awarding agency whenever any of the following changes is anticipated under a nonconstruction award:

(i) Any revision which would result in the need for additional funding.

(ii) Unless waived by the awarding agency, cumulative transfers among direct cost categories, or, if applicable, among separately budgeted programs, projects, functions, or activities which exceed or are expected to exceed ten percent of the current total approved budget, whenever the awarding agency's share exceeds \$100,000.

(iii) Transfer of funds allotted for training allowances (i.e., from direct payments to trainees to other expense categories).

(2) *Construction projects.* Grantees and subgrantees shall obtain prior written approval for any budget revision which would result in the need for additional funds.

(3) *Combined construction and nonconstruction projects.* When a grant or subgrant provides funding for both construction and nonconstruction activities, the grantee or subgrantee must obtain prior written approval from the awarding agency before making any fund or budget transfer from nonconstruction to construction or vice versa.

(d) *Programmatic changes.* Grantees or subgrantees must obtain the prior approval of the awarding agency whenever any of the following actions is anticipated:

(1) Any revision of the scope or objectives of the project (regardless of whether there is an associated budget revision requiring prior approval).

(2) Need to extend the period of availability of funds.

(3) Changes in key persons in cases where specified in an application or a grant award. In research projects, a change in the project director or principal investigator shall always require approval unless waived by the awarding agency.

(4) Under nonconstruction projects, contracting out, subgranting (if authorized by law) or otherwise obtaining the services of a third party to perform activities which are central to the purposes of the award, *unless included in the initial funding proposal*. This approval requirement is in addition to the approval requirements of 43 §12.76 but does not apply to the procurement of equipment, supplies, and general support services.

(e) *Additional prior approval requirements.* The awarding agency may not require prior approval for any budget revision which is not described in paragraph (c) of this section.

(f) *Requesting prior approval.*

(1) A request for prior approval of any budget revision will be in the same budget format the grantee used in its application and shall be accompanied by a narrative justification for the proposed revision.

(2) A request for a prior approval under the applicable Federal cost principles (see §12.62) may be made by letter.

(3) A request by a subgrantee for prior approval will be addressed in writing to the grantee. The grantee will promptly review such request and shall approve or disapprove the request in writing. A grantee will not approve any budget or project revision which is inconsistent with the purpose or terms and conditions of the Federal grant to the grantee. If the revision, requested by the subgrantee would result in a change to the grantee's approved project which requires Federal prior approval, the grantee will obtain the Federal agency's approval before approving the subgrantee's request.

7.6 Modifications

Any changes to this Agreement shall be made by means of a written modification. Reclamation may make changes to the Agreement by means of a unilateral modification to address administrative matters, such as changes in address, no-cost time extensions, or the addition of previously agreed upon funding. Additionally, a unilateral modification may be utilized by Reclamation if it should become necessary to suspend or terminate the Agreement in accordance with 43 CFR 12.83.

All other changes shall be made by means of a bilateral modification to the Agreement. No oral statement made by any person, or written statement by any person other than the GO, shall be allowed in any manner or degree to modify or otherwise effect the terms of the Agreement.

All requests for modification of the Agreement shall be made in writing, provide a full description of the reason for the request, and be sent to the attention of the GO. Any request for project extension shall be made at least 45 days prior to the expiration date of the Agreement or the expiration date of any extension period that may have been previously granted. Any determination to extend the period of performance or to provide follow-on funding for continuation of a project is solely at the discretion of Reclamation.

8. KEY PERSONNEL

8.1 Recipient's Key Personnel

The Recipient's Project Manager for this Agreement shall be:

Kathy Flanagan
Southern Nevada Water Authority
100 City Parkway, Suite 700
Las Vegas, Nevada 89106
Phone: (702) 258-9489; E-mail: kathy.flanagan@snwa.com

Changes to Key Personnel require compliance with 43 CFR 12.70(d)(3).

8.2 Reclamation's Key Personnel

8.2.1 Grants Officer (GO):

Shawna M. Thompson, LC-10101
Bureau of Reclamation
P.O. Box 61470
Boulder City, Nevada 89006-1470
Phone: (702) 293-8570; E-mail: smthompson@usbr.gov

- (a) The GO is the only official with legal delegated authority to represent Reclamation. The GO's responsibilities include, but are not limited to, the following:
- (1) Formally obligate Reclamation to expend funds or change the funding level of the Agreement;
 - (2) Approve through formal modification changes in the scope of work and/or budget;
 - (3) Approve through formal modification any increase or decrease in the period of performance of the Agreement;
 - (4) Approve through formal modification changes in any of the expressed terms, conditions, or specifications of the Agreement;

- (5) Be responsible for the overall administration, management, and other non-programmatic aspects of the Agreement including, but not limited to, interpretation of financial assistance statutes, regulations, circulars, policies, and terms of the Agreement;
- (6) Where applicable, ensures that Reclamation complies with the administrative requirements required by statutes, regulations, circulars, policies, and terms of the Agreement.

8.2.2 Grants Officer Technical Representative (GOTR):

Becky Blasius, LC-2628
Bureau of Reclamation
P.O. Box 61470
Boulder City, Nevada 89006-1470
Phone: (702) 293-8139; E-mail: bblasius@usbr.gov

- (a) The GOTR's authority is limited to technical and programmatic aspects of the Agreement. The GOTR's responsibilities include, but are not limited to, the following:
 - (1) Assist the Recipient, as necessary, in interpreting and carrying out the scope of work in the Agreement;
 - (2) Review, and where required, approve Recipient reports and submittals as required by the Agreement;
 - (3) Where applicable, monitor the Recipient to ensure compliance with the technical requirements of the Agreement;
 - (4) Where applicable, ensure that Reclamation complies with the technical requirements of the Agreement;
- (b) The GOTR does not have the authority to and may not issue any technical assistance which:
 - (1) Constitutes an assignment of additional work outside the scope of work of the Agreement;
 - (2) In any manner causes an increase or decrease in the total estimated cost or the time required for performance; or
 - (3) Changes any of the expressed terms, conditions, or specifications of the Agreement.

8.2.3 Grants Management Specialist. The Grants Management Specialist is the primary administrative point of contact for this agreement and should be contacted regarding issues related to the day-to-day management of the agreement. Requests for approval regarding the terms and conditions of the agreement, including but not limited to modifications and prior

approval, may only be granted, in writing, by a Reclamation Grants Officer. Please note that for some agreements, the Grants Officer and the Grants Management Specialist may be the same individual.

Diana Blake, LC-10104
Bureau of Reclamation
P.O. Box 61470
Boulder City, Nevada 89006-1470
Phone: (702) 293-8550; Email: dmblake@usbr.gov

9. REPORTING REQUIREMENTS AND DISTRIBUTION

9.1 Noncompliance. Failure to comply with the reporting requirements contained in this Agreement may be considered a material non-compliance with the terms and conditions of the award. Non compliance may result in withholding of payments pending receipt of required reports, denying both the use of funds and matching credit for all or part of the cost of the activity or action not in compliance, whole or partial suspension or termination of the Agreement, recovery of funds paid under the Agreement, withholding of future awards, or other legal remedies in accordance with 43 CFR §12.83.

9.2 Financial Reports. Financial Status Reports shall be submitted by means of the SF-425 and shall be submitted according to the Report Frequency and Distribution schedule below. All financial reports shall be signed by an Authorized Certifying Official for the Recipient's organization.

9.3 Monitoring and reporting program performance (43 CFR §12.80)

(a) *Monitoring by grantees.* Grantees are responsible for managing the day-to-day operations of grant and subgrant supported activities. Grantees must monitor grant and subgrant supported activities to assure compliance with applicable Federal requirements and that performance goals are being achieved. Grantee monitoring must cover each program, function or activity.

(b) *Nonconstruction performance reports.* The Federal agency may, if it decides that performance information available from subsequent applications contains sufficient information to meet its programmatic needs, require the grantee to submit a performance report only upon expiration or termination of grant support. Unless waived by the Federal agency this report will be due on the same date as the final Financial Status Report.

(1) Grantees shall submit annual performance reports unless the awarding agency requires quarterly or semi-annual reports. However, performance reports will not be required more frequently than quarterly. Annual reports shall be due 90 days after the grant year, quarterly or semi-annual reports shall be due 30 days after the reporting period. The final performance report will be due 90 days after the expiration or termination of grant support. If a justified request is submitted by a grantee, the Federal agency may extend the due date for any performance report. Additionally, requirements for unnecessary performance reports may be waived by the Federal agency.

(2) Performance reports will contain, for each grant, brief information on the following:

- (i) A comparison of actual accomplishments to the objectives established for the period. Where the output of the project can be quantified, a computation of the cost per unit of output may be required if that information will be useful.
- (ii) The reasons for slippage if established objectives were not met.
- (iii) Additional pertinent information including, when appropriate, analysis and explanation of cost overruns or high unit costs.

(3) Grantees will not be required to submit more than the original and two copies of performance reports.

(4) Grantees will adhere to the standards in this section in prescribing performance reporting requirements for subgrantees.

(c) *Construction performance reports.* For the most part, on-site technical inspections and certified percentage-of-completion data are relied on heavily by Federal agencies to monitor progress under construction grants and subgrants. The Federal agency will require additional formal performance reports only when considered necessary, and never more frequently than quarterly.

(d) *Significant developments.* Events may occur between the scheduled performance reporting dates which have significant impact upon the grant or subgrant supported activity. In such cases, the grantee must inform the Federal agency as soon as the following types of conditions become known:

(1) Problems, delays, or adverse conditions which will materially impair the ability to meet the objective of the award. This disclosure must include a statement of the action taken, or contemplated, and any assistance needed to resolve the situation.

(2) Favorable developments which enable meeting time schedules and objectives sooner or at less cost than anticipated or producing more beneficial results than originally planned.

(e) Federal agencies may make site visits as warranted by program needs.

(f) *Waivers, extensions.*

(1) Federal agencies may waive any performance report required by this part if not needed.

(2) The grantee may waive any performance report from a subgrantee when not needed. The grantee may extend the due date for any performance report from a subgrantee if the grantee will still be able to meet its performance reporting obligations to the Federal agency.

9.4 Report Frequency and Distribution. The following table sets forth the reporting requirements for this Agreement. Please note the first report due date listed for each type of report.

Required Reports	Interim Reports	Final Report
Performance Report		
Format	No specific format required. See content requirements within Section 9.3 (43 CFR 12.80) above.	Summary of activities completed during the entire period of performance is required. See content requirements within Section 9.3 (43 CFR 12.80) above.
Reporting Frequency	Quarterly	Final Report due upon completion of Agreement's period of performance
Reporting Period	For Quarterly Reporting: Federal fiscal quarters ending: December 31, March 31, June 30 and September 30	Entire period of performance
Due Date*	Within 30 days after the end of the Reporting Period.	Within 90 days after the completion date of the Agreement
First Report Due Date	The first performance report is due for reporting period ending December 31, 2014	N/A
Submit to:	GO@LCFA@usbr.gov	GO@LCFA@usbr.gov
Federal Financial Report		
Format	SF-425 (all sections must be completed)	SF-425(all sections must be completed)
Reporting Frequency	Quarterly	Final Report due upon completion of Agreement's period of performance
Reporting Period	For Quarterly Reporting: Federal fiscal quarters ending: December 31, March 31, June 30 and September 30	Entire period of performance
Due Date*	Within 30 days after the end of the Reporting Period.	Within 90 days after the completion date of the Agreement
First Report Due Date	The first performance report is due for reporting period ending December 31, 2014	N/A
Submit to:	GO@LCFA@usbr.gov	GO@LCFA@usbr.gov

* If the completion date is prior to the end of the next reporting period, then no interim report is due for that period. Instead, the Recipient is required only to submit the final financial and performance reports, which will cover the entire period of performance including the last abbreviated reporting period.

10. REGULATORY COMPLIANCE

The Recipient agrees to comply or assist Reclamation with all regulatory compliance requirements and all applicable state, Federal, and local environmental and cultural and paleontological resource protection laws and regulations as applicable to this project. These may include, but are not limited to, the National Environmental Policy Act (NEPA), including the Council on Environmental Quality and Department of the Interior regulations implementing NEPA, the Clean Water Act, the Endangered Species Act, consultation with potentially affected Tribes, and consultation with the State Historic Preservation Office.

Certain environmental and other associated compliance are Federal responsibilities, and will occur as appropriate. Reclamation will identify the need for and will complete any appropriate environmental compliance requirements, as identified above, pertinent to Reclamation pursuant to activities specific to this assisted activity. Environmental and other associated compliance shall be completed prior to the start of this project. As such, notwithstanding any other provision of this Agreement, Reclamation shall not provide any funds to the Recipient for Agreement purposes, and the Recipient shall not begin implementation of the assisted activity described in this Agreement, until Reclamation provides written notice to the Recipient that all applicable environmental and regulatory compliance analyses and clearances have been completed and that the Recipient may begin implementation of the assisted activity. If the Recipient begins project activities that require environmental and other regulatory compliance approval, such as construction activities, prior to receipt of written notice from Reclamation that all such clearances have been obtained, then Reclamation reserves the right to unilaterally terminate this agreement for cause.

II. RECLAMATION STANDARD TERMS AND CONDITIONS - STATES, LOCAL GOVERNMENTS, AND FEDERALLY RECOGNIZED INDIAN TRIBAL GOVERNMENTS

1. REGULATIONS

The regulations at 43 CFR, Part 12, Subparts A, C, E, and F, are hereby incorporated by reference as though set forth in full text. The following Office of Management and Budget (OMB) Circulars, as applicable, and as implemented by 43 CFR Part 12, are also incorporated by reference and made a part of this Agreement. Failure of a Recipient to comply with any applicable regulation or circular may be the basis for withholding payments for proper charges made by the Recipient and/or for termination of support.

1.1 Colleges and Universities that are Recipients or sub-recipients shall use the following:

2 CFR Parts 215 and 220 (Circular A 21), "Cost Principles for Educational Institutions"

Circular A 110, as amended September 30, 1999, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations" (Codification by Department of Interior, 43 CFR 12, Subpart F)

Circular A-133, revised June 27, 2003, "Audits of States, Local Governments, and Non-Profit Organizations"

1.2 State, Local and Tribal Governments that are Recipients or sub-recipients shall use the following:

2 CFR Part 225 (Circular A 87), "Cost Principles for State, Local, and Indian Tribal Governments"

Circular A 102, as amended August 29, 1997, "Grants and Cooperative Agreements with State and Local Governments" (Grants Management Common Rule, Codification by Department of Interior, 43 CFR 12, Subpart C)

Circular A-133, revised June 27, 2003, Audits of States, Local Governments, and Non-Profit Organizations"

1.3 Nonprofit Organizations that are Recipients or sub-recipients shall use the following:

2 CFR Part 230 (Circular A 122), "Cost Principles for Non-Profit Organizations"

Circular A 110, as amended September 30, 1999, "Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations" (Codification by Department of Interior, 43 CFR 12, Subpart F)

Circular A-133, revised June 27, 2003, "Audits of States, Local Governments, and Non-Profit Organizations"

1.4 Organizations other than those indicated above that are Recipients or sub-recipients shall use the basic principles of OMB Circular A-110 (Codification by Department of Interior, 43 CFR 12, Subpart F), and cost principles shall be in accordance with 48 CFR Subpart 31.2.

1.5 43 CFR 12.77 sets forth further regulations that govern the award and administration of subawards by State governments.

2. PAYMENT

2.1 Payment Standards. (43 CFR §12.61)

(a) *Scope.* This section prescribes the basic standard and the methods under which a Federal agency will make payments to grantees, and grantees will make payments to subgrantees and contractors.

(b) *Basic standard.* Methods and procedures for payment shall minimize the time elapsing between the transfer of funds and disbursement by the grantee or subgrantee, in accordance with Treasury regulations at 31 CFR part 205.

(c) *Advances.* Grantees and subgrantees shall be paid in advance, provided they maintain or demonstrate the willingness and ability to maintain procedures to minimize the time elapsing between the transfer of the funds and their disbursement by the grantee or subgrantee.

(d) *Reimbursement.* Reimbursement shall be the preferred method when the requirements in paragraph (c) of this section are not met. Grantees and subgrantees may also be paid by reimbursement for any construction grant. Except as otherwise specified in regulation, Federal agencies shall not use the percentage of completion method to pay construction grants. The grantee or subgrantee may use that method to pay its construction contractor, and if it does, the awarding agency's payments to the grantee or subgrantee will be based on the grantee's or subgrantee's actual rate of disbursement.

(e) *Working capital advances.* If a grantee cannot meet the criteria for advance payments described in paragraph (c) of this section, and the Federal agency has determined that reimbursement is not feasible because the grantee lacks sufficient working capital, the awarding agency may provide cash or a working capital advance basis. Under this procedure the awarding agency shall advance cash to the grantee to cover its estimated disbursement needs for an initial period generally geared to the grantee's disbursing cycle. Thereafter, the awarding agency shall reimburse the grantee for its actual cash disbursements. The working capital advance method of payment shall not be used by grantees or subgrantees if the reason for using such method is the unwillingness or inability of the grantee to provide timely advances to the subgrantee to meet the subgrantee's actual cash disbursements.

(f) *Effect of program income, refunds, and audit recoveries on payment.*

- (1) Grantees and subgrantees shall disburse repayments to and interest earned on a revolving fund before requesting additional cash payments for the same activity.
- (2) Except as provided in paragraph (f)(1) of this section, grantees and subgrantees shall disburse program income, rebates, refunds, contract settlements, audit recoveries and interest earned on such funds before requesting additional cash payments.

(g) *Withholding payments.*

- (1) Unless otherwise required by Federal statute, awarding agencies shall not withhold payments for proper charges incurred by grantees or subgrantees unless—
 - (i) The grantee or subgrantee has failed to comply with grant award conditions, or
 - (ii) The grantee or subgrantee is indebted to the United States.
- (2) Cash withheld for failure to comply with grant award condition, but without suspension of the grant, shall be released to the grantee upon subsequent compliance. When a grant is suspended, payment adjustments will be made in accordance with §12.83(c).
- (3) A Federal agency shall not make payment to grantees for amounts that are withheld by grantees or subgrantees from payment to contractors to assure satisfactory completion of work. Payments shall be made by the Federal agency when the grantees or subgrantees actually disburse the withheld funds to the contractors or to escrow accounts established to assure satisfactory completion of work.

(h) *Cash depositories.*

- (1) Consistent with the national goal of expanding the opportunities for minority business enterprises, grantees and subgrantees are encouraged to use minority banks (a bank which is owned at least 50 percent by minority group members). A list of minority owned banks can be obtained from the Minority Business Development Agency, Department of Commerce, Washington, DC 20230.
- (2) A grantee or subgrantee shall maintain a separate bank account only when required by Federal-State Agreement.
 - (i) *Interest earned on advances.* Except for interest earned on advances of funds exempt under the Intergovernmental Cooperation Act (31 U.S.C. 6501 et seq.) and the Indian Self-Determination Act (23 U.S.C. 450), grantees and subgrantees shall promptly, but at least quarterly, remit interest earned on advances to the Federal agency. The grantee or subgrantee may keep interest amounts up to \$100 per year for administrative expenses.

2.2 Payment Method

Recipients must utilize the Department of Treasury Automated Standard Application for Payments (ASAP) payment system to request advance or reimbursement payments. ASAP is a Recipient-initiated payment and information system designed to provide a single point of contact for the request and delivery of Federal funds. ASAP is the only allowable method for request and receipt of payment. Recipient procedures must minimize the time elapsing between the drawdown of Federal funds and the disbursement for agreement purposes.

Recipients must complete enrollment in ASAP for all active financial assistance agreements with Reclamation. ASAP enrollment is specific to each Agency and Bureau; meaning, if a Recipient organization has an existing ASAP account with another Federal agency or Department of the Interior bureau, but not with Reclamation, then the Recipient must initiate and complete enrollment in ASAP under Reclamation's Agency Location Code (1425) through submission of an enrollment form found at www.usbr.gov/mso/aamd/asap.html. For information regarding ASAP enrollment, please visit www.usbr.gov/mso/aamd/asap.html, or contact the Reclamation ASAP Help Desk BOR_ASAP_Enroll@usbr.gov. Further information regarding ASAP may be obtained from the ASAP website at <http://www.fms.treas.gov/asap>.

3. PROCUREMENT STANDARDS (43 CFR §12.76)

(a) *States.* When procuring property and services under a grant, a state will follow the same policies and procedures it uses for procurements from its non-Federal funds. The state will ensure that every purchase order or other contract includes any clauses required by Federal statutes and executive orders and their implementing regulations. Other grantees and subgrantees will follow paragraphs (b) through (i) in this section.

(b) *Procurement standards.*

(1) Grantees and subgrantees will use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this section.

(2) Grantees and subgrantees will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(3) Grantees and subgrantees will maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts. No employee, officer or agent of the grantee or subgrantee shall participate in selection, or in the award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

- (i) The employee, officer or agent,
- (ii) Any member of his immediate family,

(iii) His or her partner, or

(iv) An organization which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award. The grantee's or subgrantee's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors, or parties to subagreements. Grantee and subgrantees may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. To the extent permitted by State or local law or regulations, such standards or conduct will provide for penalties, sanctions, or other disciplinary actions for violations of such standards by the grantee's and subgrantee's officers, employees, or agents, or by contractors or their agents. The awarding agency may in regulation provide additional prohibitions relative to real, apparent, or potential conflicts of interest.

(4) Grantee and subgrantee procedures will provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(5) To foster greater economy and efficiency, grantees and subgrantees are encouraged to enter into State and local intergovernmental agreements for procurement or use of common goods and services.

(6) Grantees and subgrantees are encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(7) Grantees and subgrantees are encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(8) Grantees and subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(9) Grantees and subgrantees will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(10) Grantees and subgrantees will use time and material type contracts only—

- (i) After a determination that no other contract is suitable, and
- (ii) If the contract includes a ceiling price that the contractor exceeds at its own risk.

(11) Grantees and subgrantees alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the grantee or subgrantee of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction.

(12) Grantees and subgrantees will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the grantee and subgrantee before pursuing a protest with the Federal agency. Reviews of protests by the Federal agency will be limited to:

- (i) Violations of Federal law or regulations and the standards of this section (violations of State or local law will be under the jurisdiction of State or local authorities) and
- (ii) Violations of the grantee's or subgrantee's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to the grantee or subgrantee.

(c) Competition.

(1) All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of §12.76. Some of the situations considered to be restrictive of competition include but are not limited to:

- (i) Placing unreasonable requirements on firms in order for them to qualify to do business,
- (ii) Requiring unnecessary experience and excessive bonding,
- (iii) Noncompetitive pricing practices between firms or between affiliated companies,
- (iv) Noncompetitive awards to consultants that are on retainer contracts,
- (v) Organizational conflicts of interest,
- (vi) Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance of other relevant requirements of the procurement, and

(vii) Any arbitrary action in the procurement process.

(2) Grantees and subgrantees will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts State licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criteria provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(3) Grantees will have written selection procedures for procurement transactions. These procedures will ensure that all solicitations:

(i) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured, and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated; and

(ii) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(4) Grantees and subgrantees will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, grantees and subgrantees will not preclude potential bidders from qualifying during the solicitation period.

(d) *Methods of procurement to be followed*—(1) *Procurement by small purchase procedures.* Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. 403(11) (currently set at \$150,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

(2) *Procurement by sealed bids (formal advertising).* Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction, if the conditions in § 12.76(d)(2)(i) apply.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively and for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set for opening the bids;

(B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

(C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(3) Procurement by *competitive proposals*. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(i) Requests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

(ii) Proposals will be solicited from an adequate number of qualified sources;

(iii) Grantees and subgrantees will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

(iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(v) Grantees and subgrantees may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(4) Procurement by *noncompetitive proposals* is procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.

(i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:

(A) The item is available only from a single source;

(B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(C) The awarding agency authorizes noncompetitive proposals; or

(D) After solicitation of a number of sources, competition is determined inadequate.

(ii) Cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.

(iii) Grantees and subgrantees may be required to submit the proposed procurement to the awarding agency for pre-award review in accordance with paragraph (g) of this section.

(e) *Contracting with small and minority firms, women's business enterprise and labor surplus area firms.* (1) The grantee and subgrantee will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

(2) Affirmative steps shall include:

(i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

- (ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- (iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;
- (iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;
- (v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and
- (vi) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (e)(2) (i) through (v) of this section.

(f) *Contract cost and price.*

(1) Grantees and subgrantees must perform a cost or price analysis in connection with every procurement action including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, grantees must make independent estimates before receiving bids or proposals. A cost analysis must be performed when the offeror is required to submit the elements of his estimated cost, e.g., under professional, consulting, and architectural engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.

(2) Grantees and subgrantees will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(3) Costs or prices based on estimated costs for contracts under grants will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with Federal cost principles (see §12.62). Grantees may reference their own cost principles that comply with the applicable Federal cost principles.

(4) The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

(g) *Awarding agency review.*

(1) Grantees and subgrantees must make available, upon request of the awarding agency, technical specifications on proposed procurements where the awarding agency believes such review is needed to ensure that the item and/or service specified is the one being proposed for purchase. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the grantee or subgrantee desires to have the review accomplished after a solicitation has been developed, the awarding agency may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(2) Grantees and subgrantees must on request make available for awarding agency pre-award review procurement documents, such as requests for proposals or invitations for bids, independent cost estimates, etc. when:

(i) A grantee's or subgrantee's procurement procedures or operation fails to comply with the procurement standards in this section; or

(ii) The procurement is expected to exceed the simplified acquisition threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation; or

(iii) The procurement, which is expected to exceed the simplified acquisition threshold, specifies a "brand name" product; or

(iv) The proposed award is more than the simplified acquisition threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or

(v) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the simplified acquisition threshold.

(3) A grantee or subgrantee will be exempt from the pre-award review in paragraph (g)(2) of this section if the awarding agency determines that its procurement systems comply with the standards of this section.

(i) A grantee or subgrantee may request that its procurement system be reviewed by the awarding agency to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews shall occur where there is a continuous high-dollar funding, and third-party contracts are awarded on a regular basis.

(ii) A grantee or subgrantee may self-certify its procurement system. Such self-certification shall not limit the awarding agency's right to survey the system. Under a self-certification procedure, awarding agencies may wish to rely on written assurances from the grantee or subgrantee that it is complying with these standards. A grantee or

subgrantee will cite specific procedures, regulations, standards, etc., as being in compliance with these requirements and have its system available for review.

(h) *Bonding requirements.* For construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold, the awarding agency may accept the bonding policy and requirements of the grantee or subgrantee provided the awarding agency has made a determination that the awarding agency's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

(1) *A bid guarantee from each bidder equivalent to five percent of the bid price.* The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

(2) *A performance bond on the part of the contractor for 100 percent of the contract price.* A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

(3) *A payment bond on the part of the contractor for 100 percent of the contract price.* A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

(i) *Contract provisions.* A grantee's and subgrantee's contracts must contain provisions in paragraph (i) of this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(1) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. (Contracts more than the simplified acquisition threshold.)

(2) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of \$10,000.)

(3) Compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees.)

(4) Compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3). (All contracts and subgrants for construction or repair.)

(5) Compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR Part 5). (Construction contracts in excess of \$2000 awarded by grantees and subgrantees when required by Federal grant program legislation.)

(6) Compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5). (Construction contracts awarded by grantees and subgrantees in excess of \$2000, and in excess of \$2500 for other contracts which involve the employment of mechanics or laborers.)

(7) Notice of awarding agency requirements and regulations pertaining to reporting.

(8) Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

(9) Awarding agency requirements and regulations pertaining to copyrights and rights in data.

(10) Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

(11) Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.

(12) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000.)

(13) Mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

4. EQUIPMENT (43 CFR §12.72)

(a) *Title.* Subject to the obligations and conditions set forth in this section, title to equipment acquired under a grant or subgrant will vest upon acquisition in the grantee or subgrantee respectively.

(b) *States.* A State will use, manage, and dispose of equipment acquired under a grant by the State in accordance with State laws and procedures. Other grantees and subgrantees will follow paragraphs (c) through (e) of this section.

(c) *Use.*

(1) Equipment shall be used by the grantee or subgrantee in the program or project for which it was acquired as long as needed, whether or not the project or program continues to be supported by Federal funds. When no longer needed for the original program or project, the equipment may be used in other activities currently or previously supported by a Federal agency.

(2) The grantee or subgrantee shall also make equipment available for use on other projects or programs currently or previously supported by the Federal Government, providing such use will not interfere with the work on the projects or program for which it was originally acquired. First preference for other use shall be given to other programs or projects supported by the awarding agency. User fees should be considered if appropriate.

(3) Notwithstanding the encouragement in §12.65(a) to earn program income, the grantee or subgrantee must not use equipment acquired with grant funds to provide services for a fee to compete unfairly with private companies that provide equivalent services, unless specifically permitted or contemplated by Federal statute.

(4) When acquiring replacement equipment, the grantee or subgrantee may use the equipment to be replaced as a trade-in or sell the property and use the proceeds to offset the cost of the replacement property, subject to the approval of the awarding agency.

(d) *Management requirements.* Procedures for managing equipment (including replacement equipment), whether acquired in whole or in part with grant funds, until disposition takes place will, as a minimum, meet the following requirements:

(1) Property records must be maintained that include a description of the property, a serial number or other identification number, the source of property, who holds title, the acquisition date, and cost of the property, percentage of Federal participation in the cost of the property, the location, use and condition of the property, and any ultimate disposition data including the date of disposal and sale price of the property.

(2) A physical inventory of the property must be taken and the results reconciled with the property records at least once every two years.

(3) A control system must be developed to ensure adequate safeguards to prevent loss, damage, or theft of the property. Any loss, damage, or theft shall be investigated.

(4) Adequate maintenance procedures must be developed to keep the property in good condition.

(5) If the grantee or subgrantee is authorized or required to sell the property, proper sales procedures must be established to ensure the highest possible return.

(e) *Disposition.* When original or replacement equipment acquired under a grant or subgrant is no longer needed for the original project or program or for other activities currently or previously supported by a Federal agency, disposition of the equipment will be made as follows:

(1) Items of equipment with a current per-unit fair market value of less than \$5,000 may be retained, sold or otherwise disposed of with no further obligation to the awarding agency.

(2) Items of equipment with a current per unit fair market value in excess of \$5,000 may be retained or sold and the awarding agency shall have a right to an amount calculated by multiplying the current market value or proceeds from sale by the awarding agency's share of the equipment.

(3) In cases where a grantee or subgrantee fails to take appropriate disposition actions, the awarding agency may direct the grantee or subgrantee to take excess and disposition actions.

(f) *Federal equipment.* In the event a grantee or subgrantee is provided Federally-owned equipment:

(1) Title will remain vested in the Federal Government.

(2) Grantees or subgrantees will manage the equipment in accordance with Federal agency rules and procedures, and submit an annual inventory listing.

(3) When the equipment is no longer needed, the grantee or subgrantee will request disposition instructions from the Federal agency.

(g) *Right to transfer title.* The Federal awarding agency may reserve the right to transfer title to the Federal Government or a third part named by the awarding agency when such a third party is otherwise eligible under existing statutes. Such transfers shall be subject to the following standards:

(1) The property shall be identified in the grant or otherwise made known to the grantee in writing.

(2) The Federal awarding agency shall issue disposition instruction within 120 calendar days after the end of the Federal support of the project for which it was acquired. If the Federal awarding agency fails to issue disposition instructions within the 120 calendar-day period the grantee shall follow 12.72(e).

(3) When title to equipment is transferred, the grantee shall be paid an amount calculated by applying the percentage of participation in the purchase to the current fair market value of the property.

5. SUPPLIES (43 CFR §12.73)

(a) *Title.* Title to supplies acquired under a grant or subgrant will vest, upon acquisition, in the grantee or subgrantee respectively.

(b) *Disposition.* If there is a residual inventory of unused supplies exceeding \$5,000 in total aggregate fair market value upon termination or completion of the award, and if the supplies are not needed for any other Federally sponsored programs or projects, the grantee or subgrantee shall compensate the awarding agency for its share.

6. INSPECTION

Reclamation has the right to inspect and evaluate the work performed or being performed under this Agreement, and the premises where the work is being performed, at all reasonable times and in a manner that will not unduly delay the work. If Reclamation performs inspection or evaluation on the premises of the Recipient or a sub-Recipient, the Recipient shall furnish and shall require sub-recipients to furnish all reasonable facilities and assistance for the safe and convenient performance of these duties.

7. AUDIT (31 U.S.C. 7501-7507)

Non-Federal entities that expend \$500,000 or more in a year in Federal awards shall have a single or program-specific audit conducted for that year in accordance with the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507) and revised OMB Circular A-133. Federal awards are defined as Federal financial assistance and Federal cost-reimbursement contracts that non-Federal entities receive directly from Federal awarding agencies or indirectly from pass-through entities. They do not include procurement contracts, under grants or contracts, used to buy goods or services from vendors. Non-Federal entities that expend less than \$500,000 a year in Federal awards are exempt from Federal audit requirements for that year, except as noted in A-133, §___.215(a), but records must be available for review or audit by appropriate officials of the Federal agency, pass-through entity, and General Accounting Office (GAO).

8. ENFORCEMENT (43 CFR §12.83)

(a) *Remedies for noncompliance.* If a grantee or subgrantee materially fails to comply with any term of an award, whether stated in a Federal statute or regulation, an assurance, in a State plan or application, a notice of award, or elsewhere, the awarding agency may take one or more of the following actions, as appropriate in the circumstances:

(1) Temporarily withhold cash payments pending correction of the deficiency by the grantee or subgrantee or more severe enforcement action by the awarding agency,

- (2) Disallow (that is, deny both use of funds and matching credit for) all or part of the cost of the activity or action not in compliance,
- (3) Wholly or partly suspend or terminate the current award for the grantee's or subgrantee's program,
- (4) Withhold further awards for the program, or
- (5) Take other remedies that may be legally available.

(b) *Hearings, appeals.* In taking an enforcement action, the awarding agency will provide the grantee or subgrantee an opportunity for such hearing, appeal, or other administrative proceeding to which the grantee or subgrantee is entitled under any statute or regulation applicable to the action involved.

(c) *Effects of suspension and termination.* Costs of grantee or subgrantee resulting from obligations incurred by the grantee or subgrantee during a suspension or after termination of an award are not allowable unless the awarding agency expressly authorizes them in the notice of suspension or termination or subsequently. Other grantee or subgrantee costs during suspension or after termination which are necessary and not reasonably avoidable are allowable if:

- (1) The costs result from obligations which were properly incurred by the grantee or subgrantee before the effective date of suspension or termination, are not in anticipation of it, and, in the case of a termination, are noncancellable, and,
- (2) The costs would be allowable if the award were not suspended or expired normally at the end of the funding period in which the termination takes effect.

(d) *Relationship to Debarment and Suspension.* The enforcement remedies identified in this section, including suspension and termination, do not preclude grantee or subgrantee from being subject to "Debarment and Suspension" under E.O. 12549 (2 CFR 29.5.12 and 2 CFR 1400, Subpart C).

9. TERMINATION FOR CONVENIENCE (43 CFR §12.84)

Except as provided in 43 CFR §12.83 awards may be terminated in whole or in part only as follows:

- (a) By the awarding agency with the consent of the grantee or subgrantee in which case the two parties shall agree upon the termination conditions, including the effective date and in the case of partial termination, the portion to be terminated, or
- (b) By the grantee or subgrantee upon written notification to the awarding agency, setting forth the reasons for such termination, the effective date, and in the case of partial termination, the portion to be terminated.

However, if, in the case of a partial termination, the awarding agency determines that the remaining portion of the award will not accomplish the purposes for which the award was made, the awarding agency may terminate the award in its entirety under either §12.83 or paragraph (a) of this section.

10. DEBARMENT AND SUSPENSION (2 CFR §1400)

The Department of the Interior regulations at 2 CFR 1400—Governmentwide Debarment and Suspension (Nonprocurement), which adopt the common rule for the governmentwide system of debarment and suspension for nonprocurement activities, are hereby incorporated by reference and made a part of this Agreement. By entering into this grant or cooperative Agreement with the Bureau of Reclamation, the Recipient agrees to comply with 2 CFR 1400, Subpart C, and agrees to include a similar term or condition in all lower-tier covered transactions. These regulations are available at <http://www.gpoaccess.gov/ecfr/>.

11. DRUG-FREE WORKPLACE (2 CFR §182 and §1401)

The Department of the Interior regulations at 2 CFR 1401—Governmentwide Requirements for Drug-Free Workplace (Financial Assistance), which adopt the portion of the Drug-Free Workplace Act of 1988 (41 U.S.C. 701 et seq, as amended) applicable to grants and cooperative agreements, are hereby incorporated by reference and made a part of this agreement. By entering into this grant or cooperative agreement with the Bureau of Reclamation, the Recipient agrees to comply with 2 CFR 182.

12. ASSURANCES AND CERTIFICATIONS INCORPORATED BY REFERENCE

The provisions of the Assurances, SF 424B or SF 424D as applicable, executed by the Recipient in connection with this Agreement shall apply with full force and effect to this Agreement. All anti-discrimination and equal opportunity statutes, regulations, and Executive Orders that apply to the expenditure of funds under Federal contracts, grants, and cooperative Agreements, loans, and other forms of Federal assistance. The Recipient shall comply with Title VI or the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and any program-specific statutes with anti-discrimination requirements. The Recipient shall comply with civil rights laws including, but not limited to, the Fair Housing Act, the Fair Credit Reporting Act, the Americans with Disabilities Act, Title VII of the Civil Rights Act of 1964, the Equal Educational Opportunities Act, the Age Discrimination in Employment Act, and the Uniform Relocation Act.

Such Assurances also include, but are not limited to, the promise to comply with all applicable Federal statutes and orders relating to nondiscrimination in employment, assistance, and housing; the Hatch Act; Federal wage and hour laws and regulations and work place safety standards; Federal environmental laws and regulations and the Endangered Species Act; and Federal protection of rivers and waterways and historic and archeological preservation.

13. COVENANT AGAINST CONTINGENT FEES

The Recipient warrants that no person or agency has been employed or retained to solicit or secure this Agreement upon an Agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide offices established and maintained by the Recipient for the purpose of securing Agreements or business. For breach or violation of this warranty, the Government shall have the right to annul this Agreement without liability or, in its discretion, to deduct from the Agreement amount, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

14. TRAFFICKING VICTIMS PROTECTION ACT OF 2000 (2 CFR §175.15)

Trafficking in persons.

(a) *Provisions applicable to a recipient that is a private entity.*

(1) You as the recipient, your employees, subrecipients under this award, and subrecipients' employees may not

(i) Engage in severe forms of trafficking in persons during the period of time that the award is in effect;

(ii) Procure a commercial sex act during the period of time that the award is in effect; or

(iii) Use forced labor in the performance of the award or subawards under the award.

(2) We as the Federal awarding agency may unilaterally terminate this award, without penalty, if you or a subrecipient that is a private entity —

(i) Is determined to have violated a prohibition in paragraph a.1 of this award term; or

(ii) Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph a.1 of this award term through conduct that is either:

(A) Associated with performance under this award; or

(B) Imputed to you or the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR part 1400.

(b) *Provision applicable to a recipient other than a private entity.* We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a subrecipient that is a private entity—

(1) Is determined to have violated an applicable prohibition in paragraph a.1 of this award term; or

(2) Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph a.1 of this award term through conduct that is either:

(i) Associated with performance under this award; or

(ii) Imputed to the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR part 1400.

(c) *Provisions applicable to any recipient.*

(1) You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph a.1 of this award term.

(2) Our right to terminate unilaterally that is described in paragraph a.2 or b of this section:

(i) Implements section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)), and

(ii) Is in addition to all other remedies for noncompliance that are available to us under this award.

(3) You must include the requirements of paragraph a.1 of this award term in any subaward you make to a private entity.

(d) *Definitions.* For purposes of this award term:

(1) "Employee" means either:

(i) An individual employed by you or a subrecipient who is engaged in the performance of the project or program under this award; or

(ii) Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

(2) "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through

the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

(3) "Private entity":

(i) Means any entity other than a state, local government, Indian tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.

(ii) Includes:

(A) A nonprofit organization, including any nonprofit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).

(B) A for-profit organization.

(4) "Severe forms of trafficking in persons," "commercial sex act," and "coercion" have the meanings given at section 103 of the TVPA, as amended (22 U.S.C. 7102).

15. NEW RESTRICTIONS ON LOBBYING (43 CFR §18)

The Recipient agrees to comply with 43 CFR 18, New Restrictions on Lobbying, including the following certification:

(a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Recipient, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions.

(c) The Recipient shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who

fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

16. UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (URA) (42 USC § 4601 *et seq.*)

- (a) The Uniform Relocation Assistance Act (URA), 42 U.S.C. § 4601 *et seq.*, as amended, requires certain assurances for Reclamation funded land acquisition projects conducted by a Recipient that cause the displacement of persons, businesses, or farm operations. Because Reclamation funds only support acquisition of property or interests in property from willing sellers, it is not anticipated that Reclamation funds will result in any “displaced persons,” as defined under the URA.
- (b) However, if Reclamation funds are used for the acquisition of real property that results in displacement, the URA requires Recipients to ensure that reasonable relocation payments and other remedies will be provided to any displaced person. Further, when acquiring real property, Recipients must be guided, to the greatest extent practicable, by the land acquisition policies in 42 U.S.C. § 4651.
- (c) **Exemptions to the URA and 49 CFR Part 24**
- (1) The URA provides for an exemption to the appraisal, review and certification rules for those land acquisitions classified as “voluntary transactions.” Such “voluntary transactions” are classified as those that do not involve an exercise of eminent domain authority on behalf of a Recipient, and must meet the conditions specified at 49 CFR § 24.101(b)(1)(i)-(iv).
- (2) For any land acquisition undertaken by a Recipient that receives Reclamation funds, but does not have authority to acquire the real property by eminent domain, to be exempt from the requirements of 49 CFR Part 24 the Recipient must:
- (i) provide written notification to the owner that it will not acquire the property in the event negotiations fail to result in an amicable agreement, and;
 - (ii) inform the owner in writing of what it believes to be the market value of the property
- (d) **Review of Land Acquisition Appraisals.** Reclamation reserves the right to review any land appraisal whether or not such review is required under the URA or 49 CFR § 24.104. Such reviews may be conducted by the Department of the Interior’s Appraisal Services Directorate or a Reclamation authorized designee. When Reclamation determines that a review of the original appraisal is necessary, Reclamation will notify the Recipient and provide an estimated completion date of the initial appraisal review.

17. CENTRAL CONTRACTOR REGISTRATION AND UNIVERSAL IDENTIFIER REQUIREMENTS (2 CFR 25, APPENDIX A)

The Central Contractor Registration (CCR) has been migrated to the System for Award Management (SAM). Recipients must continue to comply with the CCR requirements below by maintaining current registration within www.SAM.gov.

A. Requirement for Central Contractor Registration (CCR)

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in the CCR until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

B. Requirement for Data Universal Numbering System (DUNS) Numbers

If you are authorized to make subawards under this award, you:

1. Must notify potential subrecipients that no entity (*see* definition in paragraph C of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.
2. May not make a subaward to an entity unless the entity has provided its DUNS number to you.

C. Definitions

For purposes of this award term:

1. *Central Contractor Registration (CCR)* means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at <http://www.ccr.gov>).
2. *Data Universal Numbering System (DUNS) number* means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at <http://fedgov.dnb.com/webform>).
3. *Entity*, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:
 - a. A Governmental organization, which is a state, local government, or Indian Tribe;
 - b. A foreign public entity;
 - c. A domestic or foreign nonprofit organization;
 - d. A domestic or foreign for-profit organization; and

- e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

4. *Subaward:*

- a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
- b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, *see* Sec. 11.210 of the attachment to OMB Circular A-133, “Audits of States, Local Governments, and Non-Profit Organizations”).
- c. A subaward may be provided through any legal agreement, including an agreement that you consider a contract.

5. *Subrecipient* means an entity that:

- a. Receives a subaward from you under this award; and
- b. Is accountable to you for the use of the Federal funds provided by the subaward.

18. PROHIBITION ON TEXT MESSAGING AND USING ELECTRONIC EQUIPMENT SUPPLIED BY THE GOVERNMENT WHILE DRIVING

Executive Order 13513, *Federal Leadership On Reducing Text Messaging While Driving*, was signed by President Barack Obama on October 1, 2009 (ref: <http://edocket.access.gpo.gov/2009/pdf/E9-24203.pdf>). This Executive Order introduces a Federal Government-wide prohibition on the use of text messaging while driving on official business or while using Government-supplied equipment. Additional guidance enforcing the ban will be issued at a later date.

In the meantime, please adopt and enforce policies that immediately ban text messaging while driving company-owned or rented vehicles, government-owned or leased vehicles, or while driving privately owned vehicles when on official government business or when performing any work for or on behalf of the government.

19. REPORTING SUBAWARDS AND EXECUTIVE COMPENSATION (2 CFR 170 APPENDIX A)

I. Reporting Subawards and Executive Compensation.

a. Reporting of first-tier subawards.

1. *Applicability.* Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000 or more in Federal funds

that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a subaward to an entity (see definitions in paragraph e. of this award term).

2. *Where and when to report.*

i. You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsrs.gov>.

ii. For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3. *What to report.* You must report the information about each obligating action that the submission instructions posted at <http://www.fsrs.gov> specify.

b. *Reporting Total Compensation of Recipient Executives.*

1. *Applicability and what to report.* You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if—

i. the total Federal funding authorized to date under this award is \$25,000 or more;

ii. in the preceding fiscal year, you received—

(A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/excomp.htm>.)

2. *Where and when to report.* You must report executive total compensation described in paragraph b.1. of this award term:

- i. As part of your registration profile at <http://www.ccr.gov>.
- ii. By the end of the month following the month in which this award is made, and annually thereafter.

c. *Reporting of Total Compensation of Subrecipient Executives.*

1. *Applicability and what to report.* Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if—

i. in the subrecipient's preceding fiscal year, the subrecipient received—

(A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/excomp.htm>.)

2. *Where and when to report.* You must report subrecipient executive total compensation described in paragraph c.1. of this award term:

- i. To the recipient.
- ii. By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (*i.e.*, between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

d. *Exemptions*

If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

- i. Subawards,
- and
- ii. The total compensation of the five most highly compensated executives of any subrecipient.

e. *Definitions*. For purposes of this award term:

1. *Entity* means all of the following, as defined in 2 CFR part 25:

- i. A Governmental organization, which is a State, local government, or Indian tribe;
- ii. A foreign public entity;
- iii. A domestic or foreign nonprofit organization;
- iv. A domestic or foreign for-profit organization;
- v. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

2. *Executive* means officers, managing partners, or any other employees in management positions.

3. *Subaward*:

- i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
- ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __.210 of the attachment to OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations").
- iii. A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

4. *Subrecipient* means an entity that:

- i. Receives a subaward from you (the recipient) under this award; and
- ii. Is accountable to you for the use of the Federal funds provided by the subaward.

5. *Total compensation* means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

- i. *Salary and bonus.*
- ii. *Awards of stock, stock options, and stock appreciation rights.* Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
- iii. *Earnings for services under non-equity incentive plans.* This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
- iv. *Change in pension value.* This is the change in present value of defined benefit and actuarial pension plans.
- v. *Above-market earnings on deferred compensation which is not tax-qualified.*
- vi. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Agreement	Director's Backup
Petitioner: David L. Johnson, Deputy General Manager, Engineering/Operations	
Recommendations: That the Board of Directors approve an agreement between the Water Environment Research Foundation and the Authority for the "Evaluating Fate Mechanisms for Contaminants of Concern in BNR Treatment Systems" study, and accept funds in the amount not to exceed \$125,000 for this research work.	

Fiscal Impact:

If the above recommendation is approved, funds in the amount not to exceed \$125,000 will be accepted by the Authority.

Background:

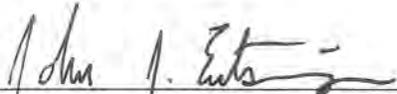
Biological nutrient removal (BNR) treatment has been identified as a cost-effective and commonplace process for reducing nutrients such as nitrogen and phosphorus from wastewater. The treatment is currently used locally; however, the indiscriminate discharge of trace organic chemicals has emerged as an important issue due to its potential to elicit detrimental effects on aquatic life and occurrence in drinking water sources. Critical knowledge gaps exist in the understanding about elimination of these chemicals during BNR treatment, including their fate and transport.

The Authority's Water Quality Research and Development (R&D) Division has comprehensive expertise in the study of trace organic chemicals and has worked closely and successfully with the wastewater departments of the City of Las Vegas and Clark County Water Reclamation District, as well as with the Water Environment Research Foundation (WERF) on several projects to better understand the fate of these chemicals through wastewater reclamation systems. Recognizing this, WERF has selected the R&D Division as the Principal Investigator to conduct research in collaboration with Southern Nevada's local wastewater agencies to gain a better understanding of the most important fate mechanisms for a select group of high priority organic compounds in BNR wastewater treatment systems.

If approved, the Authority, as Principal Investigator, would lead the project, enlisting the assistance of a Co-Principal Investigator to complete the work. The \$125,000 provided by WERF would cover all costs of the Authority and the Co-Principal Investigator.

This agreement is being entered into pursuant to Section 6(j) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved the agreement.

Respectfully submitted:



 John J. Entsminger, General Manager
 JJE:PDS:DLJ:DJR:ED:jf
 Attachments

AGENDA
ITEM #

4

DISCLOSURE OF OWNERSHIP/PRINCIPALS

Business Entity Type						
<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Partnership	<input type="checkbox"/> Limited Liability Company	<input type="checkbox"/> Corporation	<input type="checkbox"/> Trust	<input checked="" type="checkbox"/> Non-Profit Organization	<input type="checkbox"/> Other
Business Designation Group						
<input type="checkbox"/> MBE	<input type="checkbox"/> WBE	<input type="checkbox"/> SBE	<input type="checkbox"/> PBE	<input type="checkbox"/>	<input type="checkbox"/>	
Minority Business Enterprise	Women-Owned Business Enterprise	Small Business Enterprise	Physically Challenged Business Enterprise			
Corporate/Business Entity Name:		Water Environment Research Foundation				
(Include d.b.a., if applicable)						
Street Address:		635 Slaters Lane, #G110		Website: www.werf.org		
City, State and Zip Code:		Alexandria, VA 22314		POC Name and Email: Lola Olabode, lolabode@werf.org		
Telephone No:		571-384-2100		Fax No: 703-299-0742		
Local Street Address:		Same		Website: Same		
City, State and Zip Code:		Same		Local Fax No: Same		
Local Telephone No:		Same		Local POC Name Email: Same		
Number of Clark County, Nevada Residents Employed:						

All entities, with the exception of publicly-traded and non-profit organizations, must list the names of individuals, either directly or indirectly, holding more than five percent (5%) ownership or financial interest in the business entity appearing before the SNWA Board of Directors.

Publicly-traded entities and non-profit organizations shall list all Corporate Officers and Directors in lieu of disclosing the names of individuals with ownership or financial interest. The disclosure requirement, as applied to land-use applications, extends to the applicant and the landowner(s).

Entities include all business associations organized under or governed by Title 7 of the Nevada Revised Statutes, including but not limited to private corporations, close corporations, foreign corporations, limited liability companies, partnerships, limited partnerships, and professional corporations.

Full Name	Title	% Owned <small>(Not required for Publicly Traded Corporations/Non-profit organizations)</small>
Daniel M. Woltering, Ph.D.	Interim Executive Director and Director of Research	_____
Robert Sutton	Director of Finance	_____
Various	See list of Board of Directors, attached	_____

This section is not required for publicly-traded corporations.

- Are any individual members, partners, owners or principals, involved in the business entity, an SNWA full-time employee(s), or appointed/elected official(s)?
 Yes No (If yes, please note that SNWA employee(s), or appointed/elected official(s) may not perform any work on professional service contracts, or other contracts, which are not subject to competitive bid.)
- Do any individual members, partners, owners or principals have a spouse, registered domestic partner, child, parent, in-law or brother/sister, half-brother/half-sister, grandchild, grandparent, related to an SNWA full-time employee(s), or appointed/elected official(s)?
 Yes No (If yes, please complete the Disclosure of Relationship form on Page 2. If no, please print N/A on Page 2.)

I certify under penalty of perjury, that all of the information provided herein is current, complete, and accurate. I also understand that the SNWA will not take action on land-use approvals, contract approvals, land sales, leases or exchanges without the completed disclosure form.



 Signature
 Interim Executive Director

 Title

Daniel Woltering

 Print Name
 June 19, 2014

 Date

WATER ENVIRONMENT RESEARCH FOUNDATION
635 SLATERS LANE, SUITE G-110, ALEXANDRIA, VA 22314
PHONE: 571-384-2100, FAX: 703-299-0742

WERF BOARD OF DIRECTORS – 2014
(as of May 2014)

CHAIRMAN

Catherine R. Gerali
District Manager
Metro Wastewater Reclamation District
6450 York Street
Denver, CO 80229-7407

VICE-CHAIRMAN

Kevin L. Shafer,
Metro Milwaukee Sewerage District
Executive Director
260 West Seeboth Street
Milwaukee, WI 53204

SECRETARY

Eileen O'Neill
Executive Director
Water Environment Federation
601 Wythe Street
Alexandria, VA 22314

TREASURER

Brian Wheeler
Executive Director
Toho Water Authority
951 Martin Luther King Boulevard
Kissimmee, FL 34741

Glen Daigger, Ph.D., P.E., BCEE, NAE
Senior Vice President & Chief Technology Officer
CH2M Hill
9191 So. Jamaica Street
Englewood, CO 80112

Terry L. Johnson, Ph.D., PE, BCEE
(Retired Black & Veatch Corporation)

Scott D. Dyer, Ph.D.
The Procter & Gamble Company
Mason Business Center
8700 Mason-Montgomery Road
Mason, OH 45040

Paul L. Bishop, Ph.D., PE, BCEE
Assoc. Dean of Engineering for Research
University of RI, 102 Bliss Hall
Kingston, RI 02881

James A. (Tony) Parrott
Executive Director
Metropolitan Sewer District of Greater Cincinnati
1600 Gest Street
Cincinnati, OH 45204-2096

Jim Matheson, President/CEO
Oasys Water
21 Drydock Avenue, Floor 7
Boston, MA 02210

Cordell Samuels
Plant Superintendent
Regional Municipality of Durham
Duffin Creek WPCP
901 McKay Road
Pickering, ON L1W 3A3
Canada

Philippe Gislette, Director
Degremont, Suez-Environnement
183 avenue du 18 juin 1940
92500 RUEIL MALMAISON - FRANCE

Julia J. Hunt, P.E.
Trinity River Authority of Texas
5300 S. Collins Street
Arlington, TX 76016

Ed McCormick, P.E.
President-Elect
WEF

DISCLOSURE OF RELATIONSHIP

List any disclosures below:
(Mark N/A, if not applicable.)

NAME OF BUSINESS OWNER/PRINCIPAL	NAME OF SNWA EMPLOYEE OR OFFICIAL AND JOB TITLE	RELATIONSHIP TO SNWA EMPLOYEE OR OFFICIAL	SNWA EMPLOYEE'S/OFFICIAL'S DEPARTMENT
N/A			

"Consanguinity" is a relationship by blood. "Affinity" is a relationship by marriage.

"To the second degree of consanguinity" applies to the candidate's first and second degree of blood relatives as follows:

- Spouse – Registered Domestic Partners – Children – Parents – In-laws (first degree)
- Brothers/Sisters – Half-Brothers/Half-Sisters – Grandchildren – Grandparents – In-laws (second degree)

For SNWA Use Only:

If no Disclosure or Relationship is noted above or if the section is marked N/A, please check this box:

No Disclosure

If any Disclosure of Relationship is noted above, please complete the following:

Yes No Is the SNWA employee(s) noted above involved in the contracting/selection process for this particular agenda item?

Yes No Is the SNWA employee(s) noted above involved in any way with the business in performance of the contract?

Notes/Comments:

No LUVWD or SNWA employees were noted.

Signature

David J. Rexing

 Print Name
 Authorized Department Representative

**WATER ENVIRONMENT RESEARCH FOUNDATION
Master Research Contract**

PROJECT NO. U2R13

Evaluating Fate Mechanisms for Contaminants of Concern in BNR Treatment Systems

This Agreement ("Agreement") effective upon the signature of both parties between the Water Environment Research Foundation ("WERF"), a Virginia Not For Profit Corporation with a principal place of business at Suite G-110, 635 Slaters Lane, Alexandria, VA 22314 and the Southern Nevada Water Authority ("Contractor"), with a principal place of business at 100 City Parkway, Suite 700, Las Vegas, Nevada 89106.

Whereas, WERF is a non-profit organization dedicated to advancing science and technology that addresses water quality issues as they impact water resources, the atmosphere, the lands, and quality of life; and

Whereas, WERF has awarded Contractor research funding to provide independent scientific research; and

Whereas, WERF desires Contractor to perform certain work related to such scientific research under the terms and conditions set forth below, and the Contractor has expressed a willingness to perform such work;

Now, therefore, for mutual and valuable consideration the parties agree to the following terms and conditions:

1. DEFINITIONS

For the purposes of this Agreement, the terms and definitions stated below, and throughout this Agreement shall control:

- A. The term "Derivative Work" means a work of authorship that is based and that modifies, transforms, or recasts that pre-existing work so as to alter it in any way.
- B. The term "Intellectual Property" means all inventions, innovations, creations, works, reports, figures, tables, processes, designs, methods, formulas, drawings, plans, technical data, specifications, logos, computer programs, computer chips and circuits, whether or not protectable through patent, copyright, trademark, trade secret, or mask work, and whether produced in any medium now known or subsequently developed.
- C. The term "Contractor" means the named individual(s) and/or entity (ies) entering into this Agreement with WERF and shall include all officers, directors, employees, and agents of the Contractor.

- D. The term "Principal Investigator" or "PI" means the Contractor's employee or agent, as specifically designated by the Contractor, with primary responsibility for ensuring that all terms and conditions of this Agreement are met and to whom notice may be given by WERF.
- E. The term "Research" means the work described in the Scope of Work to be completed by the Contractor pursuant to the terms and conditions of this Agreement.
- F. The term "Task Order" means an individual order for Deliverables that includes a separate Scope of Work, Budget and time table for the Deliverables. Tasks Orders shall be sequentially numbered, separately executed in writing and considered as part of this Agreement.
- G. The term "Project Manager" or "PM" means the WERF employee(s), as specifically designated by WERF, with responsibility for reviewing all actions taken by the Contractor and as having authority to communicate all WERF decisions concerning the process, procedure, scheduling requirements, funding requirements, and outcome of the Research.
- H. The term "Subcontractor" means any individual or entity with whom the Contractor shall separately contract to complete one or more specific tasks required by the Research.
- I. The term "Object Code" means the machine readable code processed and understood by a computer.
- J. The term "Source Code" means the human readable code necessary for a person of ordinary skill in the art to build a copy of the software in Object Code format.
- K. The term "Collaborator" means a third-party that enters into a Collaborative Agreement with WERF and/or Contractor to perform the Research.
- L. The term "Deliverables" means written, electronic, or verbal Work Product(s) that communicate progress, data/results, interpretations, implications, outcomes, and/or applications of the Research.
- M. The term "Work Product" means those portions of the Deliverables that contain intellectual property that is assigned, or is assignable, under this Agreement.
- N. The term "WERF Cost" means the total contract allocated cost based on the estimated total cost to WERF of the Research including a fixed fee, if any.

2. SCOPE OF WORK

Contractor shall perform the work outlined in the Scope of Work which is incorporated as Attachment A. The Scope of Work shall be amended from time to time to include individual Task Orders and such Task Orders, upon execution, are incorporated into this Agreement.

3. DURATION

The period of performance of this Agreement shall start on September 1, 2014 and end on December 31, 2016 unless terminated as provided herein.

4. BUDGET, COSTS AND PAYMENTS

- A. Budget and Costs -- The Contractor shall be reimbursed for all eligible project costs, as determined by applicable cost principles and administrative requirements, upon receipt and acceptance of a properly completed invoice. **Funding is capped at \$ 125,000.00** as described in the Budget which is incorporated as Attachment B. WERF shall not be obligated to pay the Contractor for costs incurred in excess of the WERF Cost set forth in the Budget, unless the increase is approved in writing by WERF.
- B. Payment Terms - Invoices detailing expenses incurred during the term of this Agreement should be submitted upon completion of each task described in the Scope of Work. Invoices may be submitted upon completion of each task described in the Schedule of Deliverables and Milestone. Contractor's invoices must also detail all cost-share and third party in-kind (as applicable and available) for each reporting period. All invoices must be submitted using the form shown in Attachment C. WERF will only reimburse Contractor for completed work. WERF reserves the right to request a brief narrative describing the work performed and completed as of the date of the invoice. The Final Report must be delivered to and accepted by WERF in order for the final invoice to be paid. Further, WERF reserves the right to withhold up to ten percent (10%) of the Total Budget until the Final Report has been accepted by WERF.
- C. Unallowable Costs -- Contractor's invoice shall be subject to reduction for amounts included in any invoice or prior payment made which are determined not to constitute allowable costs on the basis of audits, reviews, or monitoring of this Agreement in accordance with WERF's standards and any applicable Federal Uniform Administrative Requirements (based upon Contractor's cognate agency). Further, in the event that an unallowable amount is identified following payment, Contractor shall reimburse WERF for such amount.
- D. Purchase of Property -- No equipment, material, or test apparatus shall be purchased with WERF funds, nor shall any improvement, modification or construction of real or personal property be made with WERF funds, unless such purchase or expenditure has been specifically approved in writing by WERF. An itemized listing of such authorized purchases and expenditures shall be contained in the Contractor's budget. Contractor shall obtain title to any property purchased by Contractor within the budget approved by WERF. Any purchases or expenditures not authorized in the budget are not billable

against this Agreement. If WERF determines (a) that specific equipment, material, or test apparatus has significant residual value as personal property or as an improvement, modification, or part of construction of real property, or (b) the property could be used for other WERF research projects, WERF will obtain title to the personal property, or an interest in the real property, when the purchase is proposed by Contractor and approved by WERF.

5. FINANCIAL RECORDKEEPING AND AUDITING

- A. Accounting -- The Contractor will maintain an accounting system and a set of accounting records that, at a minimum, allows for the identification of individual Projects by source of revenue and expenditures related to this Agreement. All costs will be supported by source documentation and available upon request by WERF. The Contractor's accounting records will be the basis for generating financial reports that must reflect accurate and complete data. Such accounting records shall include documentation for all cost sharing activities as required under Paragraph 4. B. of this Agreement. In addition, financial records must be properly closed out at the end upon termination of the Agreement and all reports submitted in a timely manner.
- B. Auditing in General-- The Contractor agrees to comply with the requirements of OMB Circular A-133. Contractor further agrees to provide WERF with copies of all independent auditors' reports, which cover the period of performance of this Agreement. Contractor will provide a copy of its response to auditors' reports and, in instances of non-compliance, a plan for corrective action. All records and reports prepared in accordance with the requirements of OMB Circular A-133 shall be made available for review or audit by appropriate officials of the Federal agency, WERF, or the General Accounting Office (GAO) during normal business hours.
- C. Auditing Requests by WERF -- Upon the request and at the expense of WERF, the accounting records maintained by Contractor in the performance of the Research shall be subject at all reasonable times to audit by WERF, or at WERF's option, by an independent public accounting firm designated by WERF and paid for by contractual funds. The Parties intend that such audits shall be performed not more frequently than once every twelve (12) months during the performance of the Project. WERF may also have an audit performed at any time within one (1) year following its final payment. If at any time during the course of the Research a budget line item is exceeded by ten percent (10%) or more of the CAP WERF may request a revised budget to be submitted.

6. FEDERAL FUNDING

No Federal Funds are being provided by WERF for this Research.

7. KEY PERSONNEL

Performance of the Research shall be supervised by a Principal Investigator (PI) designated by the Contractor with the periodic review of a Project Manager designated by WERF. These individuals are named in the Scope of Work and are considered essential to the Research. Substitution of the Principal Investigator or substantial increases or reductions in the Principal Investigator's efforts will not be made without the prior written approval of WERF. WERF may designate a new or alternate person for the Project Manager at any time by providing written notification to the Contractor.

8. NOTICES AND POINTS OF CONTACT

Any notices to WERF required under this Agreement shall be addressed to the Project Manager with a copy to the Contract Administrator. Any notices to Contractor will be sent to the parties designated below, as appropriate.

WERF Points of Contact for this Agreement are:

Project Manager: Lola Olabode, lolabode@werf.org, (571) 384-2109

Invoices/Billing: David Morroni, DMorroni@werf.org, (571) 384-2103

Contract Admin.: Louise Pouliot, LPouliot@werf.org, (571) 384-2106.

Postal and courier deliveries to WERF points of contacts should be directed to the address first written above.

Contractor's Points of Contact for this Agreement are:

Principal Investigator: Eric Dickenson, eric.dickenson@snwa.com, (702) 856-3668

Invoices/Billing: Jennifer Fuel, jennifer.fuel@snwa.com, (702) 856-3665

Contract Admin: David Rexing, dave.rexing@lvvwd.com, (702) 856-3664

Postal deliveries to Contractor points of contacts should be directed to:

Southern Nevada Water Authority
P.O. Box 99954
Las Vegas, NV 89193-9954

Courier deliveries to Contractor points of contacts should be directed to:

Southern Nevada Water Authority
1299 Burkholder Boulevard
Henderson, NV 89015-3801

9. DELIVERABLES, REPORTING and QAPP

- A. Quality Assurance Project Plan -- The Contractor shall submit a Quality Assurance Project Plan (QAPP) to WERF at least 30 days before data collection starts. The QAPP will be reviewed by the WERF technical advisory committee. The WERF Project Director will provide guidance and a template for the QAPP. The QAPP will be the first deliverable under this Agreement and will be listed in Attachment D, "Schedule of Deliverables and Milestones".
- B. Timetable for Deliverables -- Deliverables shall be submitted to WERF in accordance with the timetable in Attachment D, "Schedule of Deliverables and Milestones." All Deliverables shall be in a format that may be uploaded to the Internet. Electronic versions of reports shall be submitted in PC format using commonly available word processing software or PDF. If a Deliverable is computer based, Contractor is required to provide software support and to update computer software as necessary and as negotiated in a separate Software Support Agreement with WERF. The Software Support Agreement shall be incorporated by reference into this Agreement.
- C. Interim Deliverables -- Contractor shall submit Interim Deliverables to the WERF Program Manager on the dates specified in Schedule of Deliverables. The Interim Deliverable may include, but not be limited to, summaries of findings/results of a task, annual reports, a report of recommendations for further research, progress summary presentations at Program Area Meetings or web profiles. The purpose of the Interim Deliverable is to communicate the progress on the Research to date and to document the successful completion of tasks. The Interim Deliverable will receive a review from a group of volunteer subject matter experts (e.g., the Project Sub Committee). Upon completion of the review process, comments will be sent to the Principal Investigator who shall address all review comments. Contractor shall keep WERF informed including work performed by the Contractor for its own account or by subcontractors and/or Collaborators. If work is considered proprietary and/or confidential to Contractor or others, the work shall be marked with an appropriate legend and shall be handled as Confidential Information pursuant to the terms of this Agreement.
- D. Final Deliverables -- Upon completion of the Research, Contractor shall submit to WERF a comprehensive draft final product covering all work on the Research accomplished and results achieved under this Agreement, including conclusions and practical applications that will be of benefit to WERF Subscribers ("Draft Final Product"). The Draft Final Product shall be in compliance with the most current edition of the Guidelines for Preparing WERF Research Reports and Products as set forth in the following link [http://www.werf.org/i/Funding/Preparing a Report/a/o/PreparingaReport/Preparing](http://www.werf.org/i/Funding/Preparing_a_Report/a/o/PreparingaReport/Preparing)

a Report.aspx. The Draft Final Product shall be in full, clear, concise, and exact detail, and shall include data such as mathematical, graphic, and written descriptive materials, and other means of disclosure appropriate under the circumstances, to enable any person skilled in the art to achieve the results of the Research performed under this Agreement. The Draft Final Product must also include a clearly identified section explaining the practical benefits of the Research results. The Draft Final Product shall be a polished document ready for publication if the reviewers were to have no comments. The Draft Final Product should not be a preliminary report in any manner or form. It should be spell-checked, grammatically edited, fully formatted, technically complete, internally reviewed, and fully proofed for any and all errors prior to submittal for WERF review comments. If the Draft Final Product is computer based, all testing will have been done and all QA/QC met. The Draft Final Product will be briefly screened upon submission and will be returned to the authors with WERF review if significant deficiencies are identified.

- E. Acceptance of Draft Final Product -- Upon acceptance by WERF, the Draft Final Product will receive a review from a group of volunteer subject matter experts (e.g., the Project Sub Committee). Upon completion of the review process, comments and recommended actions will be sent to the Contractor. Contractor shall address all review comments made on the Draft Final Product and submit a revised Draft Final Product. (the "Final Product") WERF reserves the right to request (up until submission of the Draft Final Product) the Contractor to submit an alternate or additional Final Product) that may not be specified in attachments A and D. An alternate Final Product shall be at no additional cost to WERF. For alternate or additional Final Products(s), WERF will use commercially reasonable efforts to allow an equitable adjustment in the WERF Cost, or time of performance, or both. The alternate or additional Final Products(s) shall be prepared in the same manner as the Final Product as discussed in this section.

10. INTELLECTUAL PROPERTY

10.1 Copyrights

- A. Assignment of Copyrights -- Contractor hereby assigns to WERF copyrights owned by Contractor in the Work Products including Interim Deliverables, Draft Final Deliverables and Final Deliverables to publish, reproduce, and distribute in any medium now known or hereafter developed, and to use in any manner and for any purpose, without limitation, including the right to assign copyrights to third parties. Contractor shall execute written assignments of the copyrights and do all things necessary or proper to establish and enforce WERF's copyrights including obtaining assignment of any and all copyrights with employees, subcontractors and Collaborators. Contractor shall not enter into any agreement or take any action with respect to its rights in the copyrighted works that might jeopardize WERF's ownership of such copyrights in the Work Products.
- B. Incorporated Works -- If Contractor incorporates copyrighted or proprietary works of Contractor or third parties ("Incorporated Works") in the Final Product, Contractor shall obtain (at no expense to WERF and for an appropriate period of time) written permission

for WERF to use Incorporated Works in Research Reports Interim Deliverables, the Draft Final Product, and the Final Product, and in the case of third party copyrighted or proprietary works, shall submit to WERF a copy of the document granting Contractor permission to use Incorporated Works.

- C. Articles -- Contractor may write, or WERF may request Contractor to write, papers related to the Research for publication. The Contractor may retain copyrights for any technical papers or articles for publication, presentation, or theses generated in connection with the Research that do not substantially duplicate material intended to be contained in the Final Report. Consequently, any works to be published or presented or otherwise used by or on behalf of Contractor other than the Interim Progress Reports, Draft Final Products and Final Products, may be so used only to the extent that any claim by a third party in rights to such works shall not impede upon WERF's rights in the works to be assigned by Contractor. Contractor shall submit Articles to WERF for review. WERF reserves the right to determine if a disclaimer shall be included with the Articles. To the extent allowable by third party publishers, Contractor hereby grants WERF a nonexclusive license to publish, make copies, prepare derivative works of, and to incorporate the Articles in collective and compilation works. Articles generated in connection with the Research under this Agreement, during the period of performance of the Agreement or in the future, shall give credit to WERF as the sponsor of the Research by including the following:

"This research was funded by the Water Environment Research Foundation (WERF)".

If an Article was not specifically requested by WERF, the author's time will not be charged to WERF under this Agreement.

10.2 Trademarks and Funding Attribution

Neither party will use the name or logo of the other in publications or in any form of publicity without the written permission of the other, in the case of WERF, the Project Manager.

10.3 Databases

Contractor hereby warrants and represents that it has all rights to the underlying facts in any database that is a deliverable as part of the Research Reports, Interim Deliverables, Draft Final Product, Final Product and that Contractor has the right to assign to WERF all copyrights in the underlying facts in the database, as well as, all copyrights in the compilation of the database. Facts included in any database shall be deemed "Data" pursuant to Section 10.4 of this Agreement. Contractor hereby assigns to WERF all copyrights in database(s) to publish, reproduce, and distribute in any medium now known or hereafter developed, and to use in any manner and for any purpose, without limitation, including the right to assign copyrights to third parties. Contractor shall execute written assignments of the copyrights and do all things necessary or proper to establish and enforce WERF's copyrights including obtaining assignment of any and all copyrights with employees, subcontractors and Collaborators.

10.4 WERF's Rights in Data.

- A. Data -- Contractor agrees to maintain data, for a minimum of 7 years from submission of the final invoice, in sufficient detail to properly reflect all work done on the Research and to document results achieved in the performance of this Agreement, including but not limited to, books, records, reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, samples of materials, and other graphic or written documents generated in connection with the Research (the "Data").
- B. Preservation of Data -- All Data produced, generated or procured under this Agreement, including under any subcontracts or collaborative agreements, shall become the property of the Contractor and may be utilized by Contractor for its own purposes. Contractor shall retain Data in its original form during the term of this Agreement and shall deliver original or reproducible copies of Data to WERF upon request. Contractor shall deliver reproducible copies of Data to WERF prior to destruction. Until such delivery to WERF, the Contractor agrees to permit WERF representatives to examine and review at reasonable times all Data in Contractor's possession.
- C. License to Data -- Contractor hereby grants to WERF an irrevocable, worldwide, perpetual, nonexclusive fully-paid license to copyrights and other Intellectual Property rights owned by Contractor in the Data to publish, reproduce, distribute and use all or any part of the Data, in any manner and for any purpose, without limitation, and such license shall include the right to grant sublicenses to third parties similar in scope. Contractor shall do all things necessary or proper to establish and enforce WERF's license in the Data including obtaining assignment of any and all Intellectual Property rights from employees, subcontractors and Collaborators.

10.5 Confidential Information.

The Parties acknowledge that, in the performance of the Research, the Contractor may furnish, under mutually acceptable terms and conditions, proprietary and/or confidential information ("Confidential Information"), which is generally related to the subject matter of the Agreement but has been developed by the Contractor or others apart from this Agreement. The Parties will safeguard Confidential Information against disclosure by employing the same means to protect such Confidential Information as that Party uses to protect its own non-public, confidential or proprietary information, and otherwise.

The Parties recognize Contractor's duties under the Nevada Public Records Act and do not, by this Agreement, intend to alter Contractor's duties thereunder or to require Contractor to do, or refrain from doing, anything contrary to the Nevada Public Records Act. Contractor's Office of General Counsel shall be permitted to make an independent determination as to whether any document or record marked "confidential" is confidential or is a public record, except in the case of the Draft Final Product and the Final Product to be delivered under this Agreement prior to WERF publication, pursuant to the Nevada Public Records Act. If Contractor's Office of General Counsel determines that any document or record supplied by WERF and marked

"confidential" is determined to be a public record, Contractor may disclose that document or record to the extent required by the Nevada Public Records Act with prior notice to WERF, however, under no circumstance will the Draft Final and Final Products be deemed a public record prior to WERF publication. Upon receipt of any request for Confidential Information, this Agreement, or any part thereof, Contractor will promptly forward the request to WERF and work with WERF in good faith to minimize the extent of the disclosure to the extent requested by WERF and permitted by the Nevada Public Records Act.

Prior to publication of the Final Report by WERF, Contractor shall take all appropriate steps to preserve the confidentiality of the Final Report and Data. After publication of the Final Report by WERF, the Final Report and Data shall cease to be Confidential Information.

10.6 Computer Programs.

- A. Exclusive Computer Programs. If Computer programs are specified as part of the Scope of Work they shall be supplied to WERF in a form, which may be used by others independent of Contractor's proprietary programs or computer configurations (the "Computer Programs"). Contractor hereby grants to WERF an exclusive irrevocable, worldwide, perpetual, fully-paid license to Computer Programs in Source Code and Object Code, including the right to grant royalty-bearing sublicenses to third parties similar in scope and to distribute Computer Programs in any medium now known or hereafter developed, and to use in any manner and for any purpose, without limitation. Furthermore, the Contractor grants WERF the right to prepare, and to retain others to prepare, Derivative Works pertaining to the Computer Program, in which the Computer Program is updated or otherwise modified by, or at the direction of, WERF. Contractor shall do all things necessary or proper to establish and enforce WERF's license in the Computer Program including obtaining licenses from any and all subcontractors and Collaborators. The Computer Programs, test cases and their results will be transmitted to WERF in Object Code on computer disc in a format compatible with WERF's computer operating system or an operating system specified by WERF and in a form that is reproducible by WERF to create additional copies, if necessary. Adequate supporting documentation allowing a person of ordinary skill in the art to build the Object Code from the Source Code shall also be supplied to WERF. Any royalty income earned on licensing of Computer Programs by WERF under its exclusive license shall remain with WERF. Contractor shall not disclose or distribute Computer Programs without first obtaining a license from WERF.
- B. Nonexclusive Supporting Computer Programs. Contractor may, during the course of the Project, develop or substantially modify existing programs especially for use in this Research that are not specified in the Scope of Work but are supportive of the Research ("Supporting Computer Programs"). Contractor hereby grants to WERF an irrevocable, worldwide, perpetual, nonexclusive, fully-paid license to Supporting Computer programs in both Source Code and Object Code, including the right to grant sublicenses similar in scope, and distribute in any medium now known or hereafter developed. Contractor shall not use third party, royalty-bearing software to support Computer Programs.

10.7 Patents.

Contractor shall immediately, upon learning of its potential existence, report to WERF in writing any idea or concept that could result in a patentable idea, process, or formula (collectively "Inventions") resulting from the support, in whole or in part, from funds awarded by WERF under this Agreement.

If the Contractor has no patent policy, a patent policy and procedure shall be defined by subsequent negotiation as an Addendum to this Agreement ("Patent Policies & Procedures"). If the Contractor has established, pre-existing, patent policy and procedures for administering Inventions which are known and accepted by WERF, WERF may defer to Contractor's patent policy and procedures subject to WERF's Patent Policy requirements set forth below:

- a. Title to Inventions shall reside with Contractor to the extent such title can be properly claimed under its patent policies and procedures. WERF shall be allowed rights to use the patent pursuant to this patent policy.
- b. If the Contractor decides not to file a patent application, WERF shall be notified promptly (within one week of the decision not to file an application) and WERF shall have the sole right to determine the disposition of the Invention, taking into consideration possible rights of third parties.
- c. If the Contractor initiates a patent application, the patent application shall not be abandoned without prior written notice to WERF and WERF shall have a Right of First Refusal to a transfer of title to the Invention and assignment of the application.
- d. If a patent is issued to Contractor, the patent shall not be abandoned without prior written notice to WERF and WERF shall have a Right of First Refusal to a transfer of title to the Invention.
- e. If a patent is issued on the Invention, the Contractor shall make regular periodic reports to WERF with respect to its utilization of the Invention and issue regular payments to account for any income received resulting from licensing, sale, assignment or any other commercialization of the Invention (collectively "Exploitation").
- f. From the monies, if any, received from Exploitation of the Invention, WERF and the Contractor shall each receive an allocable share. The share shall take into consideration the relative contributions of each party, as well as possible rights of third parties.

The Contractor shall use best efforts to make the Invention available for commercial licensing upon reasonable terms and conditions.

WERF may request the grant of a worldwide, irrevocable, nonexclusive right and license to use the Invention without payment or royalties or license fees solely for the use by WERF for its own use or for public education purposes. Contractor shall not unreasonably oppose such a grant.

11. RELATIONSHIP OF THE PARTIES

The Contractor is an independent contractor to WERF in this agreement. WERF and the Contractor shall be solely liable for any claims, actions, demands or damages arising out of the performance of their respective obligations under this Agreement.

12. CLOSE-OUT PROCEDURES

- A. The Contractor shall submit a final expense report for the Contractor's work prior to final payment hereunder.
- B. Final payment may be withheld until the requirement of Subparagraph A of this Article has been fulfilled.

13. NON-ASSIGNMENT/NON-TRANSFER/SUBCONTRACTS/EOE

- A. Non-Assignment/Non Transfer -- Neither this Agreement nor any interest therein, or claim there under, shall be assigned or transferred by the Contractor to any party or parties without the written authorization of WERF.
- B. Subcontracts -- If additional subcontractors are required for completion of the Research subsequent to those contemplated in the Budget, the Contractor will select additional subcontractor(s) with the approval of the WERF Program Manager. Notwithstanding any such consent or concurrence, (a) WERF shall not bear any liability to the Contractor, subcontractor, or collaborator arising out of any act or omission of the Contractor, subcontractor or collaborator, and (b) any subcontracting by the Contractor shall not relieve the Contractor of any responsibility for the performance of this Agreement or the Research. Except as otherwise authorized in writing by the Parties, the Contractor will insert in all subcontracts and collaborative agreements provisions making the relevant portions of the following Sections applicable to any subcontractor, collaborators and its employees: FINANCIAL RECORDING KEEPING AND AUDITING, INTELLECTUAL PROPERTY, OVERSIGHT, INDEMNIFICATION, ARBITRATION and this section, NON-ASSIGNMENT/NON-TRANSFER/SUBCONTRACTS/EOE.
- C. Subcontractor and Collaborator Settlement -- In the event a subcontract and/or collaborative agreement hereunder is canceled or terminated, the Contractor will so advise WERF and obtain WERF's prior written consent in any subcontractor or collaborative agreement termination cost settlement for such costs to be allowable under this Agreement. WERF's consent will not be unreasonably withheld.
- D. Equal Opportunity Employer -- WERF is an Equal Opportunity Employer and WERF expects Contractor, its subcontractors and Collaborators to be Equal Opportunity

Employers who accept the goal of having a work force that generally reflects the minority composition of the community in which it is located. Contractor shall not discriminate on any basis. It is the policy of WERF to encourage proposals from qualified minority owned or directed institutions. Contractor shall use best efforts to ensure that fifteen percent (15%) of the total contract shall be made available to business concerns or other organizations owned or controlled by socially and economically disadvantaged individuals within the meaning of Section 8(a) (5) and (6) of the Small Business Act (15 U.S.C. 637 (a) (5) and (6)). Such business entities may participate as, subcontractors, collaborators, or procurers of supplies, equipment, or services.

14. AMENDMENT AND TERMINATION OF AGREEMENT

- A. This Agreement may only be amended by a signed document duly executed by authorized representatives of the parties.
- B. If Contractor fails to comply with the terms and conditions of the Agreement, WERF may terminate this Agreement in whole or part, at any time by giving thirty (30) days written notice to the Contractor specifying the extent of termination and the effective date. If this Agreement is terminated pursuant to this article, the Contractor will stop work as specified in the notice and will be entitled to payment in accordance with the payment provisions of this Agreement only for those services furnished prior to the effective date of termination or non-cancellable works performed. The Contractor shall not place any orders or subcontracts for materials, services, or facilities, except as may be necessary for the completion of such portion of the work that is not terminated or non-cancellable.
- C. In the event that there is any change in Federal statutes, rules or regulations which materially alter Contractor's ability to perform its activities under this Agreement or there is a change in availability of funds from the Award, WERF reserves the right to alter this Agreement to conform to the changed circumstances or to terminate this Agreement if the work outlined in the Proposal is no longer technically or legally feasible.
- D. Upon termination for any reason, WERF shall not be liable for any general, special, incidental, consequential or any other damages of any description or amount. This provision shall survive the term of this Agreement.

15. INDEMNIFICATION

- A. To the extent permitted by law, the parties shall indemnify, defend and hold harmless each other, their officers, directors, agents, and employees from and against any and all liability for injury, including death to persons or damage to property to the extent caused by any negligent error, act or omission of the indemnifying party, its subcontractors, collaborators, agents, or employees, including any and all expense, legal or otherwise, incurred by the indemnified party, its officers, directors, agents, and employees in the defense of any claim or suit arising out of the activities performed under this Agreement.

- B. To the extent permitted by law, the parties shall indemnify, defend and hold harmless each other, their officers, directors, agents, and employees, and its licensees from and against any and all liability, damages, losses, costs, and expenses (including reasonable attorneys' fees, if the indemnifying party fails to defend the indemnified party as provided herein) incurred by the indemnified party in connection with any claim that the activities performed under this Agreement infringe upon or violate any patent, copyright, trademark, trade secret, or other proprietary right of any third party (collectively, an "Infringement Claim"). The indemnified party shall have the right to participate in, and shall have the right to give reasonable approval to, any settlements of any such Infringement Claim.
- C. Contractor and WERF shall each notify the other promptly in the event that any claim or suit arises out of the activities performed under this Agreement.
- D. These indemnification provisions shall survive the term of this Agreement.

16. INSURANCE

WERF acknowledges that Contractor is self-insured, pursuant to Nevada law. Proof of such insurance shall be provided to WERF within 5 business days upon request.

17. ARBITRATION

All dispute(s) arising out of, relating to or in connection with this Agreement, or any breach thereof, shall first be subject to the Parties using all best efforts to resolve the dispute(s) through discussions solely between themselves in an attempt to avoid the need for arbitration. If the above mentioned discussions fail to resolve the dispute(s), the dispute(s) shall be submitted to the American Arbitration Association ("AAA"), and finally settled under the Commercial Arbitration Rules of the AAA by one arbitrator appointed in accordance with the said rules. The location of any hearing or other arbitral proceedings shall be Clark County, Nevada. The award rendered by the arbitrator shall be final and binding and judgment on the award may be entered in any court having jurisdiction thereof.

For the purposes of seeking Injunctive Relief (defined below) in aid of arbitration, each Party hereby irrevocably consents to the jurisdiction of the United States federal courts and Nevada state courts located in Clark County, Nevada, in any action or proceeding arising out of, relating to, or in connection with this Agreement, and hereby irrevocably agrees that all requests or demands for Injunctive Relief in connection with claims and disputes arising out or related to this Agreement, and any orders for such Injunctive Relief, may be issued by such courts. "Injunctive Relief" means any claim seeking remedy in the form of a court order providing emergency, temporary, or permanent injunctive relief that either prohibits a Party from continuing a particular activity, omission, or action deemed to be in breach of this Agreement or otherwise compels a Party to perform a particular activity or action required by this Agreement.

Unless otherwise directed by WERF in writing, the Contractor shall continue to perform the Research during any arbitration proceeding.

18. CONTROLLING LAW AND SEVERABILITY.

This Agreement and the respective rights and obligations of the Parties hereto shall be governed by and construed in accordance with the laws of the State of Nevada, and the federal laws of the United States of America applicable therein, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Nevada or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Nevada and the federal laws of the United States of America applicable therein.

If any provision, or portion thereof, of this Agreement is found to be unenforceable, the remainder of the Agreement shall continue in full force and effect. If any provision of this Agreement is held to be unenforceable for any reason, such provision shall be reformed only to the extent necessary to make it enforceable, and such decision shall not affect the enforceability of such provision under other circumstances, or of the remaining provisions hereof under all circumstances.

19. DISCLOSURE REQUIREMENTS FOR ORGANIZATIONAL CONFLICTS OF INTEREST

Organizational Conflict of Interest Certification (EPAAR 1552.209-72), requires the Contractor to certify whether it is or is not aware of any potential organizational conflict of interest. If the Contractor is aware of a conflict, then Contractor must provide an Organizational Conflict of Interest Notification (EPAAR 1552.209-70), that requires the Contractor to provide a disclosure statement in its proposal describing all relevant information concerning any past, present, or planned interests bearing on whether it (including its chief executives and any directors, or any proposed consultant or subcontractors) may have a potential organizational conflict of interest.

20. RESPONSIBILITY OF CONTRACTOR REGARDING TRANSACTIONS

Contractor shall fully comply with Subpart C of 40 CFR Part 32, entitled "Responsibilities of Contractors Regarding Transactions." Contractor is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 40 CFR Part 32, entitled "Covered Transactions," includes a term or condition requiring compliance with Subpart C. Contractor is responsible for further requiring the inclusion of a similar term or condition in any subsequent lower tier covered transactions. Contractor acknowledges that failing to disclose the information required under 40 CFR 32.335 may result in the delay or negation of this assistance agreement, or pursuance of legal remedies, including suspension and debarment.

Recipient may access the Excluded Parties List System at <http://www.sam.gov>. This term and condition supersedes EPA Form 5700-49, "Certification Regarding Debarment, Suspension, and Other Responsibility Matters."

21. COMPLIANCE WITH APPLICABLE LAW

Contractor shall comply with all applicable local, state and Federal laws and regulations in the performance of this Agreement, whether specifically referenced in this Agreement or not.

22. SURVIVABILITY

In the event that this Agreement is terminated for any reason, the following paragraphs shall survive Paragraph 4.C. - UNALLOWABLE COSTS, Paragraph 5 in its entirety - FINANCIAL RECORDING KEEPING AND AUDITING, Paragraph 10 in its entirety - INTELLECTUAL PROPERTY, Paragraph 12 in its entirety- CLOSE-OUT PROCEDURES, Paragraph 15 in its entirety - INDEMNIFICATION.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their undersigned duly authorized representatives:

WATER ENVIRONMENT RESEARCH FOUNDATION

By: *D. Woltering*

Name and Title: Daniel M. Woltering, Ph.D., Director of Research

Date: July 1, 2014 FED TAX ID No. 54-1511635

In accepting this Award or amendment and any payments made pursuant thereto, (1) the undersigned represents that he is duly authorized to act on behalf of the recipient organization, and (2) the recipient agrees (a) that the Award is subject to the applicable provisions of 40 CFR Chapter 1, Subchapter B of the Environmental Protection Agency and of the provisions of this agreement (and all attachments), and (b) that acceptance of any payments constitutes an agreement by the payee that the amounts, if any found by WERF to have been overpaid will be refunded or credited in full to WERF.

SOUTHERN NEVADA WATER AUTHORITY

By: _____

John J. Entsminger, General Manager

Date: _____ FED TAX ID No. 88-0278492

Southern Nevada Water Authority

Approved as to form:

By: *[Signature]* Date 7-1-14

Schedule of Attachments

Scope of Work.....	A
Total Budget.....	B
Invoice Format.....	C
Schedule of Deliverables and Milestones	D

WERF Unsolicited Research Project - Scope of Work

Biological nutrient removal (BNR) treatment has emerged as a cost effective and commonplace process for reducing nutrients, such as nitrogen and phosphorus, from wastewater. However, the indiscriminate discharge of trace organic compounds (TOrcs) has emerged as an important issue due to their potential to elicit detrimental effects on aquatic life. There exists *critical knowledge gaps* in our understanding of the elimination of TOrcs during BNR treatment and they include:

1. The fate and transport of emerging contaminants in different redox conditions (anaerobic, anoxic, and aerobic redox zones) is lacking, especially when compared to conventional activated sludge treatment (aerobic zone).
2. The knowledge about metabolic degradation pathways of emerging contaminants under varying redox conditions is lacking because most studies have only focused on parent compound removals. Moreover, in some cases biodegradation intermediates can be more persistent, toxic, and bioaccumulative than the parent compound (Celiz et al. 2009).
3. The kinetics of adsorption and desorption of TOrcs with activated sludge solids, particularly under different redox conditions, is not well understood. The kinetics could significantly influence the removal of TOrcs via sludge wasting and the bioavailability of TOrcs for biotransformation.

Filling these gaps is essential for optimizing current treatment processes for TOrc removal and in using mass balance models for predicting TOrc fate and removal in BNR treatment systems. Due to the recent emergence of BNR treatment, there is an *urgent need* to understand the fate and removal mechanisms of emerging contaminants in BNR systems. This research will explore the fate of select emerging TOrcs in BNR treatment.

Research Objectives/Design

The objective of this proposed research is to gain a better understanding of the most important fate mechanisms for a select group of high priority organic compounds in BNR wastewater treatment systems.

This research is structured into *three tasks* that will be completed over a 2-year period. The *first task* involves the determination of biotransformation rates for select priority TOrcs (i.e., benzotriazole, *N,N*-diethyl-meta-toluamide, sulfamethoxazole, and triclosan). The *second task* involves the identification of biotransformation intermediates and degradation pathways of the target compounds. The *third task* involves the determination of equilibrium sorption distribution coefficients and the characterization of adsorption and desorption kinetics for select TOrcs in the three differing redox regimes.

To accomplish the above tasks, laboratory biotransformation and sorption experiments will be conducted at the University of Cincinnati (UC) and TOrc and biotransformation product (BTP) analysis will be performed at the Southern Nevada Water Authority (SNWA). Grab samples of anaerobic, anoxic, and aerobic activated sludge will be collected from the Sycamore Creek WWTP in Cincinnati (OH) and Las Vegas WWTP in Las Vegas (NV). It is hypothesized that different operational conditions (SRT, redox conditions, and temperature) at the two treatment plants may affect the microbial diversity, which in turn could change the biodegradation rates for the target compounds.

Research Experimental Plan and Approach

Task 1 - Conduct batch-laboratory experiments to evaluate the biotransformation kinetics of select TOrcs under a variety of environmental conditions, e.g., redox and temperature.

Biotransformation rates for the select TOrcs will be determined in laboratory experiments at UC using BNR activated sludge collected from participating wastewater treatment plants. These experiments will examine the disappearance of parent compounds (primary biotransformation), as well as the formation

and disappearance of intermediates as part of *Task 2*. The activated sludge (anaerobic, anoxic, and aerobic) will be collected during times when the treatment systems are operating under steady-state conditions, then transferred to UC on ice (4 °C) and utilized within 1 to 2 days of collection. The project team has successfully shipped fresh activated sludge for biotransformation testing in a previous WERF project (Salveson, Dickenson, McAvoy et al., 2012). Operational (flow, HRT, SRT, MLSS) and chemical (nutrients, DO, COD, pH, temperature) parameters will be provided by the participating utilities.

The biotransformation rates in this study will be determined using a variation of the USEPA method OPPTS 835.3280 (USEPA, 2008) or if available the WERF standard protocol from U3R10. In this procedure, the target compounds will be dosed into batch reactors (3 L) incubated in either an anaerobic, anoxic, or aerobic environment at relevant temperatures depending on the source of the activated sludge. An abiotic control will also be included in the biotransformation experiments, which will contain a mixture of sodium azide (5%) and nickel/barium chloride (5 mM). The chemical biocide will be mixed with the activated sludge for at least 10 min prior to spiking the TOrCs. The abiotic control will be used to estimate extraction and recovery efficiencies.

At time zero, continuously stirred reactors will be spiked with the target compounds at environmentally relevant concentrations. The stock solutions will initially be dissolved in methanol to insure that the compounds will dissolve in the wastewater matrix. The stock standards will then be N₂-dried to minimize the introduction of methanol into the reactors because methanol is a desirable carbon source and thus potentially may alter the composition of the microbial community. After test initiation, TOrC samples will be collected at the following times: 10 min, 25 min, 45 min, 90 min, 3 h, 6 h, 12 h, 1 d, 2 d, and 4 d. The biotransformation rates will then be determined from the loss in TOrC concentrations over time and fit to zero-order, first-order, or second-order kinetic models.

For the aerobic activated sludge, aerobic conditions will be maintained by continuously bubbling compressed air into the sample. For the anoxic and anaerobic activated sludge, anoxic and anaerobic conditions will be maintained by continuously bubbling compressed N₂ into the sample. In addition, anoxic condition will be maintained by dosing 40 mg/L of NO₃-N into the anoxic activated sludge at the beginning of the experiment. The NO₃-N concentration in the anoxic reactors will be monitored during the experiment using the cadmium reduction method and if the value drops below 10 mg-N/L, then additional NO₃-N will be added to maintain an anoxic condition in the reactor. Dissolved oxygen levels will also be monitored in all experiments using a dissolved oxygen electrode to ensure that the DO < 0.1 mg/L in the anoxic and anaerobic experiments and the DO > 3 mg/L in the aerobic experiments. The water quality parameters pH, temperature, NH₃, NO₂⁻, and TSS will be measured using standard methods (APHA, 2012) at time zero and also periodically throughout the tests (4 h, 10 h, 1 d, and 4 d).

The project team has successfully employed the analytical methods for the targeted TOrCs in wastewater matrices in a recently completed WERF study (Salveson, Dickenson, McAvoy et al., 2012). Briefly, wastewater samples will initially be separated into solid and liquid phases using centrifugation. Clean-up of the liquid phase samples will be performed by Solid Phase Extraction (SPE). Solid samples will be extracted by Accelerated Solvent Extraction (ASE) and followed by sample clean-up with SPE. Detection of the analytes will be performed by LC-MS/MS and quantification will be performed using isotope dilution (Vanderford and Snyder, 2006). Since analytical methods are well established for the selected TOrCs, a significant amount of time will be saved by not having to develop analytical methods for the target compounds. Quality assurance/quality control (QA/QC) parameters such as precision, accuracy, and method detection limits will also be established for each analyte. The TOrC analysis will be performed at SNWA.

Task 1 Expected Outcomes - The expected outcome from this task is the determination of biotransformation rates for the select TOrCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. Secondly, formation and degradation rates of biotransformation products will be evaluated as part of *Task 2*.

Task 2 - Identification of biotransformation intermediates and degradation pathways for select TOxCs.

The aim of *Task 2* is to identify biotransformation intermediates and possible degradation pathways occurring in actual wastewater matrices at environmentally relevant TOxC concentrations. Initially a target list of plausible BTPs will be assembled from a literature review of reported BTPs and predicted metabolites from the University of Minnesota Pathway Prediction System (UM-PPS) (Ellis et al., 2008). This information will help guide us on what intermediates to look for in the biotransformation intermediate experiments.

Since plausible intermediate structures are known for the target compounds, we propose to examine their degradation by isotopic labeling. This technique allows for a compound to be differentiated from interferences and tracked through its metabolic pathway using mass spectrometry. In this technique, a parent compound is 'labeled' by replacing specific atoms with enriched stable isotopes that are far less abundant in the natural environment. The result is a compound nearly identical to the unlabeled compound, but one that can be differentiated from interferences due to its different mass. All four of the target compounds are readily available using deuterium, carbon-13, or nitrogen-15 labeling. The labeled compounds are then spiked into the wastewater being studied and observed using mass spectrometry. Because these compounds occur at low concentrations in the environment (low $\mu\text{g/L}$) and complex background interferences associated with wastewater are present, the samples will be examined by solid phase extraction (SPE) followed by using an ultra-sensitive 4000 QTRAP liquid chromatography tandem mass spectrometry (LC-MS/MS) system at SNWA. The metabolites can also be confirmed by use of available standards (existing or synthesized) and/or by performing product ion scans using the LC-MS/MS system.

The biotransformation experimental procedure will be similar to those presented in *Task 1* with the exception of using spiked labeled compounds. In addition, biotransformation experiments with unlabeled parent compounds as described in *Task 1* will be performed in parallel to compare and confirm the labeled compound results. If the above approach proves to be unsuccessful, the identification of unknown metabolites will be performed at SNWA using a combination of SPE and liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QTOF), though higher concentrations of the parent compounds would likely be required (high $\mu\text{g/L}$ to mg/L) (Terzic et al. 2011). The detected BTPs will then be characterized using the accurate mass feature for the determination of the tentative molecular formulae and product ion scans for the structural elucidation of unknowns.

Task 2 Expected Outcomes - The expected outcome from this task is the identification of biotransformation intermediates and degradation pathways for the select TOxCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. A list of plausible target biotransformation intermediates will also be assemble from a literature review of reported intermediates and those predicted with the University of Minnesota's Pathway Prediction System.

Task 3 - Conduct batch-laboratory experiments to characterize the kinetics of adsorption and desorption for parent and intermediate compounds (if identified in Task 2), as well as to determine their sorption distribution coefficients under a variety of environmental conditions, e.g., redox and temperature.

Sorption distribution coefficients (K_d) and sorption isotherms will be determined for the target TOxCs in laboratory experiments conducted at UC using BNR activated sludge. Fresh activated sludge (anaerobic, anoxic, and aerobic) will be collected and transferred from the participating wastewater treatment plants as described in *Task 1*. Using two treatment plants will lend insight into the sorption characteristics of biomass generated under varying redox conditions in different full-scale treatment systems. Upon arrival to UC, the suspended solids concentration for each batch of activated sludge will be determined using standard methods (APHA, 2012) and the results used to set the activated sludge solids concentration in subsequent experiments.

The laboratory procedure for determining the sorption coefficients and sorption isotherms will be similar to those previously reported by the project team (Kerr, McAvoy et al., 2000; Hyland, Dickenson et al., 2012). The sorption experiments will be performed using 15-mL glass centrifuge tubes as the reaction vessels. Triplicate tubes will be used for each isotherm concentration point. Prior to being used in the sorption experiments, a 10-mL subsample of the activated sludge will be transferred to the test vessels. The content in the centrifuge tubes will then be rotated end-over-end for approximately 30 s and centrifuged (2800g for 5 min). The centrifuge supernatant will be decanted and 10 mL of buffered (pH 7) synthetic water will be added back to the centrifuge tubes. The composition of the synthetic water will be as follows: NH_4Cl (2.0 mg/L), MgSO_4 (22.5 mg/L), CaCl_2 (47.7 mg/L), FeCl_3 (0.3 mg/L), and phosphate salts for buffering. The washing step with synthetic water will be repeated two more times. The purpose of this washing process is to reduce background TOxC levels from the original sample and to lower the background concentrations of the target compounds.

After the third washing step, synthetic water containing a biocide (0.5% NaN_3 , 5-mM BaCl_2 , 5-mM NiCl_2) will be added back to the test vessels at a volume sufficient to maintain the same solids-to-liquid ratio as original activated sludge samples (~10 mL). Six spiking concentrations (500, 1000, 2000, 3000, 5000, and 10000 ng/L) will be used in developing the isotherms. An activated sludge control, without the target compounds, will also be spiked with synthetic water and biocide. This adsorbent control will be used to determine background concentrations of the analytes as well as to assess any matrix interferences with the analytical method. Following addition of the spiked solutions, the centrifuge tubes will be thoroughly mixed by rotating end-over-end for approximately 30 s, then placed on their sides and equilibrated on a shaker table at room temperature (~23 °C) in the dark for 4 h (equilibrium time will be checked before conducting the isotherm experiments). A solution control, without activated sludge solids, will also be performed in triplicate. For the solution control, three concentrations of TOxCs (0, 1000, 10000 ng/L) will be spiked into the centrifuge tubes containing 10 mL of synthetic wastewater with biocide. The solution control will be used to assess the stability of the analytes and any loss to the test vessel walls. Following equilibrium, the test vessels will then be centrifuged (2800g for 5 min) and the supernatant concentrated by SPE and quantified by LC-MS/MS using the isotope dilution method as described in *Task 1*. The remaining solids will be extracted using ASE, followed by SPE clean-up and quantitation by LC-MS/MS. The experimental data will be fit to either a Freundlich or Langmuir isotherm and K_d values will be determined for each sample.

Adsorption and desorption kinetic experiments will also be conducted at UC to assess the effect of sorption kinetics on TOxC removal via sludge wasting and on the accessibility of TOxCs for biotransformation. The procedure will be similar to the sorption distribution coefficient experiments described above except that only one concentration (5000 ng/L) will be spiked into 21 test vessels and the depletion rate of the TOxCs from the aqueous phase (triplicate samples collected at 0, 10, 20, 30, 45, 90, and 180 min) will be used to determine adsorption rate constants. Desorption experiments will utilize equilibrated activated sludge from the adsorption experiments (5000 ng/L) and once equilibrated (~4 h) the samples will be centrifuged, the supernatant decanted and synthetic water added back at a volume sufficient to maintain the same solids-to-liquid ratio as in the proceeding adsorption equilibrium experiments (~10 mL). Samples will then be collected at specific times (triplicate samples collected at 0, 10, 20, 30, 45, 90, and 180 min), then centrifuged and analyzed as described above. The increase in TOxC concentrations over time in the aqueous phase will be used to determine desorption rate constants. The kinetic data will then be fit to zero-order, first-order, and second-order models.

Task 3 Expected Outcomes - The expected outcome from this task is the determination of sorption distribution coefficients for the select TOxCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. Secondly, kinetic rates of adsorption and desorption for the parent and intermediate compounds (if identified in Task 2) will be determined under aerobic, anoxic, and anaerobic conditions found in BNR treatment.

Research Deliverables and Communication Plan

Drs. Dickenson and McAvoy will function as Principal Investigators for the project. Dr. Campo-Moreno will serve as a Co-Principal Investigator. Dr. McAvoy will take a lead on drafting document deliverables and serve as the communication liaison with WERF. The key research deliverable will be a final report that describes the major outcomes from the study. Major outcomes are expected to be: (1) improved understanding of the behavior of TOxCs in different redox regimes, (2) generation of valuable sorption kinetic parameters that can be used in improving predictive model formulations, and (3) development of an approach for determining degradation metabolites and pathways that can be used to assess other TOxCs. In addition, our project team will prepare interim and summary reports over the duration of this project. Research profiles will also be developed for posting on WERF's website. On an as needed basis, the project team will publish findings in WERF Progress and WERF Laterals. If asked, the team will also deliver presentations during a WERF webinar, which is very popular communication avenue. Key findings will also be developed into multiple manuscripts, which will be submitted to peer-reviewed journals. The project team has an outstanding and reliable track record for publication of quality trace organic compound research. Oral and/or poster presentations will also be presented at national meetings, such as WEFTEC. The communication plan will be further reviewed with the project review committee and additional communication methods will be employed if deemed necessary. Drs. McAvoy and Dickenson have been principal investigators on past WERF projects and have experience in delivering the above communication devices in an effective and timely manner.

The schedule of deliverables and milestones are provided below.

DELIVERABLE/MILESTONE	DUE DATE
START DATE	September 1, 2014
QUALITY ASSURANCE PROJECT PLAN (QAPP)	October 1, 2014
TECHNICAL MEMORANDUM #1	February 1, 2015
INTERIM REPORT #1	June 1, 2015
TECHNICAL MEMORANDUM #2	October 1, 2015
INTERIM REPORT #2	February 1, 2016
DRAFT FINAL REPORT	June 1, 2016
FINAL REPORT	September 1, 2016
CONFERENCE PRESENTATION	October, 2016

References

- American Public Health Association (APHA). 2012. Standard Methods for the Examination of Water and Wastewater, 22nd ed. APHA, Washington, DC.
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Total Budget
See "Instructions" Worksheet

PERSONNEL (Applicant Organization Only)										
Name	Role	Annual Salary	% time	Salary Requested	Fringe Benefits	Total Cost	Other Funds	In-Kind	WERF Cost	
Eric Dickerson	Co-PI	\$50.62/hr		\$1,012.00	\$404.80	2834	-	\$1,417.00	\$1,417.00	
Brett Vanderford	Principal Research Chemist	\$83.35/hr		\$1,267.00	\$508.80	3549	-	\$1,774.00	\$1,775.00	
	Postdoctoral Researcher	\$34.82/hr		\$2,250.00	\$800.00	5573	-	\$2,423.00	\$3,150.00	
	Graduate Intern	\$22.00/hr		\$2,682.00	\$0.00	2882	-	\$0.00	\$2,682.00	
						Subtotal	14818	0	5814	9004

OTHER DIRECT COSTS					Total Cost	Other Funds	In-Kind	WERF Cost
EQUIPMENT (Use additional pages for Itemize (not if necessary))					0			
					Subtotal	0	0	0

SUPPLIES (Use additional sheets if necessary)					Total Cost	Other Funds	In-Kind	WERF Cost
					0			
					Subtotal	0	0	0

TRAVEL					Total Cost	Other Funds	In-Kind	WERF Cost
Domestic:					0			
Foreign:					0			
Conferences:					5000		0	5000
					Subtotal	5000	0	5000

SUBCONTRACTS					Total Cost	Other Funds	In-Kind	WERF Cost	
University of Cincinnati					93033		18033	75000	
					Subtotal	93033	0	18033	75000

DISADVANTAGED BUSINESSES (If a one, steps taken by proposer must be described for justification to be accepted)					Total Cost	Other Funds	In-Kind	WERF Cost
					0			
					Subtotal	0	0	0

Other Costs (Optional)					Total Cost	Other Funds	In-Kind	WERF Cost	
Analytical Costs:					47066		11070	35996	
					Subtotal	47066	0	11070	35996

TOTAL DIRECT COSTS:					159717	0	34717	125000	
INDIRECT COSTS:			% (See instructions for calculation)						
FEE (if applicable):			% x (Personnel + Indirect Cost)						
					Total Cost	159717	0	34717	125000

Deliverables/ Milestones	Duration in Months	Total Cost	Other Funds	In-Kind	WERF Cost	
Milestone 1 QAPP – Quality Assurance Project Plan	1	8855		1447	5210	
Milestone 2 Technical Memo #1	4	26819		5786	20833	
Milestone 3 Interim Report #1	4	26819		5786	20833	
Milestone 4 Technical Memo #2	4	26819		5786	20833	
Milestone 5 Interim Report #2	4	26819		5786	20833	
Milestone 6 Draft Final Report	4	26819		5786	20833	
Milestone 7 Final Report	3	19865		4340	15625	
Milestone - Final						
		Total Cost	159717	0	34,717	125,000

ATTACHMENT D

SCHEDULE OF DELIVERABLES AND MILESTONES

DELIVERABLE/MILESTONE	DUE DATE
START DATE	September 1, 2014
QUALITY ASSURANCE PROJECT PLAN (QAPP)	October 1, 2014
TECHNICAL MEMORANDUM #1	February 1, 2015
INTERIM REPORT #1	June 1, 2015
TECHNICAL MEMORANDUM #2	October 1, 2015
INTERIM REPORT #2	February 1, 2016
DRAFT FINAL REPORT	June 1, 2016
FINAL REPORT	September 1, 2016
CONFERENCE PRESENTATION	October, 2016

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Agreement	Director's Backup
Petitioner: David L. Johnson, Deputy General Manager, Engineering/Operations	
Recommendations: That the Board of Directors approve an agreement between the University of Cincinnati and the Authority for the University of Cincinnati's participation as Co-Principal Investigator in the Water Environment Research Foundation's "Evaluating Fate Mechanisms for Contaminants of Concern in BNR Treatment Systems" study, in an amount not to exceed \$75,000.	

Fiscal Impact:

If the above recommendation is approved, the required \$75,000 will be reimbursed by the Water Environment Research Foundation through a separate item before the Board of Directors for consideration today.

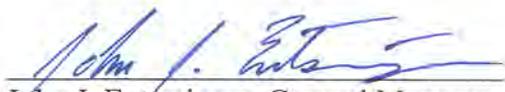
Background:

The Authority's Water Quality Research and Development (R&D) Division has comprehensive expertise in the study of trace organic chemicals and the fate of these chemicals through wastewater reclamation systems. Because of this expertise, the Water Environment Research Foundation (WERF) selected the R&D Division as the Principal Investigator in conducting research to gain a better understanding of the most important fate mechanisms for a select group of high priority organic chemicals in biological nutrient removal wastewater treatment systems.

If approved, this agreement would provide for University of Cincinnati (UC) Research Professor, Dr. Drew McAvoy, to assist the Authority by serving as Co-Principal Investigator for the study. Dr. McAvoy has over 30 years of experience in investigating the fate and transport of trace organic compounds in engineered wastewater treatment systems. Dr. McAvoy and his research group would be charged to perform laboratory research on the biodegradation and sorption characteristics for a select group of high priority organic chemicals within biological nutrient removal wastewater treatment systems. The inclusion of the UC research group in this study will include their expertise, as mentioned above, and the use of well-established experimental reactor systems and methods located at UC.

This agreement is being entered into pursuant to NRS 277.180 and Section 6(j) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved the agreement.

Respectfully submitted:


John J. Entsminger, General Manager
JJE:PDS:DLJ:DJR:ED:jf
Attachments

AGENDA ITEM #	5
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AGREEMENT TO PROVIDE PROFESSIONAL SERVICES

This Agreement is made and entered into this ____ day of _____, 20__, by and between University of Cincinnati, a state institution of higher education organized under Section 3361 of the Ohio Revised Code, on behalf of the College of Engineering and Applied Science, Department of Biomedical, Chemical, and Environmental Engineering, hereinafter called "CONSULTANT," and the SOUTHERN NEVADA WATER AUTHORITY, a political subdivision of the State of Nevada, hereinafter called the "AUTHORITY." The CONSULTANT and the AUTHORITY are sometimes hereinafter referred to individually as "Party" and collectively as the "Parties." The term "AUTHORITY" also refers to staff of the AUTHORITY acting within their designated authority and duties.

WITNESSETH:

WHEREAS, the AUTHORITY desires to obtain professional services as more specifically described herein, and

WHEREAS, the CONSULTANT is properly qualified and desires to provide the professional services required by the AUTHORITY, and

WHEREAS, the AUTHORITY, in reliance on the CONSULTANT's representations and proposals, agrees to retain the CONSULTANT, and the CONSULTANT agrees to furnish professional services to the AUTHORITY, on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the promises and mutual covenants contained herein, the Parties hereto agree as follows:

1. SCOPE OF SERVICES:

(a) The CONSULTANT shall provide any requested services, hereinafter referred to as "Services" or "Work," as described and within the time indicated in Exhibit A, which is attached herewith and made a part of this Agreement.

(b) All Services performed shall be subject to the cost ceiling contained in Paragraph 4 hereof and subject to the AUTHORITY's directions respecting priorities. The CONSULTANT will furnish professional Services in the amount necessary to complete promptly and effectively the Work assigned under this Agreement. All of the Services shall be performed by the CONSULTANT or an approved subcontractor or subconsultant.

(c) In performing Services under this Agreement, the CONSULTANT shall observe and abide by the terms and conditions of all applicable laws, regulations, ordinances, or rules of the United States, of the State of Nevada, of any political subdivision thereof, and of any other duly constituted public authority or agency. The CONSULTANT shall be responsible for obtaining any license, permit or other approval as required by law or otherwise, arising out of the Services to be performed hereunder.

(d) The CONSULTANT has, or will secure at its own expense, the qualified personnel required to perform the Services assigned under this Agreement. Such personnel shall not be employed by the United States, the State of Nevada, Clark County, the AUTHORITY, or any other political subdivision of the State of Nevada.

2. PERIOD OF PERFORMANCE:

This Agreement shall become effective as of the date it is fully executed by both Parties and, unless terminated in accordance with the terms of this Agreement, shall remain in effect until the earlier of:

(a) December 01, 2016, or, as further amended by the Parties;

(b) All Services authorized to be performed by the AUTHORITY are completed by the CONSULTANT; or,

(c) The Agreement terminated in accordance with its terms.

3. COMPENSATION:

(a) In consideration for completion of all duties and responsibilities under this Agreement, the AUTHORITY agrees to pay the CONSULTANT, in accordance with Exhibit A, for Work completed to the AUTHORITY's satisfaction.

(b) The CONSULTANT shall provide itemized monthly invoices for Services performed during the previous month. Invoices are to be submitted to the AUTHORITY in accordance with the Notice provisions of the Agreement and must reference the name and date of the Agreement. A copy of any invoice received from subcontractors or subconsultants used by the CONSULTANT shall be included.

(c) The AUTHORITY shall pay invoiced amounts from the CONSULTANT based on tasks completed as set forth in Exhibit A within thirty (30) calendar days after the date the invoice is received and approved by the AUTHORITY.

4. LIMITATION ON COSTS:

The total cost of Services provided under this Agreement shall not exceed seventy five thousand dollars (\$75,000).

5. TRUTH-IN-NEGOTIATION CERTIFICATION:

Signing of this Agreement by CONSULTANT shall constitute a truth-in-negotiation certification by CONSULTANT that wage rates and other factual unit costs supporting the compensation of this Agreement are accurate, complete, and current at the time of execution of this

Agreement. The original Agreement price and any additions thereto shall be adjusted to exclude any significant sums by which the AUTHORITY determines the Agreement price was increased due to inaccurate, incomplete, or noncurrent wage rates and other factual unit costs. All such Agreement adjustments shall be made within one (1) year following the end of the term of this Agreement.

6. INDEPENDENT CONTRACTOR:

The relationship of the CONSULTANT to the AUTHORITY hereunder shall be that of an independent contractor and not an agent or employee. The CONSULTANT shall have complete control over its employees and the method of performing its Work under this Agreement. No permitted or required approval by the AUTHORITY of personnel, costs, documents or Services of the CONSULTANT shall be construed as making the AUTHORITY responsible for the manner in which the CONSULTANT performs its Services or for any acts, errors or omissions of the CONSULTANT. Such approvals are intended only to give the AUTHORITY the right to satisfy itself with the quality of Work performed by the CONSULTANT.

7. INTELLECTUAL PROPERTY ACKNOWLEDGMENT

In consideration of the covenants and representations set forth herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, CONSULTANT hereby covenants and represents the following:

- (a) All content developed on behalf of the AUTHORITY, in whole or in part, solely or jointly by CONSULTANT and all of CONSULTANT's employees, associates or subcontractors assisting in creating developments and/or other work product, whether or not copyrightable or otherwise protected, including, without limitation, advertisements and marketing material ("Work Product") arising from services performed pursuant to, or arising out of the AUTHORITY's engagement of CONSULTANT, or previously conceived in

anticipation of work to be performed in regard to the AUTHORITY's engagement of CONSULTANT, shall be deemed "work made for hire" as defined in the copyright laws of the United States of America (17 U.S.C. §101 et seq.) and the AUTHORITY shall own all right, title, and interest, including, without limitation, all copyrights and other intellectual property right, title, and interest ("Right") in and to the Work Product.

(b) To the extent that CONSULTANT is deemed to have or retain any Right or otherwise possess any Right in and to any Work Product, CONSULTANT hereby assigns, transfers, and conveys, all such Right to the AUTHORITY.

(c) CONSULTANT shall execute all documents and undertake all actions necessary to effect the clarification of ownership of all Work Product in and to the AUTHORITY and to allow the AUTHORITY to apply for registrations of the Work Product, as well as maintain any registrations gained, including, without limitation, the Intellectual Property Assignment set forth in paragraph 8.

(d) CONSULTANT hereby waives and releases any claim of infringement of any Right of CONSULTANT (whether based in any intellectual property Right, other proprietary interest whatsoever, or fiduciary theory) in, to or respecting any Work Product (including, without limitation, any claim based on any CONSULTANT's rights in any Work Product which may be construed as "works of visual art" as defined in the Visual Arts Rights Act of 1990, 17 U.S.C. 106A) and shall never challenge nor dispute the AUTHORITY's Right in and to the Work Product.

(e) CONSULTANT acknowledges that this Agreement is a subagreement to an agreement between the AUTHORITY and the Water Environment Research Foundation, Project No. U2R13 ("WERF Agreement"), which limits the rights to publish the results of

the Work performed under this Agreement. CONSULTANT agrees to be bound by Sections 10.1 Copyrights, 10.4 WERF's Rights in Data, and 10.5 Confidential Information of the WERF Agreement, attached hereto as Exhibit B.

(f) In accordance with the terms of this Agreement, CONSULTANT may publish the results of the experiments and other Services performed hereunder upon obtaining the consent of the AUTHORITY, which consent will not be unreasonably withheld. CONSULTANT will not publish any bona fide proprietary or trade secret information of the AUTHORITY, to the extent that such information has been clearly identified in writing as "Confidential" upon its provision to CONSULTANT by the AUTHORITY. Before publishing, CONSULTANT agrees to submit copies of any manuscript proposed for publication to the AUTHORITY at least 30 days in advance of the presentation or publication date in order to permit the AUTHORITY to request the removal of its proprietary information or to request a delay to seek intellectual property protection. If the AUTHORITY does not (a) identify bona fide proprietary information for removal from such publication or (b) ask to defer publication in order to seek intellectual property protection, within 30 days after receipt of the manuscript, CONSULTANT may proceed with publication. In the event the AUTHORITY asks to defer publication to seek intellectual property protection, CONSULTANT shall not publish or otherwise disclose any of the information contained in the manuscript until such time as a patent application has been filed or the expiration of ninety (90) days after the date of submission of the manuscript to the AUTHORITY, whichever occurs first.

8. INTELLECTUAL PROPERTY ASSIGNMENT

In consideration of the covenants and representations set forth herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, CONSULTANT hereby sells, conveys, transfers and assigns to the AUTHORITY all of the CONSULTANT's right, title, license and interest (including, without limitation, all intellectual property right, title, license and interest) in and to any and all ideas and content (including, without limitation, all material, information, creative works, documents, matter, text, data, graphics, computer-generated displays and interfaces, images, photographs and works of whatsoever nature, including, without limitation, all compilations of the foregoing and all results and/or derivations of the expression of the foregoing) designed, developed, or created by the CONSULTANT or otherwise arising out of the CONSULTANT's Services or Work and related content by and for the benefit of the AUTHORITY (including, without limitation, patents applications, issued patents, prototypes for the purpose of same, and other associated derivatives) including, without limitation, all marks, all goodwill associated with such patents, marks, trade secrets, and copyrights in and to, relating to, associated with and/or arising from the Work, the right to applications, issuance, continuations, and divisionals of such patents and the right to applications, registrations, renewals, reissues, and extensions of such marks and copyrights, and the right to sue and recover for any past and/or continuing infringements or contract breaches, said rights, titles, licenses and interests to be held and enjoyed by the AUTHORITY, for the AUTHORITY's own use and benefit and for the use and benefit of the AUTHORITY's successors, assigns or other legal representatives, as fully and entirely as the same would have been held and enjoyed by the CONSULTANT if this sale, conveyance, transfer and assignment had not been made.

9. JOINT VENTURE:

Nothing herein shall be construed to imply a joint venture or principal and agent relationship between the AUTHORITY and the CONSULTANT, and neither Party shall have any right, power or authority to create any obligation, expressed or implied, on behalf of the other.

10. INTERPRETATION:

The Parties agree that neither Party shall be deemed the drafter of this Agreement and, in the event this Agreement is ever construed by a court of law or equity, such court shall not construe this Agreement or any provision hereof against either Party as drafter of this Agreement.

11. CONFLICT OF INTEREST:

During the course of performance of this Agreement, the CONSULTANT will not contract with any client whose interest is adverse to or would require the CONSULTANT to take a position contrary to that of the Las Vegas Valley Water District and/or the AUTHORITY.

12. PROHIBITION AGAINST COMMISSION FOR OBTAINING AGREEMENT:

The CONSULTANT represents that no person or company has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees; nor has the CONSULTANT paid or agreed to pay any person, company, corporation, individual or firm other than a partner or bona fide employee, any fee, commission, contribution, donation, percentage, gift, or any other consideration, contingent upon or resulting from award of this Agreement. For any breach or violation of this representation, the AUTHORITY shall have the right to terminate this Agreement without liability, or at its discretion, to deduct from the contract price, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration and any other damages.

13. PROHIBITION AGAINST INTEREST BY GOVERNMENT EMPLOYEES:

(a) No officer, employee or member of the governing body of the AUTHORITY shall (1) participate in any decision relating to this Agreement which affects his or her personal interest or the interest of any corporation, partnership, or association in which he or she is, directly or indirectly, interested or (2) have any interest, direct or indirect, in this Agreement or the proceeds thereof.

(b) The CONSULTANT represents that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of Services required to be performed under this Agreement. The CONSULTANT further covenants that in the performance of said Services, no person having any such interest shall be employed.

(c) No member of, delegate to or officer or employee of the legislative, executive or judicial branches of the government of the United States, of the State of Nevada or any of its political subdivisions shall be entitled to any share or part hereof or to any benefit to arise therefrom.

14. COMPLETENESS AND ACCURACY OF CONSULTANT'S WORK:

(a) The CONSULTANT shall be responsible for the completeness and accuracy of its research, supporting data, and any final reports or other deliverables prepared or compiled under its obligation under this Agreement and shall correct, at its expense, all errors or omissions therein which may be disclosed.

(b) The cost necessary to correct those Work errors attributable to the CONSULTANT shall be chargeable to the CONSULTANT. The fact that the AUTHORITY

has accepted or approved the CONSULTANT's Work shall in no way relieve the CONSULTANT of any of its responsibilities.

15. INDEMNIFICATION:

To the extent allowed by Ohio law and in accordance with Ohio Revised Code Chapter 2743, CONSULTANT shall indemnify and hold harmless AUTHORITY from and against any loss, damage, liability, cost or expense arising out of, resulting from, or in any way incidental to CONSULTANT'S performance of this Agreement. Such indemnification shall be limited to \$75,000.00, the value of this Agreement.

16. INSURANCE

The CONSULTANT, through its Office of Risk Management and Insurance, now has and will maintain during the term of the contract a comprehensive program of self-insurance and commercially purchased insurance, covering property, casualty and liability exposures to the CONSULTANT and its employees, agents and volunteers, while acting on the CONSULTANT'S behalf.

The primary level of insurance for general and professional (patient care) liability is provided through a self-insurance program, consisting of trust funds maintained by an independent trustee and actuarially supported to liability limits of \$100,000 per occurrence for general liability and \$4 Million per occurrence for professional liability. The funds' financial soundness is reviewed and certified annually by an outside actuarial firm. CONSULTANT also participates in a self-insurance program among several state universities in Ohio for automobile liability and general liability insurance coverages. In addition, commercially purchased excess insurance is provided above the primary liability insurance coverages with limits of \$15 Million and higher depending on the type of

claim. However, because the primary level of coverage is through self-insurance, there is no "Certificate of Insurance" for this coverage, and additional insured parties cannot be named. AUTHORITY can verify coverage through the letter dated June 3, 2014 from the University of Cincinnati's Office of Risk Management, signed by David F. Schwallie, Esq., Asst. Sr. VP.

Workers Compensation Insurance for CONSULTANT employees is provided through the state fund. CONSULTANT has been assigned a "Workers' Compensation Risk Number"; however there is not a certificate for that coverage. AUTHORITY can verify coverage through the letter dated June 3, 2014 from the University of Cincinnati's Office of Risk Management, signed by David F. Schwallie, Esq., Asst. Sr. VP.

17. TERMINATION:

The AUTHORITY's General Manager, his/her designee and/or the CONSULTANT may terminate this Agreement on thirty (30) days prior written notice. In the case of termination by the AUTHORITY, the AUTHORITY shall pay the CONSULTANT for all Work performed to the effective date of termination and the reasonable costs of transferring all documentation of all Work to the AUTHORITY.

18. REVIEWS:

(a) The CONSULTANT shall submit draft reports and other materials for review by the AUTHORITY prior to the submission of a final report on materials. Due dates will be negotiated, but in every instance, earlier submittal is encouraged.

(b) The AUTHORITY will review the submittals and any pertinent attachments and mark all required changes. All reviews will be completed within ten (10) working days after receipt of the submission package, and the package will be returned to the CONSULTANT. Corrections and changes to the submission will be made by the

CONSULTANT and resubmitted to the AUTHORITY for approval within ten (10) working days after receipt. The final approval will be submitted to the CONSULTANT within five (5) working days after receipt of the corrected document and any attachments. Alternate review schedules may be negotiated by mutual agreement of the Parties.

19. RELEASE OF INFORMATION:

Except as permitted under Section 7, all public releases of information gathered, obtained, or produced during the performance of this Agreement must be specifically approved in writing by the AUTHORITY prior to release. Such information shall include, but is not limited to, all products, intellectual property, Work Product, ideas, data, reports, background materials, and any and all other materials belonging to the AUTHORITY. Such public releases of information shall include, but are not limited to, publication in any book, newspaper, magazine, professional or academic journal, the Internet, radio, television, and presentations to professional, academic, and/or other groups or conferences.

Notwithstanding the above, AUTHORITY acknowledges that as soon as CONSULTANT submits a proposal, it is entered into CONSULTANT's Public Database. The information reported therein includes an internal assigned ID number, PI name, Title of the project, start and end date, direct cost, indirect cost, total costs, Sponsor ID number, Department and College name, Sponsor Name and Date submitted or awarded. The databases are available for viewing at <http://srs.uc.edu/Reporting/iReports.aspx>.

20. USE OF MATERIALS:

(a) The AUTHORITY shall make available to the CONSULTANT such materials from its files as may be required by the CONSULTANT in connection with its performance

of Services under this Agreement. Such materials shall remain the property of the AUTHORITY while in the CONSULTANT's possession.

(b) Upon termination of this Agreement, the CONSULTANT shall turn over to the AUTHORITY any property of the AUTHORITY in its possession and any calculations, notes, reports, or other materials prepared by the CONSULTANT in the course of performing this Agreement. Any proprietary software or other tools of the CONSULTANT used to execute the Work shall remain the property of the CONSULTANT.

21. RECORDS:

The CONSULTANT shall retain financial and other records related to this Agreement for six (6) years after the completion or termination of this Agreement, and shall make available to the AUTHORITY for inspection, all books, records, documents, and other evidence directly pertinent to performance under this Agreement upon reasonable notice.

22. ASSIGNMENT:

The CONSULTANT shall not assign or transfer its interest in this Agreement without the prior written consent of the AUTHORITY. If CONSULTANT assigns or transfers without prior written approval, the assignment or transfer shall be void, and not merely voidable.

23. MODIFICATION OF AGREEMENT:

This Agreement may not be changed or modified except by written instrument executed by both Parties or their designees.

24. SEVERABILITY:

Any provisions or portions of this Agreement prohibited as unlawful or unenforceable under any application of law of any jurisdiction shall as to such jurisdiction be ineffective without affecting other provisions of this Agreement. If the provisions of such applicable law may be waived, they are

hereby waived to the end that this Agreement may be deemed to be a valid and binding Agreement enforceable in accordance with its terms.

25. NON-DISCRIMINATORY EMPLOYEE PRACTICES:

(a) The CONSULTANT shall not employ discriminatory practices in the provision of Services, employment of personnel, or in any other respect on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, or national origin.

(b) No person in the United States shall, on the grounds of race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity made possible by or resulting from this Agreement.

(c) The CONSULTANT will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, or national origin. The CONSULTANT shall ensure that applicants are employed, and the employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, or national origin. This non-discrimination provision shall include, but not be limited to employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The CONSULTANT agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of this non-discrimination clause.

(d) The CONSULTANT will, in all solicitations or advertisements for employees placed by or on behalf of the CONSULTANT, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, or national origin.

(e) The CONSULTANT will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representatives of the CONSULTANT's commitment under this provision and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

26. EQUAL EMPLOYMENT OPPORTUNITY:

(a) The CONSULTANT and any subcontractor or subconsultant working under the authority of the CONSULTANT, who is responsible for the selection, referral, hiring, or assignment of workers for the Services provided pursuant to this Agreement, is required to comply with all applicable provisions of Title VII of the Civil Rights Act of 1964. This requirement includes compliance with Equal Employment Opportunity Commission regulations that prohibit discrimination based upon race, color, religion, sex, or national origin. Furthermore, the CONSULTANT shall in all relevant manners comply with the Age Discrimination in Employment Act, the Civil Rights Act of 1991, the Equal Pay Act, and Title I of the Americans with Disabilities Act.

(b) The CONSULTANT shall make all necessary documentation as required to comply with the Acts referred to above and shall make such documentation immediately available to the AUTHORITY upon the AUTHORITY's request. The CONSULTANT is solely liable for failure to comply with this provision.

27. APPLICABLE LAW:

This Agreement is governed and construed in accordance with the laws of the State of Nevada. However, to the extent that the laws of the State of Nevada conflict with the protections afforded to CONSULTANT under the Ohio Revised Code, as a state institution of higher education, Ohio law shall govern.

28. VENUE:

The Parties agree that venue for any dispute arising from the terms of this Agreement shall be Clark County, Nevada, except that claims for monetary damages against CONSULTANT be heard in the Ohio Court of Claims, Franklin County, Ohio.

29. ATTORNEY'S FEES:

Except as otherwise set forth in this Agreement, the Parties shall bear their own attorneys' fees and costs incurred in resolving the claims, as well as on the preparation of this Agreement. In the event that any Party commences an action to enforce or interpret this Agreement, or for any other remedy based on or arising from this Agreement, neither party shall be entitled to recover attorneys' fees or costs incurred.

30. NO THIRD PARTY RIGHTS:

This Agreement is not intended by the Parties to create any right in or benefit to parties other than the AUTHORITY and the CONSULTANT. This Agreement does not create any third party beneficiary rights or causes of action.

31. WAIVER:

The failure of either Party to enforce at any time, or for any period of time, the provisions hereof shall not be construed as a waiver of such provisions or of the rights of such Party to enforce each and every such provision.

32. CAPTIONS:

The captions contained in this Agreement are for reference only and in no way to be construed as part of this Agreement.

33. COUNTERPARTS:

This Agreement may be executed in any number of counterparts and by the different Parties on separate counterparts, each of which, when so executed, shall be deemed an original, and all counterparts together shall constitute one and the same instrument.

34. INTEGRATION:

This Agreement contains the entire understanding between the Parties relating to the transactions contemplated by this Agreement, notwithstanding any previous negotiations or agreements, oral or written, between the Parties with respect to all or any part of the subject matter hereof. All prior or contemporaneous agreements, understandings, representations and statements, oral or written, regarding the subject matter of this Agreement are merged in this Agreement and shall be of no further force or effect.

35. NOTICES:

Any and all notices, demands or requests required or appropriate under this Agreement (including invoices) shall be given in writing and signed by a person with authorization to bind the CONSULTANT or AUTHORITY, either by personal delivery, via facsimile, via a scanned document sent via email, or by registered or certified mail, return receipt requested, addressed to the following addresses and fax numbers:

To CONSULTANT: Sponsored Research Services
University of Cincinnati
University Hall, Suite 530
P.O. Box 210222
Cincinnati, OH 45221-0222
Attention: Christine Jones
ospaward@uc.edu
Fax No. : 513-556-4346

To AUTHORITY: Southern Nevada Water Authority
P.O Box 99954
Las Vegas, NV 89193-9954
Attention: Dr. Eric Dickenson
Email: eric.dickenson@snwa.com
Fax No.: 702-856-3647

When notice is given by mail, it shall be deemed served three (3) business days following deposit, postage prepaid in the United States mail. When notice is given by facsimile or email transmission, it shall be deemed served upon receipt of confirmation of transmission if transmitted during normal business hours or, if not transmitted during normal business hours, on the next business day following the facsimile or email transmission.

The Parties may designate a new contact person under this provision for notices or invoices or change the address, email address or fax number identified above by notifying the other Party in writing.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed the day and year first above written.

UNIVERSITY OF CINCINNATI

SOUTHERN NEVADA WATER AUTHORITY

By Chicki Jones * 7/8/14
Debi Galloway, Date
Associate Vice President,
Research Operations and Management

By _____
John J. Entsminger, Date
General Manager

Approved as to form:

Laura Ellen Browning
Laura Ellen Browning, Deputy Counsel

* Director Grants Management
Sponsored Research Services

EXHIBIT A

SCOPE OF SERVICES

Research Deliverables and Schedule for Invoices

Dr. McAvoy will function as a Principal Investigator and communication liaison with WERF for this project. He will be responsible for coordinating monthly meetings and will take the lead in reporting key findings for WERF's communication venues, e.g., WERF website, WERF Progress, WERF Laterals, and WERF webinars. Dr. McAvoy will also be responsible for preparing the following project deliverables: Quality Assurance Project Plan, Technical Memorandums and Internal Reports, Draft Final Report, and Final Report. The schedule of deliverables, which coincides with the schedule for invoices, is provided in the table below. In addition, Dr. McAvoy will manage the following activities at the University of Cincinnati (UC).

- Biotransformation rates for the select TOxCs will be determined in laboratory experiments at UC using BNR activated sludge collected from participating wastewater treatment plants.
- Sorption distribution coefficients (K_d) and sorption isotherms will be determined for the target TOxCs in laboratory experiments conducted at UC using BNR activated sludge.
- Adsorption and desorption kinetic experiments will also be conducted at UC to assess the effect of sorption kinetics on TOxC removal via sludge wasting and on the accessibility of TOxCs for biotransformation.

Dr. Campo-Moreno will serve as Co-Principal Investigator. He will take the lead on any chemical analysis performed at UC and will also assist on overseeing the laboratory experiments. Dr. Campo-Moreno will also lead the effort in identifying metabolites using the University of Minnesota Pathways Prediction System.

DELIVERABLES	DUE DATE	INVOICES
START DATE	September 1, 2014	
QUALITY ASSURANCE PROJECT PLAN (QAPP)	October 1, 2014	\$3,125
TECHNICAL MEMORANDUM #1	February 1, 2015	\$12,500
INTERIM REPORT #1	June 1, 2015	\$12,500
TECHNICAL MEMORANDUM #2	October 1, 2015	\$12,500
INTERIM REPORT #2	February 1, 2016	\$12,500
DRAFT FINAL REPORT	June 1, 2016	\$12,500
FINAL REPORT	September 1, 2016	\$9,375
CONFERENCE PRESENTATION	October, 2016	

Research Objectives/Design

The objective of this proposed research is to gain a better understanding of the most important fate mechanisms for a select group of high priority organic compounds in BNR wastewater treatment systems.

This research is structured into *three tasks* that will be completed over a 2-year period. The *first task* involves the determination of biotransformation rates for select priority TOrCs (i.e., benzotriazole, *N,N*-diethyl-meta-toxamide, sulfamethoxazole, and triclosan). The *second task* involves the identification of biotransformation intermediates and degradation pathways of the target compounds. The *third task* involves the determination of equilibrium sorption distribution coefficients and the characterization of adsorption and desorption kinetics for select TOrCs in the three differing redox regimes.

To accomplish the above tasks, *laboratory biotransformation and sorption experiments will be conducted at the University of Cincinnati (UC)* and TOrC and biotransformation product (BTP) analysis will be performed at the Southern Nevada Water Authority (SNWA). Grab samples of anaerobic, anoxic, and aerobic activated sludge will be collected from the Sycamore Creek WWTP in Cincinnati (OH) and Las Vegas WWTP in Las Vegas (NV). It is hypothesized that different operational conditions (SRT, redox conditions, and temperature) at the two treatment plants may affect the microbial diversity, which in turn could change the biodegradation rates for the target compounds.

Research Experimental Plan and Approach

Task 1 - Conduct batch-laboratory experiments to evaluate the biotransformation kinetics of select TOrCs under a variety of environmental conditions, e.g., redox and temperature.

Biotransformation rates for the select TOrCs will be determined in laboratory experiments at UC using BNR activated sludge collected from participating wastewater treatment plants. These experiments will examine the disappearance of parent compounds (primary biotransformation), as well as the formation and disappearance of intermediates as part of *Task 2*. The activated sludge (anaerobic, anoxic, and aerobic) will be collected during times when the treatment systems are operating under steady-state conditions, then transferred to UC on ice (4 °C) and utilized within 1 to 2 days of collection. The project team has successfully shipped fresh activated sludge for biotransformation testing in a previous WERF project (Salveson, Dickenson, McAvoy et al., 2012). Operational (flow, HRT, SRT, MLSS) and chemical (nutrients, DO, COD, pH, temperature) parameters will be provided by the participating utilities.

The biotransformation rates in this study will be determined using a variation of the USEPA method OPPTS 835.3280 (USEPA, 2008) or if available the WERF standard protocol from U3R10. In this procedure, the target compounds will be dosed into batch reactors (3 L) incubated in either an anaerobic, anoxic, or aerobic environment at relevant temperatures depending on the source of the activated sludge. An abiotic control will also be included in the biotransformation experiments, which will contain a mixture of sodium azide (5%) and nickel/barium chloride (5 mM). The chemical biocide will be mixed with the activated sludge for at least 10 min prior to spiking the TOrCs. The abiotic control will be used to estimate extraction and recovery efficiencies.

At time zero, continuously stirred reactors will be spiked with the target compounds at environmentally relevant concentrations. The stock solutions will initially be dissolved in methanol to insure that the compounds will dissolve in the wastewater matrix. The stock standards will then be N₂-dried to minimize the introduction of methanol into the reactors because methanol is a desirable carbon source and thus potentially may alter the composition of the microbial community. After test initiation, TOrC samples will be collected at the following times: 10 min, 25 min, 45 min, 90 min, 3 h, 6 h, 12 h, 1 d, 2 d, and 4 d. The biotransformation rates will then be determined from the loss in TOrC concentrations over time and fit to zero-order, first-order, or second-order kinetic models.

For the aerobic activated sludge, aerobic conditions will be maintained by continuously bubbling compressed air into the sample. For the anoxic and anaerobic activated sludge, anoxic and anaerobic

conditions will be maintained by continuously bubbling compressed N₂ into the sample. In addition, anoxic condition will be maintained by dosing 40 mg/L of NO₃-N into the anoxic activated sludge at the beginning of the experiment. The NO₃-N concentration in the anoxic reactors will be monitored during the experiment using the cadmium reduction method and if the value drops below 10 mg-N/L, then additional NO₃-N will be added to maintain an anoxic condition in the reactor. Dissolved oxygen levels will also be monitored in all experiments using a dissolved oxygen electrode to ensure that the DO < 0.1 mg/L in the anoxic and anaerobic experiments and the DO > 3 mg/L in the aerobic experiments. The water quality parameters pH, temperature, NH₃, NO₂⁻, and TSS will be measured using standard methods (APHA, 2012) at time zero and also periodically throughout the tests (4 h, 10 h, 1 d, and 4 d).

The project team has successfully employed the analytical methods for the targeted TOrCs in wastewater matrices in a recently completed WERF study (Salveson, Dickenson, McAvoy et al., 2012). Briefly, wastewater samples will initially be separated into solid and liquid phases using centrifugation. Clean-up of the liquid phase samples will be performed by Solid Phase Extraction (SPE). Solid samples will be extracted by Accelerated Solvent Extraction (ASE) and followed by sample clean-up with SPE. Detection of the analytes will be performed by LC-MS/MS and quantification will be performed using isotope dilution (Vanderford and Snyder, 2006). Since analytical methods are well established for the selected TOrCs, a significant amount of time will be saved by not having to develop analytical methods for the target compounds. Quality assurance/quality control (QA/QC) parameters such as precision, accuracy, and method detection limits will also be established for each analyte. The TOrC analysis will be performed at SNWA.

Task 1 Expected Outcomes - The expected outcome from this task is the determination of biotransformation rates for the select TOrCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. Secondly, formation and degradation rates of biotransformation products will be evaluated as part of *Task 2*.

Task 2 - Identification of biotransformation intermediates and degradation pathways for select TOrCs.

The aim of *Task 2* is to identify biotransformation intermediates and possible degradation pathways occurring in actual wastewater matrices at environmentally relevant TOrC concentrations. Initially a target list of plausible BTPs will be assembled from a literature review of reported BTPs and predicted metabolites from the University of Minnesota Pathway Prediction System (UM-PPS) (Ellis et al., 2008). This information will help guide us on what intermediates to look for in the biotransformation intermediate experiments. *The target list of possible metabolites will be conducted by UC.*

Since plausible intermediate structures are known for the target compounds, we propose to examine their degradation by isotopic labeling. This technique allows for a compound to be differentiated from interferences and tracked through its metabolic pathway using mass spectrometry. In this technique, a parent compound is 'labeled' by replacing specific atoms with enriched stable isotopes that are far less abundant in the natural environment. The result is a compound nearly identical to the unlabeled compound, but one that can be differentiated from interferences due to its different mass. All four of the target compounds are readily available using deuterium, carbon-13, or nitrogen-15 labeling. The labeled compounds are then spiked into the wastewater being studied and observed using mass spectrometry. Because these compounds occur at low concentrations in the environment (low µg/L) and complex background interferences associated with wastewater are present, the samples will be examined by solid phase extraction (SPE) followed by using an ultra-sensitive 4000 QTRAP liquid chromatography tandem mass spectrometry (LC-MS/MS) system at SNWA. The metabolites can also be confirmed by use of available standards (existing or synthesized) and/or by performing product ion scans using the LC-MS/MS system.

The biotransformation experimental procedure will be similar to those presented in *Task 1* with the exception of using spiked labeled compounds. In addition, biotransformation experiments with unlabeled

parent compounds as described in *Task 1* will be performed in parallel to compare and confirm the labeled compound results. *These experiments will be performed at UC.* If the above approach proves to be unsuccessful, the identification of unknown metabolites will be performed at SNWA using a combination of SPB and liquid chromatography quadruple time-of-flight mass spectrometry (LC-QTOF), though higher concentrations of the parent compounds would likely be required (high $\mu\text{g/L}$ to mg/L) (Terzic et al. 2011). The detected BTPs will then be characterized using the accurate mass feature for the determination of the tentative molecular formulae and product ion scans for the structural elucidation of unknowns.

Task 2 Expected Outcomes - The expected outcome from this task is the identification of biotransformation intermediates and degradation pathways for the select TORCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. A list of plausible target biotransformation intermediates will also be assemble from a literature review of reported intermediates and those predicted with the University of Minnesota's Pathway Prediction System.

Task 3 - *Conduct batch-laboratory experiments to characterize the kinetics of adsorption and desorption for parent and intermediate compounds (if identified in Task 2), as well as to determine their sorption distribution coefficients under a variety of environmental conditions, e.g., redox and temperature.*

Sorption distribution coefficients (K_d) and sorption isotherms will be determined for the target TORCs in laboratory experiments conducted at UC using BNR activated sludge. Fresh activated sludge (anaerobic, anoxic, and aerobic) will be collected and transferred from the participating wastewater treatment plants as described in *Task 1*. Using two treatment plants will lend insight into the sorption characteristics of biomass generated under varying redox conditions in different full-scale treatment systems. Upon arrival to UC, the suspended solids concentration for each batch of activated sludge will be determined using standard methods (APHA, 2012) and the results used to set the activated sludge solids concentration in subsequent experiments.

The laboratory procedure for determining the sorption coefficients and sorption isotherms will be similar to those previously reported by the project team (Kerr, McAvoy et al., 2000; Hyland, Dickenson et al., 2012). The sorption experiments will be performed using 15-mL glass centrifuge tubes as the reaction vessels. Triplicate tubes will be used for each isotherm concentration point. Prior to being used in the sorption experiments, a 10-mL subsample of the activated sludge will be transferred to the test vessels. The content in the centrifuge tubes will then be rotated end-over-end for approximately 30 s and centrifuged (2800g for 5 min). The centrifuge supernatant will be decanted and 10 mL of buffered (pH 7) synthetic water will be added back to the centrifuge tubes. The composition of the synthetic water will be as follows: NH_4Cl (2.0 mg/L), MgSO_4 (22.5 mg/L), CaCl_2 (47.7 mg/L) FeCl_3 (0.3 mg/L), and phosphate salts for buffering. The washing step with synthetic water will be repeated two more times. The purpose of this washing process is to reduce background TORC levels from the original sample and to lower the background concentrations of the target compounds.

After the third washing step, synthetic water containing a biocide (0.5% NaN_3 , 5-mM BaCl_2 , 5-mM NiCl_2) will be added back to the test vessels at a volume sufficient to maintain the same solids-to-liquid ratio as original activated sludge samples (~10 mL). Six spiking concentrations (500, 1000, 2000, 3000, 5000, and 10000 ng/L) will be used in developing the isotherms. An activated sludge control, without the target compounds, will also be spiked with synthetic water and biocide. This adsorbent control will be used to determine background concentrations of the analytes as well as to assess any matrix interferences with the analytical method. Following addition of the spiked solutions, the centrifuge tubes will be thoroughly mixed by rotating end-over-end for approximately 30 s, then placed on their sides and equilibrated on a shaker table at room temperature (~23 °C) in the dark for 4 h (equilibrium time will be checked before conducting the isotherm experiments). A solution control, without activated sludge solids, will also be performed in triplicate. For the solution control, three concentrations of TORCs (0, 1000, 10000 ng/L) will

be spiked into the centrifuge tubes containing 10 mL of synthetic wastewater with biocide. The solution control will be used to assess the stability of the analytes and any loss to the test vessel walls. Following equilibrium, the test vessels will then be centrifuged (2800g for 5 min) and the supernatant concentrated by SPE and quantified by LC-MS/MS using the isotope dilution method as described in *Task 1*. The remaining solids will be extracted using ASE, followed by SPE clean-up and quantitation by LC-MS/MS. The experimental data will be fit to either a Freundlich or Langmuir isotherm and K_d values will be determined for each sample.

Adsorption and desorption kinetic experiments will also be conducted at UC to assess the effect of sorption kinetics on TORC removal via sludge wasting and on the accessibility of TORCs for biotransformation. The procedure will be similar to the sorption distribution coefficient experiments described above except that only one concentration (5000 ng/L) will be spiked into 21 test vessels and the depletion rate of the TORCs from the aqueous phase (triplicate samples collected at 0, 10, 20, 30, 45, 90, and 180 min) will be used to determine adsorption rate constants. Desorption experiments will utilize equilibrated activated sludge from the adsorption experiments (5000 ng/L) and once equilibrated (~4 h) the samples will be centrifuged, the supernatant decanted and synthetic water added back at a volume sufficient to maintain the same solids-to-liquid ratio as in the proceeding adsorption equilibrium experiments (~10 mL). Samples will then be collected at specific times (triplicate samples collected at 0, 10, 20, 30, 45, 90, and 180 min), then centrifuged and analyzed as described above. The increase in TORC concentrations over time in the aqueous phase will be used to determine desorption rate constants. The kinetic data will then be fit to zero-order, first-order, and second-order models.

Task 3 Expected Outcomes - The expected outcome from this task is the determination of sorption distribution coefficients for the select TORCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. Secondly, kinetic rates of adsorption and desorption for the parent and intermediate compounds (if identified in Task 2) will be determined under aerobic, anoxic, and anaerobic conditions found in BNR treatment.

References

- American Public Health Association (APHA). 2012. Standard Methods for the Examination of Water and Wastewater, 22nd ed. APHA, Washington, DC.
- Celiz M, Tso J, Aga D. 2009. Pharmaceutical Metabolites In The Environment: Analytical Challenges And Ecological Risks. *Environ. Toxicol. Chem.* 28(12):2473-2484.
- Ellis L, Gao J, Fenner K, Wackett L. 2008. The University of Minnesota pathway prediction system: predicting metabolic logic. *Nucleic Acids Res.* 36:427-432.
- Hyland, KC, Dickenson, B, Drewes, J, and Higgins, C. 2012. Sorption of Ionized and neutral emerging trace organic compounds onto activated sludge from different wastewater treatment configurations, *Water Research*, 46, 1958-1968.
- Kerr KM, Larson RJ, and McAvoy DC. 2000. Evaluation of an Inactivation Procedure for Determining the Sorption of Organic Compounds to Activated Sludge, *Ecotoxicology and Environmental Safety*, Vol. 47, pp. 314-322.
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fluoroquinolone antimicrobials in membrane bioreactor treatment by ultrahigh-performance liquid chromatography/quadrupole time-of-flight mass spectrometry. *Analytical and bioanalytical chemistry*, 401(1), 353-363.

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**Grants / Contracts
3 Year Budget**

Sponsoring Agency: WSPW Water Environmental Watershed Protection
 Federal Investigator: Environmental
 Period: 08/01/14 thru 12/31/14

Fiscal Year: 2014

A. Activity	Acct Type	% Effort	Rate	Salary	Fiscal Year						
					2014	2015	2016	2017	2018	2019	
Salaries Personnel	A-CR	1.00%	0.11	10,750	1,500	1,500	1,500	1,500	1,500	1,500	4,150
Travel	A-CR	1.00%	0.03	30,000	300	300	300	300	300	300	1,800
Office Supplies	A-CR	1.00%	0.07	70,000	700	700	700	700	700	700	4,200
Contractual	A-CR	1.00%	0.03	30,000	300	300	300	300	300	300	1,800
Other	A-CR	0.00%	0.00	-	-	-	-	-	-	-	-
Other	A-CR	0.00%	0.00	-	-	-	-	-	-	-	-
Other	A-CR	0.00%	0.00	-	-	-	-	-	-	-	-
Total Personnel Subtotal:					3,100	3,100	3,100	3,200	3,200	3,200	17,000
B. Other Personnel											
Exempt Staff (Monthly)	None	0.00%	0.00	-	-	-	-	-	-	-	-
		0.00%	0.00	-	-	-	-	-	-	-	-
Total Exempt Staff					-	-	-	-	-	-	-
Post Doctoral Support											
Graduate Student	1 year 8 months student funding				20,000	1,800	20,700	8,600	400	8,600	20,800
Post-Doctoral Fellow					-	-	-	-	-	-	-
Non-Exempt Staff (9/12 Weekly)					25,000	2,600	-	3,700	1,800	-	-
Total Non-Exempt Staff					25,000	2,600	-	3,700	1,800	-	33,100
D. Equipment											
(10)					-	-	-	-	-	-	-
(11)					-	-	-	-	-	-	-
Total Equipment					-	-	-	-	-	-	-
E. Travel											
Domestic (11)					-	-	1,500	-	-	-	1,500
International (12)					-	-	-	-	-	-	-
Total Travel					-	-	1,500	-	-	-	1,500
G. Supplies and Other Direct Costs											
Materials & Supplies					4,200	-	4,200	-	-	-	8,400
Publication Costs					-	-	-	-	-	-	-
Contractual Services					-	-	-	-	-	-	-
ITC Tables (not subject to indirect)					4,400	-	4,400	-	-	-	8,800
Long Distance (not subject to indirect)					-	-	-	-	-	-	-
Other (Analytical Services/Instrument Use)					2,400	-	2,400	-	-	-	4,800
Subcontract					-	-	-	-	-	-	-
1)					-	-	-	-	-	-	-
2)					-	-	-	-	-	-	-
3)					-	-	-	-	-	-	-
Total Supplies and Other Direct Costs					11,200	-	11,200	-	-	-	22,400
TOTAL DIRECT COSTS					38,300	2,600	20,700	8,600	400	8,600	60,800
Indirect and Administrative Costs											
Facilities and Administrative Costs					10,000	-	10,000	-	-	-	20,000
Indirect Costs (at 10%)	25.00%	25.00%			9,525	-	9,525	-	-	-	19,050
Facilities and Admin Costs					9,525	-	9,525	-	-	-	19,050
Total Indirect					19,050	-	19,050	-	-	-	38,100

Indirect and Administrative Rate
 Purpose of Grant / Contract: R - Research 1 - Instruction, 2 - Public Service, 3 - Special Rate on Total Costs
 Special FICA Rate: 0.00%
 Charge Method: S (U - On Campus, O - Off Campus)
 Deleted FICA figure for research rates 30.50% 4,912.50 30.50% 9,387.75
 *If both lines have the same rate, then use the rate 30.50% 4,912.50 30.50% 9,387.75
 net fee or bonus 4,024.30 4,024.30
 Last Revision: 01/11/13

Exhibit B

Water Environment Research Foundation, Master Research Contract, Project No. U2R13

WATER ENVIRONMENT RESEARCH FOUNDATION
Master Research Contract

PROJECT NO. U2R13

Evaluating Fate Mechanisms for Contaminants of Concern in BNR Treatment Systems

This Agreement ("Agreement") effective upon the signature of both parties between the Water Environment Research Foundation ("WERF"), a Virginia Not For Profit Corporation with a principal place of business at Suite G-110, 635 Slaters Lane, Alexandria, VA 22314 and the Southern Nevada Water Authority ("Contractor"), with a principal place of business at 100 City Parkway, Suite 700, Las Vegas, Nevada 89106.

Whereas, WERF is a non-profit organization dedicated to advancing science and technology that addresses water quality issues as they impact water resources, the atmosphere, the lands, and quality of life; and

Whereas, WERF has awarded Contractor research funding to provide independent scientific research; and

Whereas, WERF desires Contractor to perform certain work related to such scientific research under the terms and conditions set forth below, and the Contractor has expressed a willingness to perform such work;

Now, therefore, for mutual and valuable consideration the parties agree to the following terms and conditions:

1. DEFINITIONS

For the purposes of this Agreement, the terms and definitions stated below, and throughout this Agreement shall control:

- A. The term "Derivative Work" means a work of authorship that is based and that modifies, transforms, or recasts that pre-existing work so as to alter it in any way.
- B. The term "Intellectual Property" means all inventions, innovations, creations, works, reports, figures, tables, processes, designs, methods, formulas, drawings, plans, technical data, specifications, logos, computer programs, computer chips and circuits, whether or not protectable through patent, copyright, trademark, trade secret, or mask work, and whether produced in any medium now known or subsequently developed.
- C. The term "Contractor" means the named individual(s) and/or entity (ies) entering into this Agreement with WERF and shall include all officers, directors, employees, and agents of the Contractor.

- D. The term "Principal Investigator" or "PI" means the Contractor's employee or agent, as specifically designated by the Contractor, with primary responsibility for ensuring that all terms and conditions of this Agreement are met and to whom notice may be given by WERF.
- E. The term "Research" means the work described in the Scope of Work to be completed by the Contractor pursuant to the terms and conditions of this Agreement.
- F. The term "Task Order" means an individual order for Deliverables that includes a separate Scope of Work, Budget and time table for the Deliverables. Tasks Orders shall be sequentially numbered, separately executed in writing and considered as part of this Agreement.
- G. The term "Project Manager" or "PM" means the WERF employee(s), as specifically designated by WERF, with responsibility for reviewing all actions taken by the Contractor and as having authority to communicate all WERF decisions concerning the process, procedure, scheduling requirements, funding requirements, and outcome of the Research.
- H. The term "Subcontractor" means any individual or entity with whom the Contractor shall separately contract to complete one or more specific tasks required by the Research.
- I. The term "Object Code" means the machine readable code processed and understood by a computer.
- J. The term "Source Code" means the human readable code necessary for a person of ordinary skill in the art to build a copy of the software in Object Code format.
- K. The term "Collaborator" means a third-party that enters into a Collaborative Agreement with WERF and/or Contractor to perform the Research.
- L. The term "Deliverables" means written, electronic, or verbal Work Product(s) that communicate progress, data/results, interpretations, implications, outcomes, and/or applications of the Research.
- M. The term "Work Product" means those portions of the Deliverables that contain intellectual property that is assigned, or is assignable, under this Agreement.
- N. The term "WERF Cost" means the total contract allocated cost based on the estimated total cost to WERF of the Research including a fixed fee, if any.

2. SCOPE OF WORK

Contractor shall perform the work outlined in the Scope of Work which is incorporated as Attachment A. The Scope of Work shall be amended from time to time to include individual Task Orders and such Task Orders, upon execution, are incorporated into this Agreement.

3. DURATION

The period of performance of this Agreement shall start on September 1, 2014 and end on December 31, 2016 unless terminated as provided herein.

4. BUDGET, COSTS AND PAYMENTS

- A. Budget and Costs -- The Contractor shall be reimbursed for all eligible project costs, as determined by applicable cost principles and administrative requirements, upon receipt and acceptance of a properly completed invoice. **Funding is capped at \$ 125,000.00** as described in the Budget which is incorporated as Attachment B. WERF shall not be obligated to pay the Contractor for costs incurred in excess of the WERF Cost set forth in the Budget, unless the increase is approved in writing by WERF.
- B. Payment Terms - Invoices detailing expenses incurred during the term of this Agreement should be submitted upon completion of each task described in the Scope of Work. Invoices may be submitted upon completion of each task described in the Schedule of Deliverables and Milestone. Contractor's invoices must also detail all cost-share and third party in-kind (as applicable and available) for each reporting period. All invoices must be submitted using the form shown in Attachment C. WERF will only reimburse Contractor for completed work. WERF reserves the right to request a brief narrative describing the work performed and completed as of the date of the invoice. The Final Report must be delivered to and accepted by WERF in order for the final invoice to be paid. Further, WERF reserves the right to withhold up to ten percent (10%) of the Total Budget until the Final Report has been accepted by WERF.
- C. Unallowable Costs -- Contractor's invoice shall be subject to reduction for amounts included in any invoice or prior payment made which are determined not to constitute allowable costs on the basis of audits, reviews, or monitoring of this Agreement in accordance with WERF's standards and any applicable Federal Uniform Administrative Requirements (based upon Contractor's cognate agency). Further, in the event that an unallowable amount is identified following payment, Contractor shall reimburse WERF for such amount.
- D. Purchase of Property -- No equipment, material, or test apparatus shall be purchased with WERF funds, nor shall any improvement, modification or construction of real or personal property be made with WERF funds, unless such purchase or expenditure has been specifically approved in writing by WERF. An itemized listing of such authorized purchases and expenditures shall be contained in the Contractor's budget. Contractor shall obtain title to any property purchased by Contractor within the budget approved by WERF. Any purchases or expenditures not authorized in the budget are not billable.

against this Agreement. If WERF determines (a) that specific equipment, material, or test apparatus has significant residual value as personal property or as an improvement, modification, or part of construction of real property, or (b) the property could be used for other WERF research projects, WERF will obtain title to the personal property, or an interest in the real property, when the purchase is proposed by Contractor and approved by WERF.

5. FINANCIAL RECORDKEEPING AND AUDITING

- A. Accounting -- The Contractor will maintain an accounting system and a set of accounting records that, at a minimum, allows for the identification of individual Projects by source of revenue and expenditures related to this Agreement. All costs will be supported by source documentation and available upon request by WERF. The Contractor's accounting records will be the basis for generating financial reports that must reflect accurate and complete data. Such accounting records shall include documentation for all cost sharing activities as required under Paragraph 4. B. of this Agreement. In addition, financial records must be properly closed out at the end upon termination of the Agreement and all reports submitted in a timely manner.
- B. Auditing in General-- The Contractor agrees to comply with the requirements of OMB Circular A-133. Contractor further agrees to provide WERF with copies of all independent auditors' reports, which cover the period of performance of this Agreement. Contractor will provide a copy of its response to auditors' reports and, in instances of non-compliance, a plan for corrective action. All records and reports prepared in accordance with the requirements of OMB Circular A-133 shall be made available for review or audit by appropriate officials of the Federal agency, WERF, or the General Accounting Office (GAO) during normal business hours.
- C. Auditing Requests by WERF -- Upon the request and at the expense of WERF, the accounting records maintained by Contractor in the performance of the Research shall be subject at all reasonable times to audit by WERF, or at WERF's option, by an independent public accounting firm designated by WERF and paid for by contractual funds. The Parties intend that such audits shall be performed not more frequently than once every twelve (12) months during the performance of the Project. WERF may also have an audit performed at any time within one (1) year following its final payment. If at any time during the course of the Research a budget line item is exceeded by ten percent (10%) or more of the CAP WERF may request a revised budget to be submitted.

6. FEDERAL FUNDING

No Federal Funds are being provided by WERF for this Research.

7. KEY PERSONNEL

Performance of the Research shall be supervised by a Principal Investigator (PI) designated by the Contractor with the periodic review of a Project Manager designated by WERF. These individuals are named in the Scope of Work and are considered essential to the Research. Substitution of the Principal Investigator or substantial increases or reductions in the Principal Investigator's efforts will not be made without the prior written approval of WERF. WERF may designate a new or alternate person for the Project Manager at any time by providing written notification to the Contractor.

8. NOTICES AND POINTS OF CONTACT

Any notices to WERF required under this Agreement shall be addressed to the Project Manager with a copy to the Contract Administrator. Any notices to Contractor will be sent to the parties designated below, as appropriate.

WERF Points of Contact for this Agreement are:

Project Manager: Lola Olabode, lolabode@werf.org, (571) 384-2109

Invoices/Billing: David Morroni, DMorroni@werf.org, (571) 384-2103

Contract Admin.: Louise Pouliot, LPouliot@werf.org, (571) 384-2106.

Postal and courier deliveries to WERF points of contacts should be directed to the address first written above.

Contractor's Points of Contact for this Agreement are:

Principal Investigator: Eric Dickenson, eric.dickenson@snwa.com, (702) 856-3668

Invoices/Billing: Jennifer Fuel, jennifer.fuel@snwa.com, (702) 856-3665

Contract Admin: David Rexing, dave.rexing@lvvwd.com, (702) 856-3664

Postal deliveries to Contractor points of contacts should be directed to:

Southern Nevada Water Authority
P.O. Box 99954
Las Vegas, NV 89193-9954

Courier deliveries to Contractor points of contacts should be directed to:

Southern Nevada Water Authority
1299 Burkholder Boulevard
Henderson, NV 89015-3801

9. DELIVERABLES, REPORTING and QAPP

- A. Quality Assurance Project Plan -- The Contractor shall submit a Quality Assurance Project Plan (QAPP) to WERF at least 30 days before data collection starts. The QAPP will be reviewed by the WERF technical advisory committee. The WERF Project Director will provide guidance and a template for the QAPP. The QAPP will be the first deliverable under this Agreement and will be listed in Attachment D, "Schedule of Deliverables and Milestones".
- B. Timetable for Deliverables -- Deliverables shall be submitted to WERF in accordance with the timetable in Attachment D, "Schedule of Deliverables and Milestones." All Deliverables shall be in a format that may be uploaded to the Internet. Electronic versions of reports shall be submitted in PC format using commonly available word processing software or PDF. If a Deliverable is computer based, Contractor is required to provide software support and to update computer software as necessary and as negotiated in a separate Software Support Agreement with WERF. The Software Support Agreement shall be incorporated by reference into this Agreement.
- C. Interim Deliverables -- Contractor shall submit Interim Deliverables to the WERF Program Manager on the dates specified in Schedule of Deliverables. The Interim Deliverable may include, but not be limited to, summaries of findings/results of a task, annual reports, a report of recommendations for further research, progress summary presentations at Program Area Meetings or web profiles. The purpose of the Interim Deliverable is to communicate the progress on the Research to date and to document the successful completion of tasks. The Interim Deliverable will receive a review from a group of volunteer subject matter experts (e.g., the Project Sub Committee). Upon completion of the review process, comments will be sent to the Principal Investigator who shall address all review comments. Contractor shall keep WERF informed including work performed by the Contractor for its own account or by subcontractors and/or Collaborators. If work is considered proprietary and/or confidential to Contractor or others, the work shall be marked with an appropriate legend and shall be handled as Confidential Information pursuant to the terms of this Agreement.
- D. Final Deliverables -- Upon completion of the Research, Contractor shall submit to WERF a comprehensive draft final product covering all work on the Research accomplished and results achieved under this Agreement, including conclusions and practical applications that will be of benefit to WERF Subscribers ("Draft Final Product"). The Draft Final Product shall be in compliance with the most current edition of the Guidelines for Preparing WERF Research Reports and Products as set forth in the following link http://www.werf.org/i/Funding/Preparing_a_Report/a/o/PreparingaReport/Preparing

a Report.aspx. The Draft Final Product shall be in full, clear, concise, and exact detail, and shall include data such as mathematical, graphic, and written descriptive materials, and other means of disclosure appropriate under the circumstances, to enable any person skilled in the art to achieve the results of the Research performed under this Agreement. The Draft Final Product must also include a clearly identified section explaining the practical benefits of the Research results. The Draft Final Product shall be a polished document ready for publication if the reviewers were to have no comments. The Draft Final Product should not be a preliminary report in any manner or form. It should be spell-checked, grammatically edited, fully formatted, technically complete, internally reviewed, and fully proofed for any and all errors prior to submittal for WERF review comments. If the Draft Final Product is computer based, all testing will have been done and all QA/QC met. The Draft Final Product will be briefly screened upon submission and will be returned to the authors with WERF review if significant deficiencies are identified.

- E. Acceptance of Draft Final Product -- Upon acceptance by WERF, the Draft Final Product will receive a review from a group of volunteer subject matter experts (e.g., the Project Sub Committee). Upon completion of the review process, comments and recommended actions will be sent to the Contractor. Contractor shall address all review comments made on the Draft Final Product and submit a revised Draft Final Product. (the "Final Product") WERF reserves the right to request (up until submission of the Draft Final Product) the Contractor to submit an alternate or additional Final Product) that may not be specified in attachments A and D. An alternate Final Product shall be at no additional cost to WERF. For alternate or additional Final Products(s), WERF will use commercially reasonable efforts to allow an equitable adjustment in the WERF Cost, or time of performance, or both. The alternate or additional Final Products(s) shall be prepared in the same manner as the Final Product as discussed in this section.

10. INTELLECTUAL PROPERTY

10.1 Copyrights

- A. Assignment of Copyrights -- Contractor hereby assigns to WERF copyrights owned by Contractor in the Work Products including Interim Deliverables, Draft Final Deliverables and Final Deliverables to publish, reproduce, and distribute in any medium now known or hereafter developed, and to use in any manner and for any purpose, without limitation, including the right to assign copyrights to third parties. Contractor shall execute written assignments of the copyrights and do all things necessary or proper to establish and enforce WERF's copyrights including obtaining assignment of any and all copyrights with employees, subcontractors and Collaborators. Contractor shall not enter into any agreement or take any action with respect to its rights in the copyrighted works that might jeopardize WERF's ownership of such copyrights in the Work Products.
- B. Incorporated Works -- If Contractor incorporates copyrighted or proprietary works of Contractor or third parties ("Incorporated Works") in the Final Product, Contractor shall obtain (at no expense to WERF and for an appropriate period of time) written permission

for WERF to use Incorporated Works in Research Reports Interim Deliverables, the Draft Final Product, and the Final Product, and in the case of third party copyrighted or proprietary works, shall submit to WERF a copy of the document granting Contractor permission to use Incorporated Works.

- C. Articles – Contractor may write, or WERF may request Contractor to write, papers related to the Research for publication. The Contractor may retain copyrights for any technical papers or articles for publication, presentation, or theses generated in connection with the Research that do not substantially duplicate material intended to be contained in the Final Report. Consequently, any works to be published or presented or otherwise used by or on behalf of Contractor other than the Interim Progress Reports, Draft Final Products and Final Products, may be so used only to the extent that any claim by a third party in rights to such works shall not impede upon WERF's rights in the works to be assigned by Contractor. Contractor shall submit Articles to WERF for review. WERF reserves the right to determine if a disclaimer shall be included with the Articles. To the extent allowable by third party publishers, Contractor hereby grants WERF a nonexclusive license to publish, make copies, prepare derivative works of, and to incorporate the Articles in collective and compilation works. Articles generated in connection with the Research under this Agreement, during the period of performance of the Agreement or in the future, shall give credit to WERF as the sponsor of the Research by including the following:

"This research was funded by the Water Environment Research Foundation (WERF)".

If an Article was not specifically requested by WERF, the author's time will not be charged to WERF under this Agreement.

10.2 Trademarks and Funding Attribution

Neither party will use the name or logo of the other in publications or in any form of publicity without the written permission of the other, in the case of WERF, the Project Manager.

10.3 Databases

Contractor hereby warrants and represents that it has all rights to the underlying facts in any database that is a deliverable as part of the Research Reports, Interim Deliverables, Draft Final Product, Final Product and that Contractor has the right to assign to WERF all copyrights in the underlying facts in the database, as well as, all copyrights in the compilation of the database. Facts included in any database shall be deemed "Data" pursuant to Section 10.4 of this Agreement. Contractor hereby assigns to WERF all copyrights in database(s) to publish, reproduce, and distribute in any medium now known or hereafter developed, and to use in any manner and for any purpose, without limitation, including the right to assign copyrights to third parties. Contractor shall execute written assignments of the copyrights and do all things necessary or proper to establish and enforce WERF's copyrights including obtaining assignment of any and all copyrights with employees, subcontractors and Collaborators.

10.4 WERF's Rights in Data.

- A. Data -- Contractor agrees to maintain data, for a minimum of 7 years from submission of the final invoice, in sufficient detail to properly reflect all work done on the Research and to document results achieved in the performance of this Agreement, including but not limited to, books, records, reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, samples of materials, and other graphic or written documents generated in connection with the Research (the "Data").
- B. Preservation of Data -- All Data produced, generated or procured under this Agreement, including under any subcontracts or collaborative agreements, shall become the property of the Contractor and may be utilized by Contractor for its own purposes. Contractor shall retain Data in its original form during the term of this Agreement and shall deliver original or reproducible copies of Data to WERF upon request. Contractor shall deliver reproducible copies of Data to WERF prior to destruction. Until such delivery to WERF, the Contractor agrees to permit WERF representatives to examine and review at reasonable times all Data in Contractor's possession.
- C. License to Data -- Contractor hereby grants to WERF an irrevocable, worldwide, perpetual, nonexclusive fully-paid license to copyrights and other Intellectual Property rights owned by Contractor in the Data to publish, reproduce, distribute and use all or any part of the Data, in any manner and for any purpose, without limitation, and such license shall include the right to grant sublicenses to third parties similar in scope. Contractor shall do all things necessary or proper to establish and enforce WERF's license in the Data including obtaining assignment of any and all Intellectual Property rights from employees, subcontractors and Collaborators.

10.5 Confidential Information.

The Parties acknowledge that, in the performance of the Research, the Contractor may furnish, under mutually acceptable terms and conditions, proprietary and/or confidential information ("Confidential Information"), which is generally related to the subject matter of the Agreement but has been developed by the Contractor or others apart from this Agreement. The Parties will safeguard Confidential Information against disclosure by employing the same means to protect such Confidential Information as that Party uses to protect its own non-public, confidential or proprietary information, and otherwise.

The Parties recognize Contractor's duties under the Nevada Public Records Act and do not, by this Agreement, intend to alter Contractor's duties thereunder or to require Contractor to do, or refrain from doing, anything contrary to the Nevada Public Records Act. Contractor's Office of General Counsel shall be permitted to make an independent determination as to whether any document or record marked "confidential" is confidential or is a public record, except in the case of the Draft Final Product and the Final Product to be delivered under this Agreement prior to WERF publication, pursuant to the Nevada Public Records Act. If Contractor's Office of General Counsel determines that any document or record supplied by WERF and marked

"confidential" is determined to be a public record, Contractor may disclose that document or record to the extent required by the Nevada Public Records Act with prior notice to WERF, however, under no circumstance will the Draft Final and Final Products be deemed a public record prior to WERF publication. Upon receipt of any request for Confidential Information, this Agreement, or any part thereof, Contractor will promptly forward the request to WERF and work with WERF in good faith to minimize the extent of the disclosure to the extent requested by WERF and permitted by the Nevada Public Records Act.

Prior to publication of the Final Report by WERF, Contractor shall take all appropriate steps to preserve the confidentiality of the Final Report and Data. After publication of the Final Report by WERF, the Final Report and Data shall cease to be Confidential Information.

10.6 Computer Programs.

- A. Exclusive Computer Programs. If Computer programs are specified as part of the Scope of Work they shall be supplied to WERF in a form, which may be used by others independent of Contractor's proprietary programs or computer configurations (the "Computer Programs"). Contractor hereby grants to WERF an exclusive irrevocable, worldwide, perpetual, fully-paid license to Computer Programs in Source Code and Object Code, including the right to grant royalty-bearing sublicenses to third parties similar in scope and to distribute Computer Programs in any medium now known or hereafter developed, and to use in any manner and for any purpose, without limitation. Furthermore, the Contractor grants WERF the right to prepare, and to retain others to prepare, Derivative Works pertaining to the Computer Program, in which the Computer Program is updated or otherwise modified by, or at the direction of, WERF. Contractor shall do all things necessary or proper to establish and enforce WERF's license in the Computer Program including obtaining licenses from any and all subcontractors and Collaborators. The Computer Programs, test cases and their results will be transmitted to WERF in Object Code on computer disc in a format compatible with WERF's computer operating system or an operating system specified by WERF and in a form that is reproducible by WERF to create additional copies, if necessary. Adequate supporting documentation allowing a person of ordinary skill in the art to build the Object Code from the Source Code shall also be supplied to WERF. Any royalty income earned on licensing of Computer Programs by WERF under its exclusive license shall remain with WERF. Contractor shall not disclose or distribute Computer Programs without first obtaining a license from WERF.
- B. Nonexclusive Supporting Computer Programs. Contractor may, during the course of the Project, develop or substantially modify existing programs especially for use in this Research that are not specified in the Scope of Work but are supportive of the Research ("Supporting Computer Programs"). Contractor hereby grants to WERF an irrevocable, worldwide, perpetual, nonexclusive, fully-paid license to Supporting Computer programs in both Source Code and Object Code, including the right to grant sublicenses similar in scope, and distribute in any medium now known or hereafter developed. Contractor shall not use third party, royalty-bearing software to support Computer Programs.

10.7 Patents.

Contractor shall immediately, upon learning of its potential existence, report to WERF in writing any idea or concept that could result in a patentable idea, process, or formula (collectively "Inventions") resulting from the support, in whole or in part, from funds awarded by WERF under this Agreement.

If the Contractor has no patent policy, a patent policy and procedure shall be defined by subsequent negotiation as an Addendum to this Agreement ("Patent Policies & Procedures"). If the Contractor has established, pre-existing, patent policy and procedures for administering Inventions which are known and accepted by WERF, WERF may defer to Contractor's patent policy and procedures subject to WERF's Patent Policy requirements set forth below:

- a. Title to Inventions shall reside with Contractor to the extent such title can be properly claimed under its patent policies and procedures. WERF shall be allowed rights to use the patent pursuant to this patent policy.
- b. If the Contractor decides not to file a patent application, WERF shall be notified promptly (within one week of the decision not to file an application) and WERF shall have the sole right to determine the disposition of the Invention, taking into consideration possible rights of third parties.
- c. If the Contractor initiates a patent application, the patent application shall not be abandoned without prior written notice to WERF and WERF shall have a Right of First Refusal to a transfer of title to the Invention and assignment of the application.
- d. If a patent is issued to Contractor, the patent shall not be abandoned without prior written notice to WERF and WERF shall have a Right of First Refusal to a transfer of title to the Invention.
- e. If a patent is issued on the Invention, the Contractor shall make regular periodic reports to WERF with respect to its utilization of the Invention and issue regular payments to account for any income received resulting from licensing, sale, assignment or any other commercialization of the Invention (collectively "Exploitation").
- f. From the monies, if any, received from Exploitation of the Invention, WERF and the Contractor shall each receive an allocable share. The share shall take into consideration the relative contributions of each party, as well as possible rights of third parties.

The Contractor shall use best efforts to make the Invention available for commercial licensing upon reasonable terms and conditions.

WERF may request the grant of a worldwide, irrevocable, nonexclusive right and license to use the Invention without payment or royalties or license fees solely for the use by WERF for its own use or for public education purposes. Contractor shall not unreasonably oppose such a grant.

11. RELATIONSHIP OF THE PARTIES

The Contractor is an independent contractor to WERF in this agreement. WERF and the Contractor shall be solely liable for any claims, actions, demands or damages arising out of the performance of their respective obligations under this Agreement.

12. CLOSE-OUT PROCEDURES

- A. The Contractor shall submit a final expense report for the Contractor's work prior to final payment hereunder.
- B. Final payment may be withheld until the requirement of Subparagraph A of this Article has been fulfilled.

13. NON-ASSIGNMENT/NON-TRANSFER/SUBCONTRACTS/EOE

- A. Non-Assignment/Non Transfer -- Neither this Agreement nor any interest therein, or claim there under, shall be assigned or transferred by the Contractor to any party or parties without the written authorization of WERF.
- B. Subcontracts -- If additional subcontractors are required for completion of the Research subsequent to those contemplated in the Budget, the Contractor will select additional subcontractor(s) with the approval of the WERF Program Manager. Notwithstanding any such consent or concurrence, (a) WERF shall not bear any liability to the Contractor, subcontractor, or collaborator arising out of any act or omission of the Contractor, subcontractor or collaborator, and (b) any subcontracting by the Contractor shall not relieve the Contractor of any responsibility for the performance of this Agreement or the Research. Except as otherwise authorized in writing by the Parties, the Contractor will insert in all subcontracts and collaborative agreements provisions making the relevant portions of the following Sections applicable to any subcontractor, collaborators and its employees: FINANCIAL RECORDING KEEPING AND AUDITING, INTELLECTUAL PROPERTY, OVERSIGHT, INDEMNIFICATION, ARBITRATION and this section, NON-ASSIGNMENT/NON-TRANSFER/SUBCONTRACTS/EOE.
- C. Subcontractor and Collaborator Settlement -- In the event a subcontract and/or collaborative agreement hereunder is canceled or terminated, the Contractor will so advise WERF and obtain WERF's prior written consent in any subcontractor or collaborative agreement termination cost settlement for such costs to be allowable under this Agreement. WERF's consent will not be unreasonably withheld.
- D. Equal Opportunity Employer -- WERF is an Equal Opportunity Employer and WERF expects Contractor, its subcontractors and Collaborators to be Equal Opportunity

Employers who accept the goal of having a work force that generally reflects the minority composition of the community in which it is located. Contractor shall not discriminate on any basis. It is the policy of WERF to encourage proposals from qualified minority owned or directed institutions. Contractor shall use best efforts to ensure that fifteen percent (15%) of the total contract shall be made available to business concerns or other organizations owned or controlled by socially and economically disadvantaged individuals within the meaning of Section 8(a) (5) and (6) of the Small Business Act (15 U.S.C. 637 (a) (5) and (6). Such business entities may participate as, subcontractors, collaborators, or procurers of supplies, equipment, or services.

14. AMENDMENT AND TERMINATION OF AGREEMENT

- A. This Agreement may only be amended by a signed document duly executed by authorized representatives of the parties.
- B. If Contractor fails to comply with the terms and conditions of the Agreement, WERF may terminate this Agreement in whole or part, at any time by giving thirty (30) days written notice to the Contractor specifying the extent of termination and the effective date. If this Agreement is terminated pursuant to this article, the Contractor will stop work as specified in the notice and will be entitled to payment in accordance with the payment provisions of this Agreement only for those services furnished prior to the effective date of termination or non-cancellable works performed. The Contractor shall not place any orders or subcontracts for materials, services, or facilities, except as may be necessary for the completion of such portion of the work that is not terminated or non-cancellable.
- C. In the event that there is any change in Federal statutes, rules or regulations which materially alter Contractor's ability to perform its activities under this Agreement or there is a change in availability of funds from the Award, WERF reserves the right to alter this Agreement to conform to the changed circumstances or to terminate this Agreement if the work outlined in the Proposal is no longer technically or legally feasible.
- D. Upon termination for any reason, WERF shall not be liable for any general, special, incidental, consequential or any other damages of any description or amount. This provision shall survive the term of this Agreement.

15. INDEMNIFICATION

- A. To the extent permitted by law, the parties shall indemnify, defend and hold harmless each other, their officers, directors, agents, and employees from and against any and all liability for injury, including death to persons or damage to property to the extent caused by any negligent error, act or omission of the indemnifying party, its subcontractors, collaborators, agents, or employees, including any and all expense, legal or otherwise, incurred by the indemnified party, its officers, directors, agents, and employees in the defense of any claim or suit arising out of the activities performed under this Agreement.

- B. To the extent permitted by law, the parties shall indemnify, defend and hold harmless each other, their officers, directors, agents, and employees, and its licensees from and against any and all liability, damages, losses, costs, and expenses (including reasonable attorneys' fees, if the indemnifying party fails to defend the indemnified party as provided herein) incurred by the indemnified party in connection with any claim that the activities performed under this Agreement infringe upon or violate any patent, copyright, trademark, trade secret, or other proprietary right of any third party (collectively, an "Infringement Claim"). The indemnified party shall have the right to participate in, and shall have the right to give reasonable approval to, any settlements of any such Infringement Claim.
- C. Contractor and WERF shall each notify the other promptly in the event that any claim or suit arises out of the activities performed under this Agreement.
- D. These indemnification provisions shall survive the term of this Agreement.

16. INSURANCE

WERF acknowledges that Contractor is self-insured, pursuant to Nevada law. Proof of such insurance shall be provided to WERF within 5 business days upon request.

17. ARBITRATION

All dispute(s) arising out of, relating to or in connection with this Agreement, or any breach thereof, shall first be subject to the Parties using all best efforts to resolve the dispute(s) through discussions solely between themselves in an attempt to avoid the need for arbitration. If the above mentioned discussions fail to resolve the dispute(s), the dispute(s) shall be submitted to the American Arbitration Association ("AAA"), and finally settled under the Commercial Arbitration Rules of the AAA by one arbitrator appointed in accordance with the said rules. The location of any hearing or other arbitral proceedings shall be Clark County, Nevada. The award rendered by the arbitrator shall be final and binding and judgment on the award may be entered in any court having jurisdiction thereof.

For the purposes of seeking Injunctive Relief (defined below) in aid of arbitration, each Party hereby irrevocably consents to the jurisdiction of the United States federal courts and Nevada state courts located in Clark County, Nevada, in any action or proceeding arising out of, relating to, or in connection with this Agreement, and hereby irrevocably agrees that all requests or demands for Injunctive Relief in connection with claims and disputes arising out or related to this Agreement, and any orders for such Injunctive Relief, may be issued by such courts. "Injunctive Relief" means any claim seeking remedy in the form of a court order providing emergency, temporary, or permanent injunctive relief that either prohibits a Party from continuing a particular activity, omission, or action deemed to be in breach of this Agreement or otherwise compels a Party to perform a particular activity or action required by this Agreement.

Unless otherwise directed by WERF in writing, the Contractor shall continue to perform the Research during any arbitration proceeding.

18. CONTROLLING LAW AND SEVERABILITY.

This Agreement and the respective rights and obligations of the Parties hereto shall be governed by and construed in accordance with the laws of the State of Nevada, and the federal laws of the United States of America applicable therein, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Nevada or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Nevada and the federal laws of the United States of America applicable therein.

If any provision, or portion thereof, of this Agreement is found to be unenforceable, the remainder of the Agreement shall continue in full force and effect. If any provision of this Agreement is held to be unenforceable for any reason, such provision shall be reformed only to the extent necessary to make it enforceable, and such decision shall not affect the enforceability of such provision under other circumstances, or of the remaining provisions hereof under all circumstances.

19. DISCLOSURE REQUIREMENTS FOR ORGANIZATIONAL CONFLICTS OF INTEREST

Organizational Conflict of Interest Certification (EPAAR 1552.209-72), requires the Contractor to certify whether it is or is not aware of any potential organizational conflict of interest. If the Contractor is aware of a conflict, then Contractor must provide an Organizational Conflict of Interest Notification (EPAAR 1552.209-70), that requires the Contractor to provide a disclosure statement in its proposal describing all relevant information concerning any past, present, or planned interests bearing on whether it (including its chief executives and any directors, or any proposed consultant or subcontractors) may have a potential organizational conflict of interest.

20. RESPONSIBILITY OF CONTRACTOR REGARDING TRANSACTIONS

Contractor shall fully comply with Subpart C of 40 CFR Part 32, entitled "Responsibilities of Contractors Regarding Transactions." Contractor is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 40 CFR Part 32, entitled "Covered Transactions," includes a term or condition requiring compliance with Subpart C. Contractor is responsible for further requiring the inclusion of a similar term or condition in any subsequent lower tier covered transactions. Contractor acknowledges that failing to disclose the information required under 40 CFR 32.335 may result in the delay or negation of this assistance agreement, or pursuance of legal remedies, including suspension and debarment.

Recipient may access the Excluded Parties List System at <http://www.sam.gov>. This term and condition supersedes EPA Form 5700-49, "Certification Regarding Debarment, Suspension, and Other Responsibility Matters."

21. COMPLIANCE WITH APPLICABLE LAW

Contractor shall comply with all applicable local, state and Federal laws and regulations in the performance of this Agreement, whether specifically referenced in this Agreement or not.

22. SURVIVABILITY

In the event that this Agreement is terminated for any reason, the following paragraphs shall survive Paragraph 4.C. - UNALLOWABLE COSTS, Paragraph 5 in its entirety - FINANCIAL RECORDING KEEPING AND AUDITING, Paragraph 10 in its entirety - INTELLECTUAL PROPERTY, Paragraph 12 in its entirety- CLOSE-OUT PROCEDURES, Paragraph 15 in its entirety - INDEMNIFICATION.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their undersigned duly authorized representatives:

WATER ENVIRONMENT RESEARCH FOUNDATION

By: D Woltering

Name and Title: Daniel M. Woltering, Ph.D., Director of Research

Date: July 1, 2014 FED TAX ID No. 54-1511635

In accepting this Award or amendment and any payments made pursuant thereto, (1) the undersigned represents that he is duly authorized to act on behalf of the recipient organization, and (2) the recipient agrees (a) that the Award is subject to the applicable provisions of 40 CFR Chapter 1, Subchapter B of the Environmental Protection Agency and of the provisions of this agreement (and all attachments), and (b) that acceptance of any payments constitutes an agreement by the payee that the amounts, if any found by WERF to have been overpaid will be refunded or credited in full to WERF.

SOUTHERN NEVADA WATER AUTHORITY

By: _____

John J. Entsminger, General Manager

Date: _____ FED TAX ID No. 88-0278492

Southern Nevada Water Authority

Approved as to form:

By: [Signature] Date 7-1-14

Schedule of Attachments

Scope of Work.....A
Total Budget.....B
Invoice Format.....C
Schedule of Deliverables and MilestonesD

WERF Unsolicited Research Project - Scope of Work

Biological nutrient removal (BNR) treatment has emerged as a cost effective and commonplace process for reducing nutrients, such as nitrogen and phosphorus, from wastewater. However, the indiscriminate discharge of trace organic compounds (TOrcs) has emerged as an important issue due to their potential to elicit detrimental effects on aquatic life. There exists *critical knowledge gaps* in our understanding of the elimination of TOrcs during BNR treatment and they include:

1. The fate and transport of emerging contaminants in different redox conditions (anaerobic, anoxic, and aerobic redox zones) is lacking, especially when compared to conventional activated sludge treatment (aerobic zone).
2. The knowledge about metabolic degradation pathways of emerging contaminants under varying redox conditions is lacking because most studies have only focused on parent compound removals. Moreover, in some cases biodegradation intermediates can be more persistent, toxic, and bioaccumulative than the parent compound (Celiz et al. 2009).
3. The kinetics of adsorption and desorption of TOrcs with activated sludge solids, particularly under different redox conditions, is not well understood. The kinetics could significantly influence the removal of TOrcs via sludge wasting and the bioavailability of TOrcs for biotransformation.

Filling these gaps is essential for optimizing current treatment processes for TOrc removal and in using mass balance models for predicting TOrc fate and removal in BNR treatment systems. Due to the recent emergence of BNR treatment, there is an *urgent need* to understand the fate and removal mechanisms of emerging contaminants in BNR systems. This research will explore the fate of select emerging TOrcs in BNR treatment.

Research Objectives/Design

The objective of this proposed research is to gain a better understanding of the most important fate mechanisms for a select group of high priority organic compounds in BNR wastewater treatment systems.

This research is structured into *three tasks* that will be completed over a 2-year period. The *first task* involves the determination of biotransformation rates for select priority TOrcs (i.e., benzotriazole, *N,N*-diethyl-meta-toluamide, sulfamethoxazole, and triclosan). The *second task* involves the identification of biotransformation intermediates and degradation pathways of the target compounds. The *third task* involves the determination of equilibrium sorption distribution coefficients and the characterization of adsorption and desorption kinetics for select TOrcs in the three differing redox regimes.

To accomplish the above tasks, laboratory biotransformation and sorption experiments will be conducted at the University of Cincinnati (UC) and TOrc and biotransformation product (BTP) analysis will be performed at the Southern Nevada Water Authority (SNWA). Grab samples of anaerobic, anoxic, and aerobic activated sludge will be collected from the Sycamore Creek WWTP in Cincinnati (OH) and Las Vegas WWTP in Las Vegas (NV). It is hypothesized that different operational conditions (SRT, redox conditions, and temperature) at the two treatment plants may affect the microbial diversity, which in turn could change the biodegradation rates for the target compounds.

Research Experimental Plan and Approach

Task 1 - Conduct batch-laboratory experiments to evaluate the biotransformation kinetics of select TOrcs under a variety of environmental conditions, e.g., redox and temperature.

Biotransformation rates for the select TOrcs will be determined in laboratory experiments at UC using BNR activated sludge collected from participating wastewater treatment plants. These experiments will examine the disappearance of parent compounds (primary biotransformation), as well as the formation

and disappearance of intermediates as part of *Task 2*. The activated sludge (anaerobic, anoxic, and aerobic) will be collected during times when the treatment systems are operating under steady-state conditions, then transferred to UC on ice (4 °C) and utilized within 1 to 2 days of collection. The project team has successfully shipped fresh activated sludge for biotransformation testing in a previous WERF project (Salveson, Dickenson, McAvoy et al., 2012). Operational (flow, HRT, SRT, MLSS) and chemical (nutrients, DO, COD, pH, temperature) parameters will be provided by the participating utilities.

The biotransformation rates in this study will be determined using a variation of the USEPA method OPPTS 835.3280 (USEPA, 2008) or if available the WERF standard protocol from U3R10. In this procedure, the target compounds will be dosed into batch reactors (3 L) incubated in either an anaerobic, anoxic, or aerobic environment at relevant temperatures depending on the source of the activated sludge. An abiotic control will also be included in the biotransformation experiments, which will contain a mixture of sodium azide (5%) and nickel/barium chloride (5 mM). The chemical biocide will be mixed with the activated sludge for at least 10 min prior to spiking the TOxCs. The abiotic control will be used to estimate extraction and recovery efficiencies.

At time zero, continuously stirred reactors will be spiked with the target compounds at environmentally relevant concentrations. The stock solutions will initially be dissolved in methanol to insure that the compounds will dissolve in the wastewater matrix. The stock standards will then be N₂-dried to minimize the introduction of methanol into the reactors because methanol is a desirable carbon source and thus potentially may alter the composition of the microbial community. After test initiation, TOxC samples will be collected at the following times: 10 min, 25 min, 45 min, 90 min, 3 h, 6 h, 12 h, 1 d, 2 d, and 4 d. The biotransformation rates will then be determined from the loss in TOxC concentrations over time and fit to zero-order, first-order, or second-order kinetic models.

For the aerobic activated sludge, aerobic conditions will be maintained by continuously bubbling compressed air into the sample. For the anoxic and anaerobic activated sludge, anoxic and anaerobic conditions will be maintained by continuously bubbling compressed N₂ into the sample. In addition, anoxic condition will be maintained by dosing 40 mg/L of NO₃-N into the anoxic activated sludge at the beginning of the experiment. The NO₃-N concentration in the anoxic reactors will be monitored during the experiment using the cadmium reduction method and if the value drops below 10 mg-N/L, then additional NO₃-N will be added to maintain an anoxic condition in the reactor. Dissolved oxygen levels will also be monitored in all experiments using a dissolved oxygen electrode to ensure that the DO < 0.1 mg/L in the anoxic and anaerobic experiments and the DO > 3 mg/L in the aerobic experiments. The water quality parameters pH, temperature, NH₃, NO₂⁻, and TSS will be measured using standard methods (APHA, 2012) at time zero and also periodically throughout the tests (4 h, 10 h, 1 d, and 4 d).

The project team has successfully employed the analytical methods for the targeted TOxCs in wastewater matrices in a recently completed WERF study (Salveson, Dickenson, McAvoy et al., 2012). Briefly, wastewater samples will initially be separated into solid and liquid phases using centrifugation. Clean-up of the liquid phase samples will be performed by Solid Phase Extraction (SPE). Solid samples will be extracted by Accelerated Solvent Extraction (ASE) and followed by sample clean-up with SPE. Detection of the analytes will be performed by LC-MS/MS and quantification will be performed using isotope dilution (Vanderford and Snyder, 2006). Since analytical methods are well established for the selected TOxCs, a significant amount of time will be saved by not having to develop analytical methods for the target compounds. Quality assurance/quality control (QA/QC) parameters such as precision, accuracy, and method detection limits will also be established for each analyte. The TOxC analysis will be performed at SNWA.

Task 1 Expected Outcomes - The expected outcome from this task is the determination of biotransformation rates for the select TOxCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. Secondly, formation and degradation rates of biotransformation products will be evaluated as part of *Task 2*.

Task 2 - Identification of biotransformation intermediates and degradation pathways for select TOrCs.

The aim of *Task 2* is to identify biotransformation intermediates and possible degradation pathways occurring in actual wastewater matrices at environmentally relevant TOrC concentrations. Initially a target list of plausible BTPs will be assembled from a literature review of reported BTPs and predicted metabolites from the University of Minnesota Pathway Prediction System (UM-PPS) (Ellis et al., 2008). This information will help guide us on what intermediates to look for in the biotransformation intermediate experiments.

Since plausible intermediate structures are known for the target compounds, we propose to examine their degradation by isotopic labeling. This technique allows for a compound to be differentiated from interferences and tracked through its metabolic pathway using mass spectrometry. In this technique, a parent compound is 'labeled' by replacing specific atoms with enriched stable isotopes that are far less abundant in the natural environment. The result is a compound nearly identical to the unlabeled compound, but one that can be differentiated from interferences due to its different mass. All four of the target compounds are readily available using deuterium, carbon-13, or nitrogen-15 labeling. The labeled compounds are then spiked into the wastewater being studied and observed using mass spectrometry. Because these compounds occur at low concentrations in the environment (low $\mu\text{g/L}$) and complex background interferences associated with wastewater are present, the samples will be examined by solid phase extraction (SPE) followed by using an ultra-sensitive 4000 QTRAP liquid chromatography tandem mass spectrometry (LC-MS/MS) system at SNWA. The metabolites can also be confirmed by use of available standards (existing or synthesized) and/or by performing product ion scans using the LC-MS/MS system.

The biotransformation experimental procedure will be similar to those presented in *Task 1* with the exception of using spiked labeled compounds. In addition, biotransformation experiments with unlabeled parent compounds as described in *Task 1* will be performed in parallel to compare and confirm the labeled compound results. If the above approach proves to be unsuccessful, the identification of unknown metabolites will be performed at SNWA using a combination of SPE and liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QTOF), though higher concentrations of the parent compounds would likely be required (high $\mu\text{g/L}$ to mg/L) (Terzic et al. 2011). The detected BTPs will then be characterized using the accurate mass feature for the determination of the tentative molecular formulae and product ion scans for the structural elucidation of unknowns.

Task 2 Expected Outcomes - The expected outcome from this task is the identification of biotransformation intermediates and degradation pathways for the select TOrCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. A list of plausible target biotransformation intermediates will also be assemble from a literature review of reported intermediates and those predicted with the University of Minnesota's Pathway Prediction System.

Task 3 - Conduct batch-laboratory experiments to characterize the kinetics of adsorption and desorption for parent and intermediate compounds (if identified in Task 2), as well as to determine their sorption distribution coefficients under a variety of environmental conditions, e.g., redox and temperature.

Sorption distribution coefficients (K_d) and sorption isotherms will be determined for the target TOrCs in laboratory experiments conducted at UC using BNR activated sludge. Fresh activated sludge (anaerobic, anoxic, and aerobic) will be collected and transferred from the participating wastewater treatment plants as described in *Task 1*. Using two treatment plants will lend insight into the sorption characteristics of biomass generated under varying redox conditions in different full-scale treatment systems. Upon arrival to UC, the suspended solids concentration for each batch of activated sludge will be determined using standard methods (APHA, 2012) and the results used to set the activated sludge solids concentration in subsequent experiments.

The laboratory procedure for determining the sorption coefficients and sorption isotherms will be similar to those previously reported by the project team (Kerr, McAvoy et al., 2000; Hyland, Dickenson et al., 2012). The sorption experiments will be performed using 15-mL glass centrifuge tubes as the reaction vessels. Triplicate tubes will be used for each isotherm concentration point. Prior to being used in the sorption experiments, a 10-mL subsample of the activated sludge will be transferred to the test vessels. The content in the centrifuge tubes will then be rotated end-over-end for approximately 30 s and centrifuged (2800g for 5 min). The centrifuge supernatant will be decanted and 10 mL of buffered (pH 7) synthetic water will be added back to the centrifuge tubes. The composition of the synthetic water will be as follows: NH_4Cl (2.0 mg/L), MgSO_4 (22.5 mg/L), CaCl_2 (47.7 mg/L) FeCl_3 (0.3 mg/L), and phosphate salts for buffering. The washing step with synthetic water will be repeated two more times. The purpose of this washing process is to reduce background TOxC levels from the original sample and to lower the background concentrations of the target compounds.

After the third washing step, synthetic water containing a biocide (0.5% NaN_3 , 5-mM BaCl_2 , 5-mM NiCl_2) will be added back to the test vessels at a volume sufficient to maintain the same solids-to-liquid ratio as original activated sludge samples (~10 mL). Six spiking concentrations (500, 1000, 2000, 3000, 5000, and 10000 ng/L) will be used in developing the isotherms. An activated sludge control, without the target compounds, will also be spiked with synthetic water and biocide. This adsorbent control will be used to determine background concentrations of the analytes as well as to assess any matrix interferences with the analytical method. Following addition of the spiked solutions, the centrifuge tubes will be thoroughly mixed by rotating end-over-end for approximately 30 s, then placed on their sides and equilibrated on a shaker table at room temperature (~23 °C) in the dark for 4 h (equilibrium time will be checked before conducting the isotherm experiments). A solution control, without activated sludge solids, will also be performed in triplicate. For the solution control, three concentrations of TOxCs (0, 1000, 10000 ng/L) will be spiked into the centrifuge tubes containing 10 mL of synthetic wastewater with biocide. The solution control will be used to assess the stability of the analytes and any loss to the test vessel walls. Following equilibrium, the test vessels will then be centrifuged (2800g for 5 min) and the supernatant concentrated by SPE and quantified by LC-MS/MS using the isotope dilution method as described in *Task 1*. The remaining solids will be extracted using ASE, followed by SPE clean-up and quantitation by LC-MS/MS. The experimental data will be fit to either a Freundlich or Langmuir isotherm and K_d values will be determined for each sample.

Adsorption and desorption kinetic experiments will also be conducted at UC to assess the effect of sorption kinetics on TOxC removal via sludge wasting and on the accessibility of TOxCs for biotransformation. The procedure will be similar to the sorption distribution coefficient experiments described above except that only one concentration (5000 ng/L) will be spiked into 21 test vessels and the depletion rate of the TOxCs from the aqueous phase (triplicate samples collected at 0, 10, 20, 30, 45, 90, and 180 min) will be used to determine adsorption rate constants. Desorption experiments will utilize equilibrated activated sludge from the adsorption experiments (5000 ng/L) and once equilibrated (~4 h) the samples will be centrifuged, the supernatant decanted and synthetic water added back at a volume sufficient to maintain the same solids-to-liquid ratio as in the proceeding adsorption equilibrium experiments (~10 mL). Samples will then be collected at specific times (triplicate samples collected at 0, 10, 20, 30, 45, 90, and 180 min), then centrifuged and analyzed as described above. The increase in TOxC concentrations over time in the aqueous phase will be used to determine desorption rate constants. The kinetic data will then be fit to zero-order, first-order, and second-order models.

Task 3 Expected Outcomes - The expected outcome from this task is the determination of sorption distribution coefficients for the select TOxCs under aerobic, anoxic, and anaerobic conditions found in BNR treatment. Secondly, kinetic rates of adsorption and desorption for the parent and intermediate compounds (if identified in Task 2) will be determined under aerobic, anoxic, and anaerobic conditions found in BNR treatment.

Research Deliverables and Communication Plan

Drs. Dickenson and McAvoy will function as Principal Investigators for the project. Dr. Campo-Moreno will serve as a Co-Principal Investigator. Dr. McAvoy will take a lead on drafting document deliverables and serve as the communication liaison with WERF. The key research deliverable will be a final report that describes the major outcomes from the study. Major outcomes are expected to be: (1) improved understanding of the behavior of TOrCs in different redox regimes, (2) generation of valuable sorption kinetic parameters that can be used in improving predictive model formulations, and (3) development of an approach for determining degradation metabolites and pathways that can be used to assess other TOrCs. In addition, our project team will prepare interim and summary reports over the duration of this project. Research profiles will also be developed for posting on WERF's website. On an as needed basis, the project team will publish findings in WERF Progress and WERF Laterals. If asked, the team will also deliver presentations during a WERF webinar, which is very popular communication avenue. Key findings will also be developed into multiple manuscripts, which will be submitted to peer-reviewed journals. The project team has an outstanding and reliable track record for publication of quality trace organic compound research. Oral and/or poster presentations will also be presented at national meetings, such as WEFTEC. The communication plan will be further reviewed with the project review committee and additional communication methods will be employed if deemed necessary. Drs. McAvoy and Dickenson have been principal investigators on past WERF projects and have experience in delivering the above communication devices in an effective and timely manner.

The schedule of deliverables and milestones are provided below.

DELIVERABLE/MILESTONE	DUE DATE
START DATE	September 1, 2014
QUALITY ASSURANCE PROJECT PLAN (QAPP)	October 1, 2014
TECHNICAL MEMORANDUM #1	February 1, 2015
INTERIM REPORT #1	June 1, 2015
TECHNICAL MEMORANDUM #2	October 1, 2015
INTERIM REPORT #2	February 1, 2016
DRAFT FINAL REPORT	June 1, 2016
FINAL REPORT	September 1, 2016
CONFERENCE PRESENTATION	October, 2016

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ATTACHMENT D

SCHEDULE OF DELIVERABLES AND MILESTONES

DELIVERABLE/MILESTONE	DUE DATE
START DATE	September 1, 2014
QUALITY ASSURANCE PROJECT PLAN (QAPP)	October 1, 2014
TECHNICAL MEMORANDUM #1	February 1, 2015
INTERIM REPORT #1	June 1, 2015
TECHNICAL MEMORANDUM #2	October 1, 2015
INTERIM REPORT #2	February 1, 2016
DRAFT FINAL REPORT	June 1, 2016
FINAL REPORT	September 1, 2016
CONFERENCE PRESENTATION	October, 2016

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Agreement	Director's Backup
Petitioner: David H. Wright, Chief Financial Officer	
Recommendations: That the Board of Directors approve Project Services Agreement No. 2A: Eastern Nevada Transmission Project Development Agreement among the Silver State Energy Association and its specified members: City of Boulder City, Lincoln County Power District No. 1, Overton Power District No. 5, and the Authority.	

Fiscal Impact:

Adequate funding is available in the New Expansion Bond Fund to support the Authority's \$42,000 share of this project.

Background:

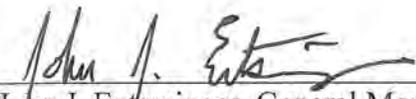
On May 15, 2008, the Board of Directors approved Project Services Agreement No. 2: the Eastern Nevada Transmission Project Development Agreement (PSA No. 2) among the Silver State Energy Association and its specified members: City of Boulder City, Lincoln County Power District No. 1, Overton Power District No. 5, and the Authority for the joint exploration, research, investigation, review, and evaluation of the feasibility of high-voltage electrical transmission lines and related interconnection facilities to allow interconnection of the members' electrical systems with the Mead Substation in Southern Nevada. On March 17, 2011, the Board approved Amendment No. 1 to PSA No. 2, which extended the agreement for an additional three years to obtain all of the necessary permits. A permitting impediment prevented progress on this project for years, but the impediment was removed earlier this year. The term of the agreement expired on June 11, 2014.

Project Services Agreement No. 2A: the Eastern Nevada Transmission Project Development Agreement among the Silver State Energy Association and its specified members: City of Boulder City, Lincoln County Power District No. 1, Overton Power District No. 5, and the Authority reduces PSA No. 2's scope of work to allow the process of obtaining the right-of-way grant from the Bureau of Land Management to continue and to eliminate the design, financing, and interconnection studies, which will be deferred to a future project.

Each project member shall be responsible for funding its allocated share of the project expenses. The Authority's initial allocated share is 42 percent. The total financial expenditures by all project members shall not exceed \$100,000, of which the Authority would have an allocated share of \$42,000.

This agreement is being entered into pursuant to NRS Chapter 277.180 and Sections 5(f) and (g) and 6(j) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved the agreement.

Respectfully submitted:



John J. Entsminger, General Manager
JJE:PDS:DHW:SPK:cc
Attachment

AGENDA
ITEM #

6

SILVER STATE ENERGY ASSOCIATION



PROJECT SERVICES AGREEMENT NO. 2A: EASTERN NEVADA TRANSMISSION PROJECT DEVELOPMENT AGREEMENT

**AMONG THE
SILVER STATE ENERGY ASSOCIATION
AND ITS SPECIFIED MEMBERS:
CITY OF BOULDER CITY
LINCOLN COUNTY POWER DISTRICT NO. 1
OVERTON POWER DISTRICT NO. 5 AND THE
SOUTHERN NEVADA WATER AUTHORITY**

**PROJECT SERVICES AGREEMENT NO. 2A:
EASTERN NEVADA TRANSMISSION
PROJECT DEVELOPMENT AGREEMENT**

**AMONG THE
SILVER STATE ENERGY ASSOCIATION
AND ITS SPECIFIED MEMBERS:
CITY OF BOULDER CITY
LINCOLN COUNTY POWER DISTRICT NO. 1
OVERTON POWER DISTRICT NO. 5 AND THE
SOUTHERN NEVADA WATER AUTHORITY**

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**PROJECT SERVICES AGREEMENT NO. 2A:
EASTERN NEVADA TRANSMISSION
PROJECT DEVELOPMENT AGREEMENT**

**AMONG THE
SILVER STATE ENERGY ASSOCIATION
AND ITS SPECIFIED MEMBERS:
CITY OF BOULDER CITY
LINCOLN COUNTY POWER DISTRICT NO. 1
OVERTON POWER DISTRICT NO. 5 AND THE
SOUTHERN NEVADA WATER AUTHORITY**

1. PARTIES

This PROJECT SERVICES AGREEMENT NO. 2A: EASTERN NEVADA TRANSMISSION PROJECT DEVELOPMENT AGREEMENT (“Project Services Agreement” or “Agreement”) is made and entered into by and between the SILVER STATE ENERGY ASSOCIATION (the “SSEA”), a political subdivision of the State of Nevada, created on August 1, 2007, by that certain Cooperative Agreement entered into pursuant to the provisions of the Interlocal Cooperation Act (NRS 277.080 to 277.180, inclusive) and the following Public Agencies that are members of SSEA:

- 1.1 CITY OF BOULDER CITY (“Boulder City”);
- 1.2 LINCOLN COUNTY POWER DISTRICT NO. 1 (“Lincoln”);
- 1.3 OVERTON POWER DISTRICT NO. 5 (“Overton”); and
- 1.4 SOUTHERN NEVADA WATER AUTHORITY (“SNWA” or “Authority”).

2. EXPLANATORY RECITALS

2.1 The SSEA is a joint exercise of powers agency created by certain Public Agencies, inclusive of those entities set out in section 1, for the purposes, among others, of

jointly planning, developing, owning, and operating electrical generation and transmission facilities to serve their respective electrical resources needs.

2.2 Pursuant to paragraph 6.1.1 of the Cooperative Agreement, SSEA is authorized to own, finance, design, develop, construct, operate, maintain and replace Projects (as such term is defined in subsection 3.15 therein).

2.3 Certain Members of the SSEA, namely, those set forth in section 1, above, have determined that there is a need to jointly explore, research, investigate, review, and evaluate the feasibility of high-voltage electrical transmission lines and related interconnection facilities to allow the interconnection of these Member's electrical systems with the Mead Substation in southern Nevada. To allow such an interconnection to occur will require the construction of new facilities. These new facilities may include (1) a 230-kV transmission line from the existing Newport Substation in Las Vegas, Nevada extending north to a future planned 230-kV transmission line beginning in the Apex valley area north of Las Vegas, Nevada and extending north to U.S. Highway 93 to the planned Gemmill Substation near the intersection of U.S. Highway 93 and State Route 168; and (2) a 230-kV transmission line originating at the planned Gemmill Substation and extending east to the existing Tortoise Substation located near Moapa, Nevada; and (3) such other facilities as may be designed to meet the power demands of the Members, for each of their respective benefit, and to interconnect future generation sources.

2.4 Project Services Agreement #2: Eastern Nevada Transmission Project Development Agreement ("PSA #2") was approved by the Board June 11, 2008 and much of that project has now been completed.

2.5 Pursuant to subsection 15.3 of the Cooperative Agreement, the SSEA Manager, together with the Project Members, have developed this Project Services Agreement #2A which has a reduced scope of work and reduced budget from PSA #2. Pursuant to paragraph 11.2.4 of the Cooperative Agreement, the Board has approved this Project Services Agreement.

IN CONSIDERATION of these recitals and the mutual covenants contained herein, the Parties agree as follows:

3. DEFINITIONS AND CONSTRUCTION

3.1 As used in this Project Services Agreement, except as expressly provided or unless the context otherwise requires, the words and terms defined in the Cooperative Agreement and in subsections 3.2 to 3.16, inclusive, of this Project Services Agreement, when initially capitalized and whether in singular or plural, have the meanings ascribed to them in the Cooperative Agreement and those subsections, as the case may be.

3.2 **“Additional Project Member”** means any new Project Member, whose membership is approved by the other Project Members and made effective after the Effective Date of this Agreement.

3.3 **“Allocated Share”** means the percentage of total expenses incurred in conjunction with the Project for which each Project Member is responsible in the allocations set out in subsection 8.2.

3.4 **“Debt Service”** means principal, interest, and other charges and costs of bonds issued to construct the Eastern Nevada Transmission Project as a Project of the SSEA, including without limitation, costs of credit enhancement and liquidity, and interest rate exchange agreements.

3.5 **“Defaulting Project Member”** means, for purposes of this Agreement, the Project Member or Project Members in default or the Project Member or Project Members to whom an Event of Default is attributable and who has received written notice of such Event of Default pursuant to subsection 10.1.4.

3.6 **“Eastern Nevada Transmission Project”** means those facilities described in subsection 2.3.

3.7 **“Effective Date”** means the date set out in subsection 4.1.

3.8 **“Event of Default”** means those actions set out in subsection 10.1.

3.9 **“External Resources”** means engineering, environmental, legal, accounting, financial advisement, or other services secured through contract with the SSEA by the Project Manager for the express purpose of completion of Project Work, as directed by the Project Members.

3.10 **“Party” or “Parties”** means one or more of the entities specified in section 1 that are a signatory to and are Project Members under this Project Services Agreement.

3.11 **“Project”** means all work performed by or at the direction of the Project Manager in furtherance of the obligations set out in this Project Services Agreement.

3.12 **“Project Expenses”** means the total financial expenditures by all Project Members needed to fund the Project, which expenditures shall not exceed \$,100,000 in the aggregate. For the purpose of satisfaction of subsection 16.2 of the Cooperative Agreement, this amount shall be considered the tentative budget for the Project; provided, however, Project Expenses may not exceed the value set out above without the approval of the Board.

Project Expenses shall not include any financial expenditures by any Project Member in furtherance of any different Project initiated pursuant to the Cooperative Agreement, payment of any SSEA Administrative and General Expenses, or payment for any other purpose outside the work contemplated by this Project.

3.13 **“Project Manager”** means the person appointed pursuant to subsection 7.1.

3.14 **“Project Member(s)”** means those Members in good standing of the SSEA set out in section 1, above, that are participants to and beneficiaries of the Project, and who bear an

Allocated Share of cost responsibility for Project Expenses. Project Members in addition to those set out in section 1, above, may be added or removed as specified in this Agreement.

3.15 **“Project Services Agreement”** or **“Agreement”** means this agreement.

3.16 **“Project Work”** means that work contemplated and authorized in this Agreement.

3.17 The term “include” and its derivations are not limiting.

3.18 Unless otherwise specified, references to sections, subsections, paragraphs and exhibits are references to sections, subsections, paragraphs and exhibits of this Project Services Agreement.

3.19 Section, subsection, paragraph or exhibit headings are inserted for reference purposes only and shall not be construed in interpreting the terms and provisions of any section, subsection, paragraph or exhibit of the Project Services Agreement as a whole.

4. EFFECTIVE DATE, TERM OF AGREEMENT; SPECIFIC LIMITATIONS

4.1 **Effective Date.** This Project Services Agreement is effective as of the date of execution by all of the original Project Members (“Effective Date”).

4.2 **Term.** The term of this Project Services Agreement shall be from the Effective Date until the earlier of (i) five (5) years from the Effective Date, or (ii) the Project Members agree the Project Work is complete or should no longer be pursued; provided, however, this Agreement shall terminate immediately if the Cooperative Agreement is terminated.

4.3 **Laws Applicable.** This Project Services Agreement is subject to all applicable federal, state and local laws, and nothing herein shall be construed to alter, amend, or affect existing laws or relieve any Project Member of any duties or liabilities set by those laws.

4.4 **No Waiver, Termination or Release.** Except as expressly provided herein, nothing in this Agreement waives, terminates, or otherwise releases a Project Member from performing its duties or satisfying its obligations under any other contract with any other Party.

4.5 **Survivability of Certain Provisions.** It is expressly contemplated that the covenants, rights and obligations set out in subsections 6.3 and sections 8, 9, 10 and 11 shall survive the Term of this Agreement.

5. **PURPOSE AND SCOPE OF THE PROJECT**

5.1 **Purpose.** The Project Members seek to perform the Scope of Project Work appended hereto as Exhibit A.

5.2 **Project Completion.** It is specifically contemplated that all Project Work may be performed contemporaneously and need not be completed in separate phases, subject only to the required approvals of the Project Members described herein.

6. **OWNERSHIP OF THE PROJECT**

6.1 **Ownership.** The Project shall be owned by the SSEA and is being performed for the sole benefit of the SSEA and the Project Members. All designs, plans and specifications, permits, easements, regulatory approvals, and other results are the property of SSEA. No Project Member may use any such designs, plans and specifications, permits, easements, regulatory approvals, contracts or other results comprising Project Work for its own benefit or individual project without (i) written approval of the Board, and (ii) satisfaction of the requirements of section 6.3.

6.2 **Transfer.** Any transfer of ownership from SSEA or a Project Member's rights and obligations under this Agreement to any other party, inclusive of any subsequent transfers of ownership, shall be made pursuant to subsection 15.3 of this Agreement.

6.3 **Project Members' Covenant.** Each Project Member covenants to each of the other Parties that, in the event that the Project Member uses any such designs, plans and specifications, permits, easements, regulatory approvals, contracts or other results comprising Project Work for its own benefit as part of an individual project to construct the Eastern Nevada Transmission Project, or any portion thereof, it shall promptly pay to the SSEA an amount sufficient to satisfy the reimbursement provision set out in subsection 9.7.

7. **APPOINTMENT, RESPONSIBILITIES AND AUTHORITY OF PROJECT MANAGER**

7.1 **Appointment of and Acceptance by the Project Manager.** The Parties hereby appoint the SSEA Manager to serve as the Project Manager, acting as principal on SSEA's behalf and as agent for each of the other Parties on this Project. The Project Manager hereby accepts such appointment and agrees to perform and discharge his responsibilities and duties, or to cause such responsibilities and duties to be performed and discharged, (i) in a manner consistent with his fiduciary obligations as a Project Manager under this Agreement; (ii) in a manner consistent with the Cooperative Agreement; (iii) in good faith and in accordance with Prudent Utility Practice; (iv) without willful misconduct or gross negligence; and (v) in compliance with all laws, judicial, and administrative orders, rules, and regulations with respect to the Project.

7.2 **Duties of Project Manager.** The Parties agree that the Project Manager shall be responsible for the overall structure, organization, and management of the Project in accordance with the terms and conditions of this Agreement. The Project Manger shall:

- 7.2.1: Coordinate the Project Work; and,
- 7.2.3: Obtain all necessary permits, easements and regulatory approvals required by applicable local, state and federal laws to site, construct, maintain and operate the Project; and,
- 7.2.5: Maintain a record of all applications, correspondence, approved permits, easements and approvals, and make such records available to any Project Member upon request; and,
- 7.2.6: Provide a semi-annual report to the representatives of the Project Members on the progress of the Project.

7.3 Project Manager's Access to Additional Resources: In order to perform all duties and satisfy all obligations under this Agreement, it is specifically contemplated that the Project Manager may employ the expertise and resources of one or more Project Members or External Resources. It is further contemplated that the Project Manager may consult with one or more of the Project Members for the purposes of reporting progress, seeking guidance or seeking approval for specific aspects of Project Work.

7.4 Use of Contractor(s). The Parties agree that the Project Manager shall have the right to perform and it is anticipated that he shall perform some or all of his responsibilities and duties through a contractor or contractors, inclusive of External Resources. The responsibilities, duties and compensation applicable to the contractor(s) shall be set forth in a separate agreement between the contractor and the SSEA which shall be subject to the approval of the Board. Appointment of a contractor (including appointment of any of the other Parties hereto as a contractor) does not relieve the Project Manager of his obligations under this Project Services Agreement.

7.5 **Authority.** Project Manager is delegated the authority to make any and all expenditures necessary to complete the Project as budgeted and approved under this Agreement.

8. ALLOCATION AND IDENTIFICATION OF PROJECT EXPENSES.

8.1 **Project Expenses.** All costs associated with the Project, including but not limited to costs incurred by the Project Manager or any Project Member in furtherance of the Project shall be deemed Project Expenses; provided, however, no Project Member shall incur Project Expenses without the prior written authorization of the Project Manager to do so.

8.2 **Allocated Share.** Each Project Member agrees that it shall be responsible for funding its Allocated Share of Project Expenses, with such expenses divided pro rata and assessed on a monthly basis among all Project Members. The initial Allocated Share for each Project Member is as set out below:

Project Member	Initial Allocated Share
City of Boulder City	1.0%
Lincoln County Power District No. 1	15.0%
Overton Power District No. 5	42.0%
Southern Nevada Water Authority	42.0%
Total:	100.0000%

Allocated Share of Project Expenses may be adjusted based on the withdrawal or addition of Project Members as set out in sections 11 and 12.

9. BILLING AND RECOVERY OF PROJECT EXPENSES

9.1 **Submission of Costs by Project Member.** To the extent practicable and consistent with the subsection 8.1, each Project Member that incurs expense associated with this Project shall be responsible for submitting its Project Expenses to the Project Manager on a timely basis. Project Expenses submitted no later than the last day of a given month will be included in the invoice for that given month. All submissions to the Project Manager shall include a detailed statement of expenses.

9.2 **Statement.** In conjunction with the bills rendered pursuant to section 18 of the Cooperative Agreement, on or before the 5th day of each month, the SSEA Manager shall provide each Project Member a bill summarizing the previous month's Project Expenses, any adjustments (positive or negative) to prior monthly statements, and the Project Member's Allocated Share. In the event that any Project Member submits expenses unauthorized by the Project Manager, such expenses shall not be included in the monthly statement unless and until approved by the Project Manager.

9.3 **Payment Date.** The Project Member must submit payment in full to the SSEA Manager of the amount reflected on the monthly statement on or before the 20th day of each month. Any delay in submission of the statement set out in subsection 9.2 shall result in a day for day extension of the payment date of the Project Member.

9.4 **Late Payment.** If the Project Member fails to remit payment when due, the SSEA Manager shall serve the Project Member with written notice of its failure, and demand immediate payment. Interest on any unpaid portion will accrue from the date due until the date of payment at a rate equal to the lower of (a) the then effective prime rate of interest for the U.S. published under "Money Rates" by *The Wall Street Journal*, plus two percent per annum; or (b) the maximum applicable lawful interest rate. If the payment failure is not cured within 60 days after service of such notice, the Project Member will be in default under this Agreement.

9.5 Reimbursement of Project Expenses. Provided the Project Member is not in default pursuant to section 10, the Project Manager shall, at the direction of the Project Member, (i) render reimbursement payment to, (ii) credit succeeding monthly statement(s) under this Agreement, or (iii) credit any succeeding monthly statement for the Project Members share of SSEA Administrative and General Expenses, in an amount equal to the invoiced Project Expenses incurred by that Project Member.

9.6 Audit and Reconciliation. The Project Members expressly acknowledge that all Project Expenses and collections of each Project Member's Allocated Share thereof are subject to subsection 18.3, section 19 and section 20 of the Cooperative Agreement. In the event of an over collection of Project Expenses, the Project Members will be refunded any over collection based on its Allocated Share within thirty (30) days of identification of the over collection. In the event of an under collection of Project Expenses, the Project Members shall be invoiced for any under collection based on its Allocated Share in the next monthly statement rendered following identification of the over collection. In the event an under collection exceeds \$ 50,000 to any Project Member in any given month, the Project Member may request that such under collection be amortized over a reasonable period of months.

9.7 Reimbursement in the Event the Project is Constructed and Financed. In the event that (i) all Project Work contemplated in the Project is completed; (ii) one or more Members of the SSEA proceed with construction of the Eastern Nevada Transmission Project or any portion thereof, whether individually or as a Project of the SSEA; and (iii) either long-term financing is secured and issued for the construction of the Eastern Nevada Transmission Project or any portion thereof that includes in the funding amounts all expenditures contemplated in this Agreement and will accommodate the recovery of same within Debt Service, or the SSEA is compensated in satisfaction of the individual Project Member's covenant set out in subsection 6.3, then each Project Member not otherwise in default shall receive a credit as follows:

9.7.1 The Project Manager shall calculate the total amount of expenditures to complete the Project work, as reflected in the aggregate final invoices to the Project Members ("Total Project Expense"). The Total Project Expense must either be (i) expressly included in Debt Service or (ii) recovered from an individual Project Member that is authorized to develop the Eastern Nevada Transmission Project (or any portion thereof) as a project separate and apart from the SSEA.

9.7.2 Upon satisfaction of paragraph 9.7.1, each Project Member shall receive a credit by or payment from the SSEA in the amount proportionate to its Allocated Share of the Total Project Expense. Such credit or payment shall not exceed the total amounts paid by the Project Member during the term of this Agreement, as such amounts are calculated pursuant to sections 8 and 9. At the Project Member's option, either (i) payment shall be made directly to the Project Member out of the proceeds of the financing or payment, or (ii) funds shall be transferred to an SSEA working capital account out of the proceeds of the financing or payment, and then applied by SSEA as a credit to any succeeding invoice from the SSEA to the Project Member.

9.7.3 For avoidance of doubt, (i) withdrawing Project Members pursuant to section 11 and Additional Project Members pursuant to section 12 are eligible to receive the credits or payments described in paragraph 9.7.2, and (ii) credit or payment is not contingent upon the Project Member's continued participation in or execution of subsequent agreements involving the construction, operation, maintenance or grant of transmission rights that are derived from this Project.

9.7.4 It is expressly contemplated that, in the event that the Project Member participates in the construction, operation, maintenance or grant of transmission rights that are derived from this Project, all amounts incurred under this Agreement that are refunded pursuant to this subsection 9.7 shall be (a) included in the Debt Service component of the charges assessed to participating Project Members on a load ratio share of the Project Member's transmission reservations out of the total capability of the Eastern Nevada Transmission Project, and (b) included in rates, if any, assessed to third party users of the facilities.

9.7.5 Notwithstanding anything else to the contrary in this subsection 9.7, the total credits and payments applied to any and all Project Members shall not exceed an amount that would otherwise make SSEA subject to unrecovered costs associated with this Project.

9.8 **Set-off.** The SSEA may reduce the amount of any specified credit or payment under this section 9 as set-off, inclusive of interest, against any other amounts past due or which constitute an ongoing Event of Default.

10. DEFAULT

10.1 **Events of Default.** The occurrence of any one or more of the following events with respect to a Project Member shall constitute an "Event of Default" of this Agreement:

10.1.1 Any action determined to be an Event of Default pursuant to the Cooperative Agreement.

10.1.2 The uncured failure to make payment under section 9 after those amounts have become due.

10.1.3 Except as provided in this paragraph, any representation or warranty made by a Project Member under section 14 proves to have been false or misleading in any material respect when made, and the representation or warranty is not made true within 30 days after written notification by the Project Manager or another Project Member. The cure must also remove any adverse effect on the other Project Members as determined by the Project Manager.

10.1.4 Except as provided in this subsection, the failure by a Party to comply with any material provision of this Agreement or the Cooperative Agreement if the failure continues uncured for 30 days after written notice thereof by the Project Manager. If the failure is not capable of being cured within such period of 30 days with the exercise of reasonable diligence, then the cure period must be extended for an additional reasonable period not to exceed 90 days, so long as the Project Member is exercising reasonable diligence to cure the failure. The failure shall not be deemed cured unless any adverse effect on SSEA or its Members resulting from the failure is removed, as determined by the Project Manager.

10.1.5 Breach of any covenant set out in this Agreement.

10.2 Sole and Exclusive Remedies in Event of Default. Where an Event of Default has occurred and is continuing beyond the period for cure, and as required by paragraph 15.4.2 of the Cooperative Agreement, the Project Manager may enforce the following remedies and damages:

10.2.1 The Defaulting Project Member's right to vote under this Agreement is automatically suspended pending its cure of the default and the non-Defaulting Project Members may proceed with the scope of Project Work absent the Defaulting Project Member as if the Defaulting Project Member had effectively withdrawn from the Agreement;

10.2.2 The Defaulting Project Member must pay all of its outstanding financial obligations under this Agreement;

10.2.3 The Project Manager may request prepayment of funds projected to be due under this Agreement as a condition to cure any default.

10.2.4 Should any Event of Default continue uncured for more than ninety (90) days or should any Project Member experience three (3) cured defaults within a one year time frame, the Project Member's interest in the Agreement may be terminated upon unanimous vote of the Project staff representatives of the non-defaulting Project Members. In such event, the Project Member shall withdraw pursuant to section 11 of this Agreement.

10.3 **Cross-Default.** As specifically set out in paragraph 15.4.1 of the Cooperative Agreement, a default by a Member under the Cooperative Agreement shall be deemed a default under the Project Services Agreement and a default under the Project Services Agreement shall be deemed a default under the Cooperative Agreement.

10.4 **Payment Obligations.** Upon termination of this Project Services Agreement, the obligations of the Project Members must be paid.

11. **WITHDRAWAL OF A PROJECT MEMBER**

11.1 **Withdrawal of a Project Member.** A Project Member may withdraw from this Project Services Agreement with written notice and without the prior unanimous written consent of the other Project Members. Such withdrawal shall become effective on the last day of a month and no earlier than thirty (30) days from the date of written notice. Withdrawal of a Project Member shall automatically cause the pro rata allocation of costs set forth in subsection

8.2 to be amended accordingly. A Project Member's withdrawal from this Agreement does not constitute a withdrawal from the Cooperative Agreement.

11.2 Financial Obligations of Withdrawing Project Member. All financial obligations of the withdrawing Project Member under this Agreement due as of the effective date of withdrawal survive the termination of the withdrawing Party's participation in this Agreement until paid. The withdrawing Project Member shall accrue no future financial obligations under this Agreement on or after the effective date of withdrawal.

11.3 Effect of Withdrawal. The withdrawal of a Project Member from this Agreement prior to the termination of this Agreement:

11.3.1 Does not terminate this Agreement or the obligations of any remaining Project Member hereunder;

11.3.2 Shall not have the effect of diminishing the rights of the remaining Project Members or enlarging their obligations under this Agreement, other than the allocation of Project Expenses, without their written consent.

12. ADDITION OF A NEW PROJECT MEMBER

12.1 Addition. An interested Member in good standing of the SSEA may become a Project Member under this Project Services Agreement by request to and with the unanimous vote of Project staff representatives of the existing Project Members. If the interested Member's request to become a Project Member is approved by the then-existing Project Members, such addition shall become effective on the date established by the existing Project Members. Addition of a new Project Member shall automatically cause the pro rata allocation of costs set forth in subsection 8.2 to be amended accordingly. The Additional Project Member must execute this Project Services Agreement, including the representations and warranties as set forth

in section 14, prior to the effective date established as set forth by the then-existing Project Members.

12.2 Financial Obligations of Additional Project Member. Any Additional Project Member shall accrue financial obligations as of the effective date established by the then-existing Project Members. Unless specifically required by the then-existing Project Members, the Additional Project Member shall not be responsible for any financial obligations incurred prior to such effective date.

13. DISPUTE RESOLUTION

All disputes under this Agreement shall be governed by section 21 of the Cooperative Agreement.

14. REPRESENTATIONS AND WARRANTIES

Each Project Member represents and warrants to the other Project Members as of the Effective Date, which representations and warranties shall be deemed to be repeated by each Party, including any Additional Project Member, on the date this Project Services Agreement is executed by any Additional Project Member pursuant to section 12, that:

14.1 Valid Entity. It is a valid legal entity duly organized and validly existing in good standing under the laws under which it was created and is, to the extent required, qualified to do business in Nevada.

14.2 Execution. It has all the necessary corporate and legal power and authority and has been duly authorized by all necessary action to enable it to lawfully execute, deliver and perform under this Agreement.

14.3 Binding Obligation. This Agreement is the valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as such enforceability

may be limited by bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws affecting enforcement generally, and by equitable principles regardless of whether such principles are considered in a proceeding at law or in equity.

14.4 No Conflicts. The execution and delivery of this Agreement and the fulfillment of and compliance with the provisions of this Agreement does not and will not (i) conflict with any of the terms, conditions or provisions of its organizational documents, (ii) any law applicable to it, and (iii) result in a breach or default under any evidence of its indebtedness or any other agreement or instrument to which it is a party or by which it or any of its property is bound, any of which has a reasonable likelihood of materially and adversely affecting the performance by the Project Member of any of its obligations under this Agreement.

14.5 Actions and Proceedings. To the knowledge of such Party, (i) there is no pending or threatened action or proceeding affecting such Project Member before any governmental agency that has a reasonable likelihood of materially adversely affecting or reasonably threatening the ability of such Project Member to perform its obligations under this Agreement or the validity or enforceability of this Agreement against it, and (ii) that there are no bankruptcy proceedings pending or being contemplated by it or threatened against it.

14.6 Absence of Certain Events. No Event of Default attributable to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement.

14.7 Other Agreements. There is nothing contained in any other agreement to which it is a party prohibiting it from performing its obligations under this Agreement.

15. GENERAL PROVISIONS

15.1 Time of Essence. Time is of the essence with respect to the performance of all terms, covenants, conditions, and provisions of this Agreement.

15.2 **Waiver.** The Project Members are entitled to excuse or waive performance by any other Project Member of any obligation under this Agreement by a written notice signed by the Project Members so excusing or waiving. No delay in exercising any right or remedy shall constitute a waiver thereof, and no waiver by a Project Member of the breach of any covenant of this Agreement shall be construed as a waiver of any preceding or succeeding breach of the same or any other covenant or condition of this Agreement.

15.3 **Assignment.** Except as otherwise provided in this Agreement or the Cooperative Agreement, the rights and duties of the SSEA and the Project Members may not be assigned or delegated without the written consent of all Project Members, which shall not be unreasonably withheld. Any attempt to assign or delegate such rights or duties in contravention of this Agreement shall be null and void. Any approved assignment or delegation must be consistent with the terms of any contracts, resolutions, indemnities, and other obligations of the SSEA and Project Members then in effect.

15.4 **Inurement.** Subject to the provisions of subsection 15.3, this Project Services Agreement shall bind and inure to the benefit of the Project Members and their successors and assigns.

15.5 **Exhibits.** All exhibits attached to this Agreement are by this reference incorporated herein and made a part hereof.

15.6 **Entire Agreement.** This Agreement constitutes the entire agreement and understanding of the Project Members with respect to its subject matter and supersedes all oral communications and prior writings with respect thereto.

15.7 **Amendment.** No change, addition, or deletion may be made to this Project Services Agreement except by a written amendment executed by the Project Members.

15.8 **Governing Law; Venue.** This Project Services Agreement and the rights of the Project Members hereto shall be interpreted, governed, and construed in accordance with the

laws of the State of Nevada. The appropriate venue for any action brought to interpret or enforce this Project Services Agreement shall be in the state courts of Nevada in Clark County.

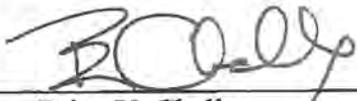
15.9 Severability. Wherever possible, each provision of this Agreement must be interpreted in such manner as to be valid under applicable law, but if any provision of this Agreement is invalid or prohibited hereunder, such provision shall be ineffective to the extent of such invalidity or prohibition but shall not invalidate the remainder of such provision or the remaining provisions. Should any provision of this Agreement be declared invalid or prohibited, the Project Members shall in good faith negotiate a new provision to replace the invalid or prohibited provision, and amend this Agreement to include the new provision.

15.10 Multiple Counterparts. This Agreement may be executed in multiple counterparts (by original or facsimile signature), each of which shall constitute one and the same agreement.

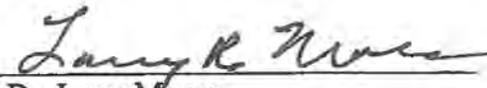
15.11 Ambiguities. This Agreement has been drafted, negotiated, and revised by each of the Project Members hereto, each of which is sophisticated in the matters to which this Agreement pertains, and no one Project Member shall be considered to have drafted this Agreement. Each of the Project Members and its counsel has reviewed this Agreement and the usual rule of construction that any ambiguities are resolved against the drafter shall not apply in the construction and interpretation of this Agreement.

IN WITNESS WHEREOF, the Parties have caused this Project Services Agreement to be executed as of _____, 2014.

SILVER STATE ENERGY ASSOCIATION



Brian V. Chally
SSEA Counsel

By: 

Dr. Larry Moses
Chairperson

Attest:

CITY OF BOULDER CITY

Lorene Krumm
City Clerk

By: _____
J. David Fraser
City Manager

Attest:

LINCOLN COUNTY POWER DISTRICT NO. 1

David Luttrell
General Manager

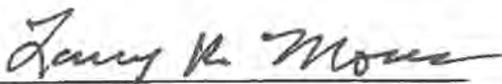
By: _____
John Christian
President

Attest:

OVERTON POWER DISTRICT NO. 5



Mendis Cooper
General Manager

By: 

Dr. Larry Moses
Chairperson

IN WITNESS WHEREOF, the Parties have caused this Project Services Agreement to be executed as of _____, 2014.

SILVER STATE ENERGY ASSOCIATION

Brian V. Chally
SSEA Counsel

By: _____
Dr. Larry Moses
Chairperson

Attest:

CITY OF BOULDER CITY

Lorene Krumm
City Clerk

By: _____
J. David Fraser
City Manager

Attest:

LINCOLN COUNTY POWER DISTRICT NO. 1

David Luttrell
General Manager

By: _____
John Christian
President

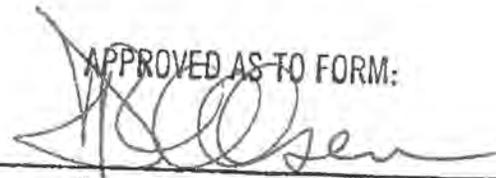
Attest:

OVERTON POWER DISTRICT NO. 5

Mendis Cooper
General Manager

By: _____
Dr. Larry Moses
Chairperson

APPROVED AS TO FORM:



Dave Olsen, City Attorney
Boulder City

IN WITNESS WHEREOF, the Parties have caused this Project Services Agreement to be executed as of _____, 2014.

SILVER STATE ENERGY ASSOCIATION

Brian V. Chally
SSEA Counsel

By: _____
Dr. Larry Moses
Chairperson

Attest:

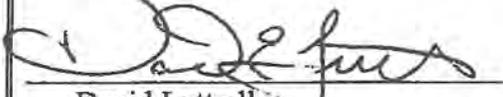
CITY OF BOULDER CITY

Lorene Krumm
City Clerk

By: _____
J. David Fraser
City Manager

Attest:

LINCOLN COUNTY POWER DISTRICT NO. 1



David Luttrell
General Manager

By: _____

John Christian
President

Attest:

OVERTON POWER DISTRICT NO. 5

Mendis Cooper
General Manager

By: _____
Dr. Larry Moses
Chairperson

Attest:

SOUTHERN NEVADA WATER AUTHORITY

John J. Entsminger
General Manager

By: _____
Mary Beth Scow
Chairwoman

EXHIBIT A

EXHIBIT A
SCOPE OF PROJECT WORK

This scope of work is to obtain the federal rights-of-way necessary for the siting, construction, operation, and maintenance of the Eastern Nevada Transmission Project (Project). Table 1 summarize work tasks and identifies current status.

TABLE 1 PROJECT APPROACH FOR PLANNING AND PERMITTING PROCESS	
Task	Status
Task 1 – Project Start-Up	Completed
Task 2 – Agency Scoping	Completed
Task 3 – Route Refinement and Detailed Inventory	Completed
Task 4 – Impact Assessment and Mitigation Planning	Completed
Task 5 – Alternatives Comparison and Selection	Completed
Task 6 – Draft Environmental Assessment	In Progress
Task 7 – Final Environmental Assessment and Finding of No Significant Impact	To be conducted
Task 8 – Issuance of Federal Right-of-Way	To be conducted

Task 1 – Project Start-Up

A project start-up meeting was held with SSEA, Project team, and the third-party environmental consultant. Roles, responsibilities, and lines of communication were developed. The Project description, purpose and need, study approach, and schedule were discussed and reviewed.

Task 2 – Agency Scoping

The general siting and permitting approach was discussed with federal land managing agencies, specifically the Bureau of Land Management (BLM), Bureau of Reclamation, and National Park Service. Meetings were held with both agencies describing the Project to assist with the development of the Project and identification of potential alternative alignments.

Since most of the Project would be located on federal lands managed by the BLM, SSEA submitted a SF299 Right-of-Way Application and preliminary Plan of Development to the BLM for the Project. The BLM determined an Environmental Assessment (EA) would be necessary for compliance with the National Environmental Policy Act.

Task 3 – Route Refinement and Detailed Inventory

The proposed Project and alternative alignments were delineated. Biological field surveys were conducted to identify potential sensitive species within the proposed alignments, including rare plants and the endangered desert tortoise. The surveys also searched for noxious and invasive weeds within the alignments. A draft rare plant survey report was completed, and a draft Biological Assessment was completed and submitted to the BLM for compliance with Section 7 of the Endangered Species Act.

Cultural resources records searches were completed. Data on other natural and human resources, such as air quality, soils, land use, visual resources, and transportation, were collected for the Project and alternative alignments.

Task 4 - Impact Assessment and Mitigation Planning

Potential impacts of the Project and alternatives on the environment were identified and analyzed, and potential mitigation measures were determined. Visual simulations illustrating basic Project features were prepared.

Task 5 – Alternatives Comparison and Selection

Alternatives for the Project were compared, and a preferred Project alignment was selected. Alternatives that were eliminated from detailed analysis were also described.

Task 6 – Draft Environmental Assessment

A preliminary Draft EA was prepared and submitted to the BLM for review. The BLM's Project lead and agency Interdisciplinary Team is currently evaluating the document, and will provide comments. Once those comments have been received and incorporated, the Draft EA will be revised and posted by the BLM for a public review period. The public review period is typically 30 days. Public meetings may be held if determined necessary by the BLM.

Task 7 – Final Environmental Assessment and Finding of No Significant Impact

Comments regarding the Draft EA that are received during the public review period will be analyzed and addressed for incorporation into the preliminary Final EA. The preliminary Final EA will be submitted to the BLM for review, and after incorporation of any comments the Final EA and Finding of No Significant Impact (FONSI) will be prepared.

Class III cultural resource surveys of the Project alignment may need to be conducted, if determined necessary by the BLM prior to completion of the FONSI.

Task 8 – Issuance of Federal Right-of-Way

Following completion of the FONSI, the BLM will prepare a right-of-way grant. The right-of-way grant will include terms and conditions that are developed from mitigation measures from the Final EA, along with other standard BLM conditions.

The right-of-way grant will be provided to SSEA for approval, along with a determination on whether payment of rental for the right-of-way is required.

SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM

July 17, 2014

Subject: Agreement	Director's Backup
Petitioner: David H. Wright, Chief Financial Officer	
Recommendations: That the Board of Directors approve a Solar Project Power Purchase Agreement between River Mountains Solar LLC and the Authority to purchase electrical power from a solar photovoltaic generation facility located at the River Mountains Water Treatment Facility.	

Fiscal Impact:

The cost of the energy received under this agreement, less the revenue received by selling the associated renewable energy credits, is expected to have no impact to the Authority's overall energy costs.

Background:

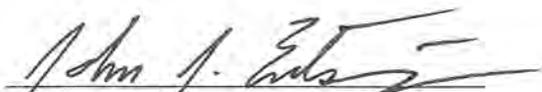
A component of the Authority's overall energy strategy is to increase its renewable energy supplies. In August 2013, the Authority solicited proposals from various suppliers to provide renewable energy from a solar generating facility located at the River Mountains Water Treatment Facility. After evaluating the proposals received from the solicitation, it was determined that the proposal from SunEdison, doing business as River Mountains Solar LLC, would provide the greatest value to the Authority.

Under the proposed agreement, the Authority would purchase all the power generated from the facility for a period of 20 years, with the option to extend the term for two additional 5-year periods upon mutual agreement. The Authority will also have the option to purchase the facility at several different points in time during the term of the agreement. The energy will be consumed on site at the River Mountains Water Treatment Facility and will serve to offset other energy supplies that would otherwise be procured.

The amount of solar energy received under this agreement will amount to approximately 5 percent of the Authority's overall energy requirements, increasing the renewable energy portion of its overall portfolio to approximately 18 percent.

This agreement is being entered into pursuant to Sections 5(f) and (g) and 6(j) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved the agreement.

Respectfully submitted:


John J. Entsminger, General Manager
JJE:PDS:DHW:SPK:GAW:cc
Attachment

AGENDA
ITEM #

1

DISCLOSURE OF OWNERSHIP/PRINCIPALS

Business Entity Type						
<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Partnership	<input checked="" type="checkbox"/> Limited Liability Company	<input type="checkbox"/> Corporation	<input type="checkbox"/> Trust	<input type="checkbox"/> Non-Profit Organization	<input type="checkbox"/> Other
Business Designation Group						
<input type="checkbox"/> MBE	<input type="checkbox"/> WBE	<input type="checkbox"/> SBE	<input type="checkbox"/> PBE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minority Business Enterprise	Women-Owned Business Enterprise	Small Business Enterprise	Physically Challenged Business Enterprise			
Corporate/Business Entity Name:		River Mountains Solar LLC				
(Include d.b.a., if applicable)						
Street Address:		1875 Lawrence Street, Suite 1150		Website: www.sunedison.com		
City, State and Zip Code:		Denver, CO 80202		POC Name and Email: Brian S. McCurdy		
Telephone No:		720-445-7830		Fax No: (720) 445-7930		
Local Street Address:				Website:		
City, State and Zip Code:				Local Fax No:		
Local Telephone No:				Local POC Name Email:		
Number of Clark County, Nevada Residents Employed:						

All entities, with the exception of publicly-traded and non-profit organizations, must list the names of individuals holding more than five percent (5%) ownership or financial interest in the business entity appearing before the SNWA Board of Directors.

Publicly-traded entities and non-profit organizations shall list all Corporate Officers and Directors in lieu of disclosing the names of individuals with ownership or financial interest. The disclosure requirement, as applied to land-use applications, extends to the applicant and the landowner(s).

Entities include all business associations organized under or governed by Title 7 of the Nevada Revised Statutes, including but not limited to private corporations, close corporations, foreign corporations, limited liability companies, partnerships, limited partnerships, and professional corporations.

SunEdison, Inc., a publicly traded company, is the ultimate parent and 100% owner of River Mountains Solar LLC. Its senior officers are:

Full Name	Title	% Owned <small>(Not required for Publicly Traded Corporations, Non-profit organizations)</small>
Ahmad R. Chatila	President & CEO	N/A
Brian Wuebbels	EVP and CFO	N/A
Carlos Domenech	EVP	N/A
Martin Truong	Secretary	N/A

This section is not required for publicly-traded corporations.

1. Are any individual members, partners, owners or principals, involved in the business entity, an SNWA full-time employee(s), or appointed/elected official(s)?

Yes No (If yes, please note that SNWA employee(s), or appointed/elected official(s) may not perform any work on professional service contracts, or other contracts, which are not subject to competitive bid.)

2. Do any individual members, partners, owners or principals have a spouse, registered domestic partner, child, parent, in-law or brother/sister, half-brother/half-sister, grandchild, grandparent, related to an SNWA full-time employee(s), or appointed/elected official(s)?

Yes No (If yes, please complete the Disclosure of Relationship form on Page 2. If no, please print N/A on Page 2.)

I certify under penalty of perjury, that all of the information provided herein is current, complete, and accurate. I also understand that the SNWA will not take action on land-use approvals, contract approvals, land sales, leases or exchanges without the completed disclosure form.

Frank DeRosa

Signature

V.P.

Title

Frank DeRosa

Print Name

6/26/2014

Date

Approved as to form, 6/25/14

DISCLOSURE OF RELATIONSHIP

List any disclosures below:
(Mark N/A, if not applicable.)

NAME OF BUSINESS OWNER/PRINCIPAL	NAME OF SNWA EMPLOYEE OR OFFICIAL AND JOB TITLE	RELATIONSHIP TO SNWA EMPLOYEE OR OFFICIAL	SNWA EMPLOYEE'S/OFFICIAL'S DEPARTMENT
N/A			

"Consanguinity" is a relationship by blood. "Affinity" is a relationship by marriage.

"To the second degree of consanguinity" applies to the candidate's first and second degree of blood relatives as follows:

- Spouse – Registered Domestic Partners – Children – Parents – In-laws (first degree)
- Brothers/Sisters – Half-Brothers/Half-Sisters – Grandchildren – Grandparents – In-laws (second degree)

For SNWA Use Only:

If any Disclosure of Relationship is noted above, please complete the following:

Yes No Is the SNWA employee(s) noted above involved in the contracting/selection process for this particular agenda item?

Yes No Is the SNWA employee(s) noted above involved in any way with the business in performance of the contract?

Notes/Comments:



Signature

Scott P. Krantz, Director

Print Name

Authorized Department Representative

SOLAR PROJECT POWER PURCHASE AGREEMENT

between

River Mountains Solar LLC

and

Southern Nevada Water Authority

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Solar Project Power Purchase Agreement

This Solar Project Power Purchase Agreement (this "**Agreement**"), dated as of July __, 2014 (the "**Execution Date**"), is entered into between Southern Nevada Water Authority, a Nevada joint action agency ("**Buyer**"), and River Mountains Solar LLC, a Delaware limited liability company ("**Seller**").

RECITALS

A. Seller desires to develop, design, construct, own and operate a renewable electric generating Facility in Clark County, Nevada;

B. Seller desires to sell and deliver to Buyer at the Delivery Point all of the Output from the Facility, and Buyer desires to purchase the same from Seller.

In consideration of the mutual promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Buyer and Seller agree as follows:

ARTICLE ONE: GENERAL DEFINITIONS AND RULES OF INTERPRETATION

Capitalized terms used and not otherwise defined herein shall have the meanings set forth in Exhibit A, unless the context clearly requires otherwise. The Rules of Interpretation set forth in Exhibit A shall apply to the interpretation of this Agreement.

ARTICLE TWO: TERM AND TERMINATION; MILESTONES

2.1 Binding Nature. This Agreement shall be effective and binding as of the Execution Date only to the extent required to give full effect to, and enforce, the rights and obligations of the Parties under Articles One, Seven, Nine, Ten and Twelve and Sections 2.1, 2.2, 2.3, 11.1(c), 11.2 through 11.6, 13.1, 13.2, 13.4, 13.6, and 13.8 through 13.14. This Agreement shall be in full force and effect, enforceable and binding in all respects, upon occurrence of the Effective Date.

2.2 Expected Facility Capacity. The Parties expressly acknowledge and agree that the Contract Price and Expected Delivered Power reflect certain assumptions regarding the Expected Facility Capacity and that, to the extent there is a reduction in the Expected Facility Capacity as a result of the Interconnecting Utility System or the Interconnecting Utility being unable or unwilling to accommodate the Expected Facility Capacity, the Contract Price shall be subject to an equitable increase and the Expected Delivered Power shall be amended in accordance with the actual Facility Capacity. Upon any such reduction in the Expected Facility Capacity, Buyer and Seller shall promptly meet, negotiate in good faith and use commercially reasonable efforts to reform the Agreement in order to (a) restore the allocation of benefits and burdens to the Parties under the Agreement as of the Effective Date as nearly as possible, whereby Seller shall be entitled to an equitable increase in the Contract Price, and (b) otherwise amend the Agreement to accurately reflect the actual Facility Capacity, with such amendments to specifically include, but not be limited to, revisions to Exhibits D, E, F and G.

2.3 Conditions Precedent to Seller's Obligations. The following conditions (the "Seller Conditions Precedent") must be satisfied or waived by Seller before Seller is obligated to construct and operate the Facility:

- (a) Seller shall have obtained all Permits necessary for it to construct the Facility on terms acceptable to it;
- (b) Seller shall have obtained all necessary agreements for the interconnection of the Facility to the Interconnecting Utility System on terms acceptable to it;
- (c) Seller shall have obtained a financing commitment for the construction of the Facility on terms acceptable to it; and
- (d) Seller shall have obtained Site Control for the Site from the Bureau of Reclamation.

Seller shall use commercially reasonable efforts to achieve the satisfaction of the Seller Conditions Precedent by the Condition Deadline. At Seller's request, Buyer will reasonably cooperate with Seller as may be necessary in order to assist Seller in achieving the satisfaction of the Seller Conditions Precedent. Seller may terminate this Agreement if the Seller Conditions Precedent are not satisfied by the Condition Deadline. Termination of this Agreement pursuant to this Section 2.3 shall not trigger the default provisions contained herein or any liability under this Agreement. The Parties may mutually agree to extend the Condition Deadline and to extend the Scheduled Commercial Operation Date and the Facility Milestones correspondingly.

2.4 Term. Seller's obligation to deliver Output, and Buyer's obligation to accept and pay for Output, under this Agreement shall commence on the Initial Operation Date and shall continue for a period of twenty (20) years from the Commercial Operation Date, subject to earlier termination of this Agreement pursuant to the terms hereof (the "Initial Term"). Upon mutual agreement, the Parties may extend this Agreement for no more than two (2) additional five (5) year terms (each such additional term, a "Renewal Term").

ARTICLE THREE: FACILITY PURCHASE OPTION

3.1 Purchase Option. Provided no Default or Event of Default of Buyer shall have occurred and is continuing, Buyer may, at its option, elect to purchase the Facility on the tenth (10th) Business Day following the seventh (7th), tenth (10th), fifteenth (15th) and twentieth (20th) anniversaries of the Commercial Operation Date; provided that Buyer provides written notice to Seller of Buyer's exercise of the purchase option not more than one hundred eighty (180) days nor less than ninety (90) days prior to the applicable anniversary of the Commercial Operation Date. If Buyer elects to purchase the Facility pursuant to this Section 3.1, the purchase price shall be the greater of Fair Market Value or Termination Value set forth in Exhibit F. The "Fair Market Value" of the Facility shall be the value determined by the mutual agreement of Buyer and Seller within thirty (30) days of Buyer's notice of exercise of its purchase option, plus any costs to Seller incurred in connection with the termination of any financing or other financial arrangements for the Facility. If Buyer and Seller cannot mutually agree to a Fair Market Value, then the Parties shall select a nationally recognized independent appraiser with experience and expertise in the solar photovoltaic industry to value such equipment. If the Parties are unable to agree on the selection of an appraiser within ten (10) days, each Party shall designate a qualified nationally recognized independent appraiser, and the two appraisers designated by each Party shall select a third nationally recognized independent appraiser, who shall act as the

appraiser hereunder. Such appraiser shall act reasonably and in good faith to determine the Fair Market Value and shall set forth such determination in a written opinion delivered to the Parties. Should the Buyer decide not to execute the purchase, the costs of the appraisal shall be borne by the Buyer. If the Buyer chooses to purchase the Facility the cost of the appraisal shall be borne by the Parties equally. To the extent transferable, the remaining period, if any, on all warranties for the Facility will be transferred from Seller to Buyer at Buyer's sole expense. If the Site is not owned by Buyer, the Parties shall use commercially reasonable efforts to cause Buyer to obtain Site Control. Upon receipt of the Fair Market Value or Termination Value, as applicable, Buyer's obtaining Site Control and the payment of all other amounts then owing by Buyer to Seller, the Parties will execute all documents necessary to cause title to the Facility to pass to Buyer as-is, where-is; provided, however, that Seller shall remove any encumbrances placed on the Facility by Seller.

ARTICLE FOUR: PURCHASE AND SALE OF OUTPUT

4.1 Seller's and Buyer's Obligations. From and after the Initial Operation Date, Seller shall sell and deliver, or cause to be delivered, and Buyer shall purchase and receive, or cause to be received, all Delivered Power at the Delivery Point and all Environmental Attributes generated in connection therewith, and Buyer shall pay Seller the Contract Price therefor. The Parties acknowledge that during the Term certain Environmental Attributes associated with the Delivered Power generated by the Facility may come into existence, cease to exist or change in character, and that the Environmental Attributes purchased and sold pursuant to this Agreement may in the aggregate either increase or decrease in value (due to change in law or otherwise) during the Term, and agree that their respective obligations set forth in the immediately preceding sentence shall continue irrespective of any such changed circumstances. Seller shall be responsible for any costs or charges imposed on or associated with the Output or its delivery of the Output up to the Delivery Point. Buyer shall be responsible for any costs or charges imposed on or associated with the Output or its receipt at and from the Delivery Point. In addition, the Contract Price assumes the existence of an exemption from both real and personal property taxes based on Nevada Revised Statutes (NRS) 361.157(2)(d) and 361.073, respectively. If NRS 361.157(2)(d) or NRS 361.073 are eliminated or cease to be applicable to Seller, Buyer or their Affiliates, then the Contract Price will be increased by an amount proportional to Seller's tax liability. Notwithstanding the sale by Seller to Buyer of all the Facility's Delivered Power and all Environmental Attributes generated in connection therewith, Seller shall retain title to all Environmental Incentives and Tax Benefits associated with the Facility or its Delivered Power.

4.2 Transmission and Scheduling. Seller shall arrange and be responsible for transmission service to the Delivery Point and shall deliver the Output to the Delivery Point. Buyer shall arrange and be responsible for transmission service at and from the Delivery Point and shall Schedule or arrange for Scheduling services with its transmission provider to receive the Output at the Delivery Point. Output deliveries shall be scheduled in accordance with the then-applicable tariffs, protocols, operating procedures and scheduling practices.

4.3 Title and Risk of Loss. Seller will convey good title to the Output to Buyer at the Delivery Point free and clear of any liens or other encumbrances or title defects, including any which would affect Buyer's ownership of any portion of such Output or prevent the subsequent transfer of such Output by Buyer to a third party. Title to and risk of loss with respect to Output delivered to Buyer by Seller in accordance with this Agreement shall pass from Seller to Buyer when such Output is delivered at the Delivery Point. Until title passes, Seller shall be deemed in exclusive control of the Output and shall be responsible for any damage or injury caused

thereby. After title to the Output passes to Buyer, Buyer shall be deemed in exclusive control of such Output and shall be responsible for any damage or injury caused thereby.

4.4 Environmental Attributes. All Environmental Attributes and any benefits derived therefrom are exclusively dedicated to and vested in Buyer. Seller shall deliver to Buyer all Environmental Attributes derived from the Facility. Each Party shall timely prepare and execute all documents and shall take all actions reasonably necessary under Nevada law, applicable regulations or other requirements to cause the Environmental Attributes to vest in Buyer; provided that any increase in out-of-pocket expenses payable to third parties in connection with any such actions by Seller due to any change in law (including any future requirement of Buyer to comply with a Renewable Portfolio Standard) after the Execution Date (together with any out-of-pocket expenses payable by Seller to third parties pursuant to the proviso contained in Section 6.8) in excess of the Compliance Cap in any calendar year shall be reimbursed by Buyer.

4.5 Minimum Production. Subject to adjustment as provided in Section 2.2 of this Agreement, Seller has estimated that, following the Commercial Operation Date, the Facility will deliver an annual expected performance output of Delivered Power for each year of the Term as set forth in Exhibit G (the "**Expected Delivered Power**"). If, starting with the second Contract Year, for reasons other than Interconnecting Utility outages, Buyer's inability to accept Delivered Power, events of Force Majeure, or other reasons outside the control of Seller, the Facility fails to deliver eighty percent (80%) of the Expected Delivered Power over a rolling twenty four (24) month period, then a shortfall of Delivered Power with respect to such period (a "**Shortfall**") shall be deemed to exist, and Seller shall pay to Buyer Performance Liquidated Damages in respect of such Shortfall.

4.6 Billing and Payment. Unless otherwise specifically agreed upon by the Parties, the calendar month shall be the standard period for all payments under this Agreement (other than Termination Payments). As soon as practicable after the end of each month, each Party will render to the other Party an invoice for the payment obligations, if any, incurred hereunder during the preceding month. All invoices under this Agreement shall be due and payable in accordance with each Party's invoice instructions on or before the later of the twentieth (20th) day of each month, or tenth (10th) day after receipt of the invoice or, if such day is not a Business Day, then on the next Business Day. Each Party will make payments by electronic funds transfer, or by other mutually agreeable method(s), to the account designated by the other Party. Any amounts not paid by the due date will be deemed delinquent and will accrue interest at the Interest Rate, such interest to be calculated from and including the due date to but excluding the date the delinquent amount is paid in full.

4.7 Disputes and Adjustments of Invoices. A Party may, in good faith, dispute the correctness of any invoice or any adjustment to an invoice, rendered under this Agreement or adjust any invoice for any arithmetic or computational error within twelve (12) months of the date the invoice, or adjustment to an invoice, was rendered. In the event an invoice or portion thereof, or any other claim or adjustment arising hereunder, is disputed, payment of the undisputed portion of the invoice shall be required to be made when due, with notice of the objection given to the other Party. Any invoice dispute or invoice adjustment shall be in writing and shall state the basis for the dispute or adjustment. Payment of the disputed amount shall not be required until the dispute is resolved. Upon resolution of the dispute, any required payment shall be made within five (5) Business Days of such resolution along with interest accrued at the Interest Rate from and including the due date to but excluding the date paid. Inadvertent overpayments shall be returned upon request or deducted by the Party receiving

such overpayment from subsequent payments, with interest accrued at the Interest Rate from and including the date of such overpayment to but excluding the date repaid or deducted by the Party receiving such overpayment. Any dispute with respect to an invoice is waived unless the other Party is notified in accordance with this Section 4.7 within twelve (12) months after the invoice is rendered or any specific adjustment to the invoice is made. If an invoice is not rendered within twelve (12) months after the close of the month during which performance occurred, the right to payment for such performance is waived.

4.8 Taxes. Buyer shall be responsible for and shall pay (or reimburse Seller for) any and all taxes or similar governmental charges of any type that may be assessed against the generation, production, transmission, sale, delivery or transfer of Output, excepting any income taxes imposed on Seller. Either Party, upon written request of the other Party, shall provide a certificate of exemption or other reasonably satisfactory evidence of exemption if either Party is exempt from taxes, and shall use reasonable efforts to obtain and cooperate with the other Party in obtaining any exemption from or reduction of any Tax.

4.9 Curtailment. Buyer may require Seller to curtail the production and delivery of Output at any time in the event of any emergency on Buyer's transmission or distribution system or pursuant to Sections 7.1 or 7.2 of the Interconnection and Operating Procedures; provided that for any curtailment in a given billing period in excess of fifty (50) hours, Buyer shall be required to pay Seller for that curtailed Output at the full Contract Price for the full amount of curtailed Output (as determined by Seller in a commercially reasonable manner) at the end of such given billing period; provided further that in any Contract Year, Buyer can curtail Output up to a maximum of fifty (50) hours without compensating Seller for such curtailed Output ("**Allowable Curtailment**"); provided further that the Parties agree that the Term shall be automatically extended for a period of time long enough for Seller to produce the aggregate of the Allowable Curtailment actually curtailed by Buyer during the Term and Buyer shall be required to compensate Seller for the amount of such Allowable Curtailment then produced at the then current Contract Price.

ARTICLE FIVE: FACILITY CONSTRUCTION

5.1 Construction of Facility. Seller shall design and construct the Facility in accordance with Good Industry Practice, Site Access requirements to be mutually agreed upon as per Exhibit K, and the Facility Milestones (as the same may be extended in accordance with this Agreement). Buyer shall have the right to approve Seller's Facility design, which approval will not be unreasonably withheld, conditioned or delayed.

5.2 Milestones. Seller shall use commercially reasonable efforts to complete each Facility Milestone specified in Exhibit C on or before the date specified for each Facility Milestone listed in Exhibit C. Each Facility Milestone (including the Scheduled Commercial Operation Date) shall be extended on a day-for-day basis for each day of delay to Seller resulting from Force Majeure or the failure by Buyer or the Interconnecting Utility to complete any modifications or upgrades necessary for Seller to interconnect to the Interconnecting Utility System by the Scheduled Interconnection Facilities Completion Date. If Seller fails to achieve any of the Facility Milestones (other than the Facility Milestone related to Commercial Operation) by the date specified in Exhibit C (as extended), such failure will not constitute an Event of Default, and within ten (10) Business Days after such milestone date Seller shall deliver to Buyer an action plan that will detail the reasons why the applicable Facility Milestone was not achieved in a timely manner and what steps Seller has taken or will take in order to achieve Commercial Operation with respect to the Expected Facility Capacity on or before the

date set forth in Exhibit C (such date (as so extended), the "**Scheduled Commercial Operation Date**"). If Seller fails to achieve Commercial Operation with respect to at least the Expected Facility Capacity on or before the Scheduled Commercial Operation Date, and Seller declines to make a Buy Down Payment pursuant to Section 5.5, then for each day starting ninety (90) days after the Scheduled Commercial Operation Date that Seller continues to fail to achieve Commercial Operation with respect to at least the Expected Facility Capacity, Seller shall pay to Buyer liquidated damages equal to Daily Delay Damages. Seller shall pay any amounts owed to Buyer under this Section 5.2 in the billing period immediately succeeding the billing period during which Seller's obligation to pay such amounts arose.

5.3 Initial Operation. Seller will install the Facility in increments in its sole discretion and may begin generating and delivering Delivered Power and Environmental Attributes as soon as such increment has achieved Commercial Operation.

5.4 Performance Tests. Seller shall notify Buyer at least ten (10) Business Days prior to the commencement of any Performance Tests with respect to the declaration of the Commercial Operation Date of the Facility. Buyer shall have the right to be present at and witness each such Performance Test. Buyer shall be deemed to waive its right to be present at the Performance Tests if Buyer fails to appear at the scheduled time for the Performance Tests. Within five (5) Business Days of the successful completion of the Performance Tests pursuant to Exhibit D, Seller shall provide Buyer with a written certification signed by an authorized officer of Seller certifying that all of the requirements for Commercial Operation hereunder have been satisfied with respect to the entire Facility, at which point the Commercial Operation Date shall be deemed to have been achieved at the Facility Capacity described in such certificate.

5.5 Commercial Operation Date. If Seller has not achieved Commercial Operation with respect to the Expected Facility Capacity by the Scheduled Commercial Operation Date, then Seller shall have the right, at its sole option, to declare the Commercial Operation Date to have been achieved and notify Buyer that the Facility Capacity will be reduced to the actual Facility Capacity as of that date. In such event, Seller shall pay Buyer an amount (the "**Buy Down Payment**") equal to the positive difference between (i) the product of (A) \$750 kW AC multiplied by (B) the positive difference between (x) the Expected Facility Capacity less (y) the actual installed Facility Capacity as of the date of the Buy Down Payment less (ii) the aggregate amount of Daily Delay Damages paid to Seller by Buyer through the date of the Buy Down Payment pursuant to Section 5.2. Upon Seller's payment of the Buy Down Payment, the Expected Delivered Power shall be reduced based upon the installed Facility Capacity established as of the date of the Buydown Payment.

5.6 Interconnection Facilities. The Parties acknowledge and agree that Seller shall be responsible for the construction of the Interconnection Facilities at the Seller's expense, and that Buyer will own, operate and maintain the Interconnection Facilities after completion of such construction as set forth in Exhibit M. Buyer acknowledges and agrees that (i) in order to achieve the Commercial Operation Date by the deadline set forth therefor in Exhibit C, the construction of the Interconnection Facilities must be complete no later than September 15, 2015 (the "**Scheduled Interconnection Facilities Completion Date**") and (ii) each Facility Milestone will be extended on a day-for-day basis for each day beyond the Scheduled Interconnection Facilities Completion Date that the Interconnecting Utility fails to complete any modifications or upgrades to the Interconnecting Utility System necessary for Seller to complete the Interconnection Facilities and interconnect the Facility

ARTICLE SIX: FACILITY OPERATION

6.1 Metering. Buyer shall, at Seller's cost, provide, install, own, operate and maintain all Meter(s) in good operating condition. If more than one Meter is installed, then data from all Meters shall be aggregated into one revenue Meter. The metering system design shall be approved by Buyer prior to commencement of construction of the Facility. The Meters shall be used for quantity measurements under this Agreement. Such equipment shall be bi-directional and shall be capable of measuring and reading instantaneous and hourly real and reactive energy and capacity. Buyer shall provide Seller with access to all data generated from Buyer's Meter(s). Seller, at its expense, may install additional check meters. Seller shall not install any check-metering equipment on Buyer-owned facilities. Seller shall not undertake any action that may interfere with the operation of the Meters, and shall be liable for all costs, expense, and liability associated with any such interference with the Meters.

6.2 Meter Tests. Meters shall be tested at least once every calendar year by Buyer at Buyer's expense. Either Party may request a special test of Meters or check meters, but the testing Party shall bear the cost of such testing unless there is an inaccuracy outside the limits established in American National Standard Institute Code for Electricity Metering (ANSI C12.1, latest version), in which case the Party whose meters were found to be inaccurate shall be responsible for the costs of the special testing. Meters installed pursuant to this Agreement shall be sealed and the seal broken only when the meters are to be adjusted, inspected or tested. Authorized representatives of both Parties shall have the right to be present at all routine or special tests and to inspect any readings, testing, adjustment or calibration of the Meters or check meters. Buyer shall provide at least fifteen (15) days prior notice of routine Meter testing to Seller. If Seller has installed check meters in accordance with Section 6.1, Seller shall test and calibrate each such meter at least once every calendar year. Seller shall provide fifteen (15) days prior notice of routine check meter testing to Buyer. In the event of special Meter testing, the Parties shall notify each other with as much advance notice as practicable.

6.3 Metering Accuracy. If the Meters are registering but their accuracy is outside the limits established in ANSI C12.1, upon discovery of such inaccuracy, Buyer shall promptly, but not more than ninety (90) days after such discovery, repair and recalibrate or replace the Meters and Buyer shall adjust payments to Seller for the lesser of (a) the period in which the inaccuracy existed or (b) one hundred eighty (180) days. If the period in which the inaccuracy existed cannot be determined, adjusted payments shall be made for a period equal to one-half of the elapsed time since the latest prior test and calibration of the Meters; however, the adjustment period shall not exceed ninety (90) days. If adjusted payments are required, Buyer shall render a statement describing the adjustments to Seller within thirty (30) days of the date on which the inaccuracy was rectified. Additional payments to Seller by Buyer shall be made within thirty (30) days of receipt of Buyer's statement. Any payments due Buyer pursuant to this Section shall accompany Seller's next billing period statement.

6.4 Monthly Planned Delivery Schedules; Day-Ahead Notices. Ten (10) Business Days before the beginning of each month during the Term beginning in the month preceding the anticipated month of the Initial Operation Date, Seller shall provide a non-binding forecast of expected available energy for such month in a form reasonably acceptable to Buyer. Notwithstanding the foregoing, Buyer shall act or engage a third party to act as the "Scheduling Coordinator" during the Term and Buyer shall carry on all duties as "Scheduling Coordinator" in accordance with Good Industry Practices.

6.5 Outages.

- (a) In the event of any Forced Outage, Seller shall promptly notify Buyer of the same. Seller shall as soon as practicable under the circumstances notify Buyer verbally and shall then, within twenty-four (24) hours thereafter, provide written notice to Buyer. Such notice shall be submitted electronically to Seller by facsimile or e-mail and will generally describe the nature of the Outage, the expected duration and any other pertinent information that will assist Buyer in planning for the decreased Delivered Power and/or availability of the Facility as a result of the Outage. Seller shall return the Facility to service as soon as reasonably possible, consistent with Good Industry Practice, after the circumstances that caused the Forced Outage cease to exist.
- (b) Seller shall provide written notice to Buyer prior to conducting any Planned Outages of the Facility. Within ninety (90) days prior to the Commercial Operation Date, and on or before the first day of each subsequent Contract Year, Seller shall provide Buyer with a schedule of such proposed Planned Outages. Buyer shall promptly review Seller's proposed schedule and may request modifications within thirty (30) days of Buyer's receipt of such schedule. Seller will use commercially reasonable efforts to accommodate Buyer's requests. Changes to the schedule may be requested by either Party and each Party shall make commercially reasonable efforts to accommodate such changes.

6.6 Operation and Maintenance. Seller, at all times shall operate, maintain and repair the Facility in accordance with Good Industry Practice.

6.7 Operating Reports. From the Initial Operation Date and throughout the Term of this Agreement, Seller shall provide Buyer with monthly reports regarding material data pertaining to the operation of the Facility in substantially the form attached hereto as Exhibit H (the "**Operations Report**"). The Operations Report format may be modified in any reasonable manner at Buyer's request from time to time during the Term of this Agreement.

6.8 Renewable Energy System. From the Initial Operation Date and throughout the Term of this Agreement, Seller shall take any and all actions reasonably necessary to maintain the Facility's status as a Renewable Energy System; provided that any increase in out-of-pocket expenses payable to third parties in connection with any such actions by Seller due to change in law after the Execution Date (together with any out-of-pocket expenses payable by Seller to third parties pursuant to the proviso contained in Section 4.4) in excess of the Compliance Cap in any calendar year shall be reimbursed by Buyer.

ARTICLE SEVEN: REPRESENTATIONS AND WARRANTIES

7.1 Seller Representations and Warranties. Seller represents and warrants to Buyer as of the Execution Date as follows:

- (a) it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation;

- (b) it has or will have all regulatory authorizations necessary for it to legally perform its obligations under this Agreement (other than Permits or other regulatory authorizations to be obtained by Seller for the construction, operation or maintenance of the Facility, which Seller reasonably anticipates it will be able to obtain in due course);
- (c) the execution, delivery and performance of this Agreement are within its powers, have been duly authorized by all necessary action and do not violate any of the terms and conditions in its governing documents, any contracts to which it is a party or any law, rule, regulation, order or the like applicable to it, and the Agreement constitutes its legally valid and binding obligation enforceable against it in accordance with its terms except as the enforcement thereof may be limited by applicable bankruptcy, insolvency or similar laws affecting the enforcement of rights generally;
- (d) there is not pending or, to its knowledge, threatened against it or any of its Affiliates any legal proceedings that could materially adversely affect its ability to perform its obligations under this Agreement;
- (e) no Default or Event of Default with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement;
- (f) it is acting for its own account, has made its own independent decision to enter into this Agreement and as to whether this Agreement is appropriate or proper for it based upon its own judgment, is not relying upon the advice or recommendations of the other Person in so doing, and is capable of assessing the merits of and understanding, and understands and accepts, the terms, conditions and risks of this Agreement;
- (g) the energy source from which the Output will be sold to Buyer has been designed to qualify as a Renewable Energy System; and
- (h) it is a "forward contract merchant" within the meaning of the United States Bankruptcy Code.

7.2 Buyer Representations and Warranties. Buyer represents and warrants to Seller as of the Execution Date as follows:

- (a) it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation;
- (b) it has all regulatory authorizations necessary for it to legally perform its obligations under this Agreement;
- (c) the execution, delivery and performance of this Agreement are within its powers, have been duly authorized by all necessary action and do not violate any of the terms and conditions in its governing documents, any contracts to which it is a party or any law, rule, regulation, order or the like applicable to it, and the Agreement constitutes its legally valid and binding obligation enforceable against it in accordance with its terms except as

the enforcement thereof may be limited by applicable bankruptcy, insolvency or similar laws affecting the enforcement of rights generally;

- (d) there is not pending or, to its knowledge, threatened against it or any of its Affiliates any legal proceedings that could materially adversely affect its ability to perform its obligations under this Agreement;
- (e) no Default or Event of Default with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement;
- (f) it is acting for its own account, has made its own independent decision to enter into this Agreement and as to whether this Agreement is appropriate or proper for it based upon its own judgment, is not relying upon the advice or recommendations of the other Person in so doing, and is capable of assessing the merits of and understanding, and understands and accepts, the terms, conditions and risks of this Agreement; and
- (g) it is a "forward contract merchant" within the meaning of the United States Bankruptcy Code.

ARTICLE EIGHT: FORCE MAJEURE

8.1 **Excuse.** Neither Party shall be considered in default under this Agreement for any delay or failure in the performance of its obligations under this Agreement (including any obligation to deliver or accept Output) if such delay or failure is due to an event of Force Majeure. Time periods for compliance and deadlines (including Facility Milestones) will be extended on a day-for-day basis for the duration of any event of Force Majeure.

8.2 **Definition.** "Force Majeure" means, subject to Section 8.3, any events that occur subsequent to the Execution Date and before the termination or expiration of the Term of this Agreement and that delays or prevents a Party's performance of its obligations under this Agreement, but only to the extent that (i) such event of Force Majeure is not attributable to fault or negligence on the part of that Party, (ii) such event of Force Majeure is caused by factors beyond that Party's reasonable control and (iii) despite taking all reasonable technical and commercial precautions and measures to prevent, avoid, mitigate or overcome such event and the consequences thereof, the Party affected has been unable to prevent, avoid, mitigate or overcome such event or consequences. Force Majeure shall in any event include the following:

- (a) acts of God such as storms, hurricanes, floods, lightning, fire, explosion, quarantine, earthquakes, volcanic eruptions or other natural disasters;
- (b) sabotage or destruction by a third party of facilities and equipment relating to the performance by the affected Party of its obligations under this Agreement;
- (c) war, riot, acts of a public enemy or other civil disturbance;
- (d) strike, walkout, lockout or other significant labor dispute; or

- (e) action or inaction of a Governmental Authority (including any change in law) that prevents Seller from constructing (as a result of any delays to Permits arising from the Environmental Impact Statement obtained by Buyer for the Site) or operating the Facility or prevents the Buyer from taking delivery of the Output from Seller.

8.3 Exclusions. None of the following shall constitute an event of Force Majeure:

- (a) Buyer's inability economically to use or resell the Output;
- (b) Seller's ability to sell the Output at a price greater than the price set forth in this Agreement; or
- (c) a Forced Outage except where such Forced Outage is caused by an event of Force Majeure.

8.4 Covenants. A Party claiming Force Majeure shall:

- (a) provide prompt notice of such Force Majeure event to the other Party, giving an estimate of its expected duration and the probable impact on the performance of its obligations under this Agreement;
- (b) exercise all reasonable efforts to continue to perform its obligations under this Agreement;
- (c) expeditiously take action to correct or cure the event or condition excusing performance so that the suspension of performance is no greater in scope and no longer in duration than is dictated by the problem (provided that settlement of strikes or other labor disputes will be completely within the sole discretion of the Party affected by such strike or labor dispute); and
- (d) provide prompt notice to the other Party of the cessation of the event or condition giving rise to its excuse from performance.

8.5 Termination for Extended Force Majeure Event. This Agreement may be terminated by either Party if a Party's obligations hereunder have been excused by the occurrence of an event of Force Majeure pursuant to this Article Eight for longer than twelve (12) consecutive months. Termination of this Agreement pursuant to this Section 8.5 shall not be considered a termination due to an Event of Default or require the payment of damages by either Party. Following such termination, both Parties will be released from any further liability under this Agreement.

8.6 Material Casualty Event. This Agreement may be terminated by Seller following a Material Casualty Event. Termination of this Agreement pursuant to this Section 8.6 shall not be considered a termination due to an Event of Default or require the payment of damages by either Party. Following such termination, both Parties will be released from any further liability under this Agreement.

ARTICLE NINE: ASSIGNMENT

9.1 Assignment. Except as stated in Section 9.2, neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by either Party, including by operation of law, without the prior written consent of the other Party, which consent shall not be unreasonably withheld. Any assignment of this Agreement in violation of the foregoing shall be void and not merely voidable.

9.2 Seller Permitted Assignment for Financing. Seller may, without the consent of Buyer, transfer, pledge, encumber or assign this Agreement or the account, revenues or proceeds hereof, to any of Seller's Lenders in connection with any financing or other financial arrangements for the Facility.

9.3 Successors and Assigns. This Agreement and all of the provisions hereof are binding upon, and inure to the benefit of, the Parties and their respective successors and permitted assigns.

9.4 Collateral Assignment by Seller. In the event that Seller transfers, pledges, encumbers or collaterally assigns this Agreement to Seller's Lenders, Seller shall provide written notice to Buyer of such transfer, pledge, encumbrance or assignment, including the address of Seller's Lenders. In connection with any financing or refinancing of the Facility, Buyer shall (i) execute one or more estoppel certificates in respect of this Agreement in a form reasonably acceptable to Seller's Lenders or investors (with such changes as may be reasonably necessary to make the certifications contained therein true in all respects), (ii) cooperate with Seller in the negotiation and execution of any reasonable amendment or addition to this Agreement required by Seller's Lenders that does not result in a material adverse change in Buyer's rights or obligations hereunder and (iii) negotiate in good faith with Seller and Seller's Lenders to agree upon a consent to collateral assignment of this Agreement, which consent to collateral assignment shall be in form and substance agreed to by Buyer, Seller and Seller's Lenders, and shall include the following provisions and any other customary provisions reasonably requested by Seller's Lenders:

- (a) upon foreclosure (or assignment in lieu of foreclosure) of Seller's Lenders' mortgage or security interest in the Facility, Seller's Lenders may succeed to the rights and obligations of Seller under the Agreement;
- (b) the Parties shall not amend or modify this Agreement in any material respect without the prior written consent of Seller's Lenders (which approval shall not be unreasonably withheld, delayed or conditioned);
- (c) simultaneously with providing notice to Seller of an Event of Default by Seller, Buyer shall give notice of such Event of Default by Seller to any Seller's Lenders which Buyer has been provided written notice of;
- (d) Seller's Lenders shall have the right, but not the obligation, to cure an Event of Default on behalf of Seller in accordance with the provisions of this Agreement, provided that Seller's Lenders shall be provided an additional ninety (90) days, from the end of the cure period provided to Seller pursuant to this Agreement to effect a cure of such Event of Default;

- (e) if this Agreement is rejected or disaffirmed by Seller pursuant to bankruptcy law or other law affecting creditor's rights, then upon the request of Seller's Lenders Buyer shall execute and deliver to Seller's Lenders or their designee a new power purchase agreement which shall be for a term equal to the remainder of the Term before giving effect to such rejection or termination and shall contain the same covenants, agreements, terms, provisions and limitations as this Agreement; and
- (f) upon receipt of a written request from Seller's Lenders, Buyer shall make any and all payments due and owing by Buyer under this Agreement to an account designated by Seller's Lenders, which payments Seller agrees will fully satisfy Buyer's payment obligations under this Agreement to the extent of such payments.

ARTICLE TEN: INDEMNIFICATION; INSURANCE; LIMITATION OF LIABILITY

10.1 Indemnification. To the extent permitted by Nevada law, a Party to this Agreement (the "**Indemnifying Party**") shall indemnify, defend and hold harmless, the other Party, its Affiliates and each of their officers, directors, employees, attorneys, agents and successors and assigns (each an "**Indemnified Party**") from and against any and all Indemnified Losses related to injury to persons or damage to property arising out of or resulting from the Indemnifying Party's breach of, or the performance or non-performance of its obligations under this Agreement (including reasonable attorneys' fees, but excluding any Indemnified Losses for which liquidated damages or other remedies are explicitly provided for pursuant to this Agreement); provided, however, that no Party shall be indemnified hereunder for any Indemnified Loss to the extent resulting from its own negligence, fraud or willful misconduct.

10.2 Indemnification Procedures. Any Indemnified Party seeking indemnification under this Agreement for any Indemnified Loss shall give the Indemnifying Party notice of such Indemnified Loss promptly but in any event on or before thirty (30) days after the Indemnified Party's actual knowledge of such claim or action. Such notice shall describe the Indemnified Loss in reasonable detail, and shall indicate the amount (estimated if necessary) of the Indemnified Loss that has been, or may be sustained by, the Indemnified Party. To the extent that the Indemnifying Party will have been actually and materially prejudiced as a result of the failure to provide such notice, the Indemnified Party shall bear all responsibility for any additional costs or expenses incurred by the Indemnifying Party as a result of such failure to provide notice. In any action or proceeding brought against an Indemnified Party by reason of any claim indemnifiable hereunder, the Indemnifying Party may, at its sole option, elect to assume the defense at the Indemnifying Party's expense, and shall have the right to control the defense thereof and to determine the settlement or compromise of any such action or proceeding. Notwithstanding the foregoing, an Indemnified Party shall in all cases be entitled to control its own defense in any action if it (i) may result in injunctions or other equitable remedies with respect to the Indemnified Party which would affect its business or operations in any materially adverse manner, (ii) may result in material liabilities which may not be fully indemnified hereunder or (iii) may have a material adverse effect on the business or the financial condition of the Indemnified Party (including a material adverse effect on the tax liabilities, earnings, ongoing business relationships or regulation of the Indemnified Party) even if the Indemnifying Party pays all indemnification amounts in full. Subject to the immediately preceding sentence, neither Party may settle or compromise any claim for which indemnification

is sought under this Agreement without the prior written consent of the other Party; provided, however, said consent shall not be unreasonably withheld or delayed.

10.3 Insurance. At all times during the Term of this Agreement, Seller shall maintain at its own expense insurance policies for the Facility and its tangible assets in such amounts and against such risks and losses as set forth in Exhibit I hereto. Such insurance policies shall be maintained only with insurers rated at least A- VII by AM Best or comparable ratings agency. Within ten (10) Business Days after receipt of a request for the same from Buyer, Seller shall deliver to Buyer a certificate of insurance for any or all policies maintained in accordance with this Section 10.3, which certificate shall include at least the following information: (i) the name of the insurance company, policy number and expiration date; and (ii) the coverage and limits on coverage, including the amount of deductibles or self-insured retentions. If Seller fails to comply with the provisions of this Section 10.3, Seller shall save harmless and indemnify Buyer from any direct or indirect loss and liability, including attorneys' fees and costs of litigation, resulting from the injury or death of any person or damage to any property if Buyer would have been protected had Seller complied with the requirements of this Section 10.3.

10.4 Damage to Property. Except where caused by the other Party's negligence or willful misconduct, each Party shall be responsible for all physical damage to or destruction of the property, equipment or facilities owned by it, and each Party hereby releases the other Party from any reimbursement for such damage or destruction. The provisions of this Section 10.4 shall survive any termination, cancellation, expiration or suspension of this Agreement.

10.5 Limitation on Damages. To the fullest extent permitted by law and notwithstanding other provisions of this Agreement, in no event shall a Party be liable to the other Party, whether in contract, warranty, tort, negligence, strict liability or otherwise for special, indirect, incidental, multiple, consequential (including lost profits or revenues, business interruption damages and lost business opportunities), exemplary or punitive damages related to, arising out of, or resulting from performance or nonperformance of this Agreement. For purposes of clarification, payment made by either Party to satisfy penalties or payments owing under Sections 4.5, 5.2 or 11.2, shall not be considered special, indirect, incidental, multiple, punitive, consequential or incidental damages under this Section. In addition, this limitation on damages shall not apply with respect to claims brought by third parties for which a Party is entitled to indemnification under this Agreement. The provisions of this Section 10.5 shall survive any termination, cancellation, expiration or suspension of this Agreement.

ARTICLE ELEVEN: DEFAULT; REMEDIES

11.1 Events of Default. Except to the extent excused due to an event of Force Majeure in accordance with Article Eight, an event of default ("Event of Default") shall be deemed to have occurred with respect to a Party (the "Defaulting Party") upon the occurrence of one or more of the following events:

- (a) the failure to make, when due, any payment required pursuant to this Agreement if such failure is not remedied within five (5) Business Days after written notice is received by the Party failing to make such payment;
- (b) any representation or warranty made by such Party in Section 7.1 or 7.2, as applicable, is false or misleading in any material respect (provided that (i) if the misrepresentation or breach of warranty is capable of a cure, an Event of Default will be deemed to occur only if the misrepresentation or

breach of warranty is not remedied within thirty days after notice and (ii) if the misrepresentation or breach of warranty is not capable of a cure, but the non-breaching Party's damages resulting from the inaccuracy can reasonably be ascertained, an Event of Default will be deemed to occur only if the payment of such damages is not made within ten (10) Business Days after a notice of such damages is provided by the Non-Defaulting Party to the Defaulting Party);

- (c) the failure to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate Event of Default), if such failure is not remedied within thirty (30) days after notice, provided that such thirty (30) day period shall be extended for up to an additional ninety (90) days if such Party reasonably commences the cure of such failure and diligently pursues the same;
- (d) such Party (i) admits in writing its inability to pay its debts generally as they become due, (ii) files a petition or answer seeking reorganization or arrangement under the federal bankruptcy laws or any other applicable law or statute of the United States of America or any State, district or territory thereof; (iii) makes an assignment for the benefit of creditors, (iv) consents to the appointment of a receiver of the whole or any substantial part of its assets or (v) has a petition in bankruptcy filed against it, and such petition is not dismissed within ninety (90) days after the filing thereof;
- (e) in the case of Seller, its failure to declare the Commercial Operation Date on or before the date that is one hundred eighty (180) days following the Scheduled Commercial Operation Date (as extended hereunder); and
- (f) in the case of Seller, the Facility fails to deliver fifty percent (50%) of the Expected Delivered Power in any rolling twenty four (24) month period for reasons other than Interconnecting Utility outages, Buyer's inability to accept Delivered Power, events of Force Majeure, Curtailment or other reasons outside the control of Seller.

11.2 Declaration of Early Termination Date. If an Event of Default with respect to a Defaulting Party shall have occurred and be continuing, the Non-Defaulting Party shall have the right (a) to send notice, designating a day, no earlier than ten (10) days after the day such notice is deemed to be received and no later than twenty (20) days after such notice is deemed to be received, as an early termination date of this Agreement ("**Early Termination Date**"), (b) to terminate this Agreement and end the Term effective as of the Early Termination Date and collect the Termination Payment, which shall be calculated in accordance with Section 11.3 below or as otherwise expressly provided in this Agreement; (c) withhold any payments due to the Defaulting Party under this Agreement; (d) suspend performance; and (e) exercise any other right or remedy available at law or in equity to the extent otherwise permitted under this Agreement.

11.3 Calculation of Termination Payment. The Non-Defaulting Party shall calculate, in a commercially reasonable manner, a Termination Payment as of the Early Termination Date. Third parties supplying information for purposes of the calculation of Gains or Losses may include dealers in the relevant markets, end-users of the relevant product, information vendors

and other sources of market information. If the Non-Defaulting Party uses the market price for a comparable transaction to determine the Gains or Losses, such price should be determined by using the average of market quotations provided by three (3) or more bona fide unaffiliated market participants. If the number of available quotes is three, then the average of the three quotes shall be deemed to be the market price. Where a quote is in the form of bid and ask prices, the price that is to be used in the averaging is the midpoint between the bid and ask price. The quotes obtained shall be: (a) for a like amount, (b) of the same Output, (c) at the same Delivery Point, and (d) for the remainder of the Term, or in any other commercially reasonable manner. The Gains and Losses shall be calculated as the difference, plus or minus, between the economic value of the remainder of the Term of the Agreement and the equivalent quantities and relevant market prices for the same term that either are quoted by a bona fide market participant, as provided above, or which are reasonably expected to be available in the market for a replacement contract for the Agreement. The Termination Payment shall be the sole and exclusive remedy available to the Non-Defaulting Party in connection with its termination of this Agreement and shall not include consequential, incidental, punitive, exemplary, indirect or business interruption damages. The Non-Defaulting Party shall not have to enter into replacement transactions to establish a Termination Payment.

11.4 Notice of Termination Payment. As soon as practicable after delivery of a notice of termination, notice shall be given by the Non-Defaulting Party to the Defaulting Party of the amount of the Termination Payment due from the Defaulting Party to the Non-Defaulting Party, if any. The notice shall include a written statement explaining in reasonable detail the calculation of such amount and the sources for such calculation. The Termination Payment shall be made to the Non-Defaulting Party, as applicable, within fifteen (15) Business Days after such notice is effective.

11.5 Disputes with Respect to Termination Payment. If the Defaulting Party disputes the Non-Defaulting Party's calculation of the Termination Payment, in whole or in part, the Defaulting Party shall, within ten (10) Business Days of receipt of the Non-Defaulting Party's calculation of the Termination Payment, provide to the Non-Defaulting Party a detailed written explanation of the basis for such dispute. Following delivery of such a notice, disputes regarding the Termination Payment shall be resolved in accordance with Article Twelve.

11.6 Rights and Remedies Are Cumulative. Except as otherwise provided herein, the rights and remedies of a Party pursuant to this Article Eleven shall be cumulative and in addition to the rights of the Parties otherwise provided in this Agreement.

11.7 Rights and Obligations Surviving Termination. The rights and obligations that are intended to survive a termination of this Agreement are all of those rights and obligations that this Agreement expressly provides shall survive any such termination and those that arise from Buyer's or Seller's covenants, agreements, representation and warranties applicable to, or to be performed, at or during any time prior to or as a result of the termination of this Agreement, including:

- (a) the obligation of Seller to pay Performance Liquidated Damages accrued prior to the date of termination under Section 4.5;
- (b) the obligations to make a Termination Payment under Section 11.4;
- (c) the indemnity obligations provided in Section 10.1;

- (d) the obligations of confidentiality set forth in Section 13.2;
- (e) the right to pursue remedies under Article Eleven and Section 13.2;
- (f) the right to receive a Termination Payment under Section 11.4; and
- (g) the limitations of liabilities under Article Ten.

ARTICLE TWELVE: DISPUTE RESOLUTION

12.1 Management Negotiations. The Parties shall use all reasonable efforts to settle disputes through negotiation between authorized members of each Party's senior management. Either Party may, by written notice to the other Party, request a meeting to initiate negotiations to be held within five (5) Business Days of the other Party's receipt of such request, at a mutually agreed time and place. If the matter is not resolved within fifteen (15) Business Days of their first meeting, either Party may, by written notice to the other Party, refer the matter to mediation pursuant to Section 12.2 or binding arbitration pursuant to Section 12.3. The first referral made by either Party shall control.

12.2 Mediation. If either Party elects to refer the dispute to mediation, the Parties will cooperate in selecting a qualified neutral mediator selected from a panel of neutrals proposed by the International Chamber of Commerce, or any other mutually acceptable organization, and in scheduling the time and place of the mediation as soon as reasonably possible, but in no event later than thirty (30) days after the request for mediation is made. Unless otherwise agreed, the mediation will be scheduled for a date not later than sixty (60) days after the selection of the mediator. The Parties agree to participate in the mediation in good faith and to share the costs of the mediation, including the mediator's fee, equally, but such shared costs shall not include each Party's own attorneys' fees and costs, which shall be borne solely by such Party.

12.3 Arbitration. If the Parties are unable to resolve their dispute through mediation, then either Party may submit the dispute for resolution by final and binding arbitration. Such arbitration shall be administered by the American Arbitration Association in accordance with its Commercial Arbitration Rules in effect at the time of the arbitration or such other rules that the Parties may mutually agree upon. The Parties will cooperate in selecting the arbitrator within thirty (30) days after the demand for arbitration is made and shall further cooperate in scheduling the arbitration to commence no later than ninety (90) days from the date of the demand for arbitration. If the Parties are unable to agree upon a mutually acceptable arbitrator, then each Party will propose an arbitrator, which two arbitrators will then together select a third arbitrator who shall serve as the arbitrator with respect to the dispute. Unless otherwise agreed by the Parties, the individual acting as the mediator shall be disqualified from serving as the arbitrator in the dispute. The arbitration shall be held in a location that is mutually agreeable to the Parties or, if they are unable to agree, [Las Vegas,]Nevada. Before discovery commences, the Parties shall exchange an initial disclosure of all documents and percipient witnesses which they intend to rely upon or use at any arbitration proceeding (except for documents and witnesses to be used solely for impeachment). Discovery shall be limited to twenty five (25) document requests (with no subparts), three (3) lay witness depositions, and three (3) expert witness depositions (unless the arbitrator holds otherwise following a showing by the Party seeking the additional documents or depositions that the documents or depositions are critical for a fair resolution of the dispute or that a Party has improperly withheld documents). Each Party is allowed a maximum of three (3) expert witnesses, excluding rebuttal experts. Subject

to any limitations on remedies set forth in this Agreement, the arbitrator shall have the authority to grant any form of equitable or legal relief a Party might recover in a court action available in a Nevada court of law; provided, however, that the arbitrator shall have no authority to award consequential, punitive or exemplary damages or any other damages other than direct damages or liquidated damages as contemplated by this Agreement. The arbitrator shall have the authority to require payment of the costs of the binding arbitration (other than each Party's separate attorneys' fees and costs, which fees and costs shall be borne solely by such Party), including the fees of the arbitrator and any expert witnesses, by the Party who did not prevail, but, unless and until such award is made, the Parties shall share equally in the costs of the arbitration. The results of the arbitration shall be binding on the Parties, and judgment on the award may be entered in any court having jurisdiction.

12.4 Qualification. Any mediator and arbitrator selected pursuant to Section 12.2 or Section 12.3, as applicable, shall have recognized expertise and not less than ten (10) years experience in the subject matter of the dispute and shall be neutral and have no prior connection with or financial or other interests in or against either Party.

12.5 Confidential Nature of Proceedings. All communication, offers and statements, whether oral or written, and documents and other writings exchanged between the Parties in connection with the management negotiations pursuant to Section 12.1 and/or the mediation pursuant to Section 12.2 shall be confidential and shall not be discoverable, admissible in evidence or used or referred to in any subsequent binding adjudicatory process between the Parties; provided, however, that evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non-discoverable as a result of its use in such negotiations.

ARTICLE THIRTEEN: MISCELLANEOUS

13.1 Public Announcements. The Parties share a common desire to generate favorable publicity regarding the Facility and their association with it. The Parties agree that they may, from time to time, issue press releases regarding the Facility and that they shall cooperate with each other in connection with the issuance of such releases including, without limitation, completed review of press releases proposed to be issued by the other Party by no later than five (5) Business Days after submission by such other Party. Each Party agrees that it shall not issue any press release regarding the Facility without the prior consent of the other, and each Party agrees not to unduly withhold or delay any such consent.

13.2 Confidentiality. The Parties will safeguard Confidential Information against disclosure by employing the same means to protect such Confidential Information as that Party uses to protect its own non-public, confidential or proprietary information, and otherwise in accordance with the provisions of this Section 13.2. Subject to the following paragraph, no receiving Party shall itself, or permit its employees, consultants and/or agents to disclose to any person, corporation or other entity the Confidential Information without the prior written consent of the Party providing the Confidential Information, except a receiving Party may distribute the Confidential Information to its board members, officers, employees, agents, consultants, investors and lenders (including potential investors and lenders) and others who have a need for such Confidential Information. In the event that any Party receiving the Confidential Information becomes legally compelled (by deposition, interrogatory, request for documents, subpoena, civil investigative demand or similar process) to disclose any of the Confidential Information, the legally compelled Party shall give the other Party providing the Confidential Information prompt prior written notice of such requirement so that the providing Party may seek a protective order or other appropriate remedy and/or waive compliance with the terms of this

Agreement. In the event that such protective order or other remedy is not obtained, the providing Party waives compliance with the terms hereof. Subject to the following paragraph, each Party acknowledges that the unauthorized disclosure of any Confidential Information may cause irreparable harm and significant injury that may be difficult to ascertain. Each Party therefore agrees that specific performance or injunctive relief, in addition to other legal and equitable relief, are appropriate remedies for any actual or threatened violation or breach of this Section 13.2, although neither Party shall be entitled to any special, consequential, indirect or punitive damages as a result of a breach of this Section 13.2, whether a claim is based in contract, tort or otherwise. The Parties agree that the respondent in any action for an injunction, specific performance decree or similar relief shall not allege or assert that the initiating Party has an adequate remedy at law in respect to the relief sought in the proceeding, nor shall the respondent seek the posting of a bond by the Party initiating the action. Under no circumstances will either Party's directors, management, employees, agents or consultants be individually liable for any damages resulting from the disclosure of Confidential Information in violation of the terms of this Agreement.

The Parties recognize Buyer's duties under the Nevada Public Records Act and do not, by this Agreement, intend to alter Buyer's duties thereunder or to require Buyer to do, or refrain from doing, anything contrary to the Nevada Public Records Act. Buyer's Office of General Counsel shall be permitted to make an independent determination as to whether any document or record marked "confidential" is confidential or is a public record, pursuant to the Nevada Public Records Act. If Buyer's Office of General Counsel determines that any document or record supplied by Seller and marked "confidential" is determined to be a public record, Buyer may disclose that document or record to the extent required by the Nevada Public Records Act with prior written notice to Seller. Upon receipt of any request for Confidential Information, this Agreement, or any part thereof, Buyer will promptly forward the request to Seller and work with Seller in good faith to minimize the extent of the disclosure to the extent requested by Seller and permitted by the Nevada Public Records Act.

13.3 Further Assurances. The Parties hereto agree to execute and deliver promptly, at the expense of the Party requesting such action, any and all other and further instruments, documents and information which a Party may request and which are reasonably necessary or appropriate to give full force and effect to the terms and intent of this Agreement.

13.4 Venue. The Parties agree that venue for any dispute arising from the terms of this Agreement shall be Clark County, Nevada.

13.5 Governing Law. THIS AGREEMENT AND THE RIGHTS AND DUTIES OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED, ENFORCED AND PERFORMED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEVADA, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW. EACH PARTY WAIVES ITS RESPECTIVE RIGHT TO ANY JURY TRIAL WITH RESPECT TO ANY LITIGATION ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT.

13.6 Notices. All notices, requests, statements or payments shall be made as specified on Exhibit J. Notices (other than scheduling requests) shall, unless otherwise specified herein, be in writing and may be delivered by hand delivery, United States mail, overnight courier service or facsimile. Notice by facsimile or hand delivery shall be effective at the close of business on the day actually received, if received during business hours on a Business Day, and otherwise shall be effective at the close of business on the next Business Day. Notice by overnight United States mail or courier shall be effective on the next Business

Day after it was sent. A Party may change its addresses by providing notice of same in accordance herewith.

13.7 Forward Contract. The Parties acknowledge and agree that this Agreement constitutes a "forward contract" within the meaning of the United States Bankruptcy Code.

13.8 Integration. This Agreement contains the entire agreement and understanding between the Parties with respect to all of the subject matter contained herein, thereby merging and superseding all prior agreements and representations by the Parties with respect to such subject matter.

13.9 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

13.10 Interpretation. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of authorship of any of the provisions of this Agreement. Any reference to any federal, state, local, or foreign statute or law shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise.

13.11 Headings and Titles. The headings or section titles contained in this Agreement are inserted solely for convenience and do not constitute a part of this Agreement between the Parties, nor should they be used to aid in any manner in the construction of this Agreement.

13.12 Severability. If any term, provision or condition of this Agreement is held to be invalid, void or unenforceable by a Governmental Authority and such holding is subject to no further appeal or judicial review, then such invalid, void, or unenforceable term, provision or condition shall be deemed severed from this Agreement and all remaining terms, provisions and conditions of this Agreement shall continue in full force and effect. The Parties shall endeavor in good faith to replace such invalid, void or unenforceable provisions with valid and enforceable provisions which achieve the purpose intended by the Parties to the greatest extent permitted by law.

13.13 Waivers; Remedies Cumulative. No failure or delay on the part of a Party in exercising any of its rights under this Agreement or in insisting upon strict performance of provisions of this Agreement, no partial exercise by either Party of any of its rights under this Agreement, and no course of dealing between the Parties shall constitute a waiver of the rights of either Party under this Agreement. Any waiver shall be effective only by a written instrument signed by the Party granting such waiver, and such shall not operate as a waiver of, or estoppel with respect to, any subsequent failure to comply therewith. The remedies provided in this Agreement are cumulative and not exclusive of any remedies provided by law.

13.14 Amendments. No amendment to this Agreement shall be effective unless it is mutually agreed upon by the Parties, in writing and duly executed by an authorized representative of each Party.

13.15 No Dedication to Public. Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to, any Person not a Party to this Agreement. No undertaking by one Party to the other under any provision of this

Agreement shall constitute the dedication of that Party's system or any portion thereof to the other Party or the public, nor affect the status of Buyer as a joint action agency or Seller as an independent Person.

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IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed as of the Execution Date.

Seller:

Buyer:

River Mountains Solar LLC

Southern Nevada Water Authority



Name: Bob Powell

Mary Beth Scow

Title: President

Chairwoman

Approved as to form, 7/7/14 

Attest:

John J. Entsminger, General Manager and Secretary

Approved as to form:

Brian Chally, Esq.

Exhibit A
Definitions and Rules of Interpretation

A. Definitions.

"Affiliate" means, with respect to any Person, any other Person that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such Person. For this purpose, "control" means the direct or indirect ownership of fifty percent (50%) or more of the outstanding capital stock or other equity interests having ordinary voting power.

"Agreement" means this Solar Project Power Purchase Agreement.

"Allowable Curtailment" has the meaning set forth in Section 4.9.

"Business Day" means any day except a Saturday, Sunday, or a Federal Reserve Bank holiday.

"Buydown Payment" has the meaning set forth in Section 5.5.

"Buyer" has the meaning set forth in the Preamble.

"Casualty Event" means any physical damage to or destruction of all or any portion of the Facility by any cause which qualifies as an event or circumstance described in subparts (i) through (iii) of the definition of Force Majeure set forth in Section 8.2.

"Claims" means all third party claims or actions, threatened or filed and, whether groundless, false, fraudulent or otherwise, that directly or indirectly relate to the subject matter of an indemnity, and the resulting losses, damages, expenses, attorneys' fees and court costs, whether incurred by settlement or otherwise, and whether such claims or actions are threatened or filed prior to or after the termination of this Agreement.

"Commercial Operation" means that the Facility or any part thereof, as applicable, has been constructed in accordance with Good Industry Practice and is capable of delivering Delivered Power to and at the Delivery Point.

"Commercial Operation Date" means the date declared by Seller, on which date (i) (A) Seller has achieved Commercial Operation with respect to the Facility Capacity equal to or greater than the Expected Facility Capacity or (B) if the Facility Capacity that has achieved Commercial Operation is less than the Expected Facility Capacity, Seller has paid the Buy Down Payment to Buyer with respect thereto and (ii) all of the requirements set forth in Section 5.5 (entitled "Commercial Operation Date") and Exhibit D (entitled "Performance Tests") have been satisfied. The Commercial Operation Date may be declared by Seller by notice delivered to Buyer a minimum of seventy-two (72) hours in advance of the Commercial Operation Date.

"Compliance Cap" means \$10,000.

"Condition Deadline" means July 31, 2015.

"Confidential Information" means information provided by one Party to the other in connection with the negotiation or performance of this Agreement that is clearly labeled or designated by the disclosing party as "confidential" or, if disclosed orally, clearly identified as confidential with that status confirmed promptly thereafter in writing. Confidential Information shall be deemed not to include (i) information which is or becomes generally available to the public other than as a result of a disclosure by the receiving party, (ii) information which was

available to the receiving party on a non-confidential basis prior to its disclosure by the disclosing party or (iii) information which becomes available to the receiving party on a non-confidential basis from a Person other than the disclosing party or its representative who is not otherwise bound by a confidentiality agreement with disclosing party or its agent or is otherwise not under any obligation to disclosing party or its agent not to disclose the information to the receiving party.

"Contract Price" means the price in \$U.S. as set forth in Exhibit E to be paid by Buyer to Seller for the purchase of the Output.

"Contract Year" means a period of twelve (12) consecutive months. The first Contract Year shall commence on the Commercial Operation Date and each subsequent Contract Year shall commence on the anniversary of the Commercial Operation Date.

"Costs" means, with respect to the Non-Defaulting Party, (a) brokerage fees, commissions and other similar third party transaction costs and expenses reasonably incurred by such Party, either in terminating any arrangement entered into pursuant to this Agreement or entering into new arrangements which replace this Agreement (including, in the case of Seller as the Non-Defaulting Party, fees associated with the breakage or prepayment of debt financing and any tax recapture costs) and (b) all reasonable attorneys' fees and expenses incurred by the Non-Defaulting Party in connection with the termination of this Agreement.

"Daily Delay Damages" means a daily amount equal to \$1,000 per day for each day that the Facility has not achieved Commercial Operation with respect to at least the Expected Facility Capacity.

"Default" means an event which, with notice or the passage of time, or both, would constitute an Event of Default.

"Defaulting Party" has the meaning set forth in Section 11.1.

"Delivered Power" means the total quantity of electrical power (alternating current) generated by the Facility as measured by its Meter at the Delivery Point.

"Delivery Point" means the point of interconnection between the Facility and the Interconnection Facilities, as illustrated in the single-line diagram set forth in Exhibit L.

"Early Termination Date" has the meaning set forth in Section 11.2.

"Effective Date" means the date on which Buyer's execution of this Agreement has been obtained and all of the conditions set forth in Section 2.3 have been satisfied or waived in writing by Seller.

"Environmental Attributes" means all environmental and other attributes as may exist from time to time that differentiate the Facility or its Delivered Power from energy generated by fossil fuel or nuclear powered generating units, and any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the generation from such Facility, and its displacement of conventional energy generation, including (i) any avoided emissions of pollutants to the air, soil or water such as sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO) and other pollutants designated by the United States Environmental Protection Agency or other governmental agencies, (ii) any avoided emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law, to contribute to the actual or potential threat of altering the earth's climate by trapping heat in the atmosphere, and (iii) credits, benefits or allowances resulting from the compliance of such Facility or its Delivered Power with the laws, rules and standards of the United Nations

Framework Convention on Climate Change (the "UNFCCC") or the Kyoto Protocol of the UNFCCC or crediting "early action" with a view thereto. Environmental Attributes include RECs but do not include Environmental Incentives or Tax Benefits.

"Environmental Impact Statement" means that certain Final Environmental Impact Statement dated September 30, 1996 and Record of Decision dated November 7, 1996 issued by the Bureau of Reclamation for the Southern Nevada Water Authority Treatment and Transmission Facility, as well as that certain Bureau of Reclamation contract and grant of easement for the River Mountains Water Treatment Facility site issued January 17, 1997.

"Environmental Incentives" means all grants, credits, rebates, incentive payments, benefits, allowances and entitlements of any kind awarded or payable in connection with the installation or ownership of a solar renewable energy system, including but not limited to any existing or future rebate programs in the State of Nevada. "Environmental Incentives" shall exclude Environmental Attributes but shall include Tax Benefits.

"Event of Default" has the meaning set forth in Section 11.1.

"Execution Date" has the meaning set forth in the Preamble.

"Expected Delivered Power" has the meaning set forth in Section 4.5.

"Expected Facility Capacity" means 14 MW alternating current.

"Facility" means the electric power generation equipment, controls, meters, switches, connections, conduit, wires and other equipment connected to the Delivery Point installed on the Site by Seller pursuant to the specifications attached hereto as Exhibit B for the purposes of providing electric power to Buyer under this Agreement.

"Facility Capacity" means the total nameplate capacity of the Facility, in MW alternating current, that has achieved Commercial Operation as of any particular date.

"Facility Milestones" means each of the milestones listed on Exhibit C.

"Fair Market Value" had the meaning set forth in Section 3.1.

"Force Majeure" has the meaning set forth in Section 8.2.

"Forced Outage" means any shutdown or unavailability of greater than 50% of the Facility other than pursuant to a Planned Outage, including for reasons of unanticipated equipment breakdown, human error or emergency conditions. A Forced Outage shall not include any Outage that may be deferred consistent with Good Industry Practice and without increasing the risk of damage to equipment, decreasing safety or incurring additional costs.

"Gains" means with respect to any Party, an amount equal to the present value of the economic benefit to it, if any (exclusive of Costs), resulting from the termination of the Agreement for the remainder of the Term, determined in a commercially reasonable manner. Factors used in determining economic benefit may include reference to information supplied by one or more third parties, including quotations (either firm or indicative) of relevant rates, prices, yields, yield curves, volatilities, spreads or other relevant market data in the relevant markets, market price referent, market prices for a comparable transaction, forward price curves based on economic analysis of the relevant markets, settlement prices for a comparable transaction at liquid trading hubs (e.g., NYMEX), all of which should be calculated for the remainder of the Term to determine the value of the Output. A Party shall use commercially reasonable efforts to obtain third party information in order to determine Gains and shall use information available to it internally for such purpose only if it is unable, after using commercially reasonable efforts, to obtain relevant third party information.

"Good Industry Practice" means any of the practices, methods and acts engaged in or approved by a significant portion of the electric power industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Industry Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to acceptable practices, methods or acts generally accepted in the region and industry.

"Governmental Authority" means, as to any Person, any federal, state, local, or other governmental, regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over such Person or its property or operations.

"Indemnified Loss" means any and all claims, demands, suits, obligations, payments, liabilities, costs, fines, penalties, sanctions, taxes, judgments, damages, losses or expenses imposed by a third party upon an Indemnified Party or incurred in connection with a claim by a third party against an Indemnified Party.

"Indemnified Party" has the meaning set forth in Section 10.1.

"Indemnifying Party" has the meaning set forth in Section 10.1.

"Initial Operation Date" means the first date on which the Facility is energized and operates in parallel with the Interconnecting Utility System and delivers Delivered Power to and at the Delivery Point.

"Initial Term" has the meaning set forth in Section 2.4.

"Interconnection and Operating Procedures" means the standards and procedures for the electrical interconnection of the Facility to the Interconnecting Utility System by and between Seller and the Interconnecting Utility, as set forth in Exhibit M.

"Interconnection Facilities" means the equipment and facilities, including any modifications, additions and upgrades made to such facilities, which are necessary to connect the Facility to the Interconnecting Utility System as described in Exhibit B.

"Interconnecting Utility" means Southern Nevada Water Authority, or any successor operator or owner of the Interconnecting Utility System.

"Interconnecting Utility System" means the facilities used for the collection, distribution and/or transmission of electric energy at and after the Delivery Point owned or operated by the Interconnecting Utility, except the Interconnection Facilities.

"Interest Rate" means, for any date, the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in *The Wall Street Journal* under "Money Rates" on such day (or if not published on such day on the most recent preceding day on which published), plus two percent (2%) and (b) the maximum rate permitted by applicable law.

"Losses" means, with respect to any Party, an amount equal to the present value of the economic loss to it, if any (exclusive of Costs), resulting from the termination of this Agreement for the remainder of the Term, determined in a commercially reasonable manner. Factors used in determining the loss of economic benefit may include reference to information supplied by one or more third parties, including quotations (either firm or indicative) of relevant rates, prices, yields, yield curves, volatilities, spreads or other relevant market data in the relevant markets, market price referent, market prices for a comparable transaction, forward price curves based

on economic analysis of the relevant markets, settlement prices for a comparable transaction at liquid trading hubs (e.g. NYMEX), all of which should be calculated for the remainder of the Term to determine the value of the Output. A Party shall use commercially reasonable efforts to obtain third party information in order to determine Losses and shall use information available to it internally for such purpose only if it is unable, after using commercially reasonable efforts, to obtain relevant third party information. If the Non-Defaulting Party is the Seller, then in addition to lost payments for Output pursuant to this Agreement, "Losses" shall also include any associated loss of Environmental Incentives or Tax Benefits.

"Material Casualty Event" means the occurrence of a Casualty Event (i) if prior to the Commercial Operation Date, that is reasonably likely to extend achievement of the Commercial Operation Date by more than one (1) year or (ii) if after the Commercial Operation Date, where the Casualty Event has caused Facility Capacity to be reduced by more than 50% and the period for the full restoration or repair of that portion of the Facility damaged by the Casualty Event is reasonably likely to exceed one (1) year.

"Meter" means any of the physical or electronic metering devices, data processing equipment and apparatus associated with the meters owned by Buyer, or its designee, required for (a) accurate determination of the quantities of Output from the Facility and for recording other related parameters required for the reporting of data to Seller, and (b) the computation of the payment due to Seller from Buyer. Meters do not include any check meters Seller may elect to install as contemplated by Section 6.1.

"MW" means megawatts of electrical power.

"MWh" means megawatt hours of electrical energy.

"Non-Defaulting Party" means the Party other than the Defaulting Party.

"Operating Procedures" means procedures described in a separate agreement between Buyer and Seller. This agreement will include certain electrical tests and switching operations that are required for opening and closing the Delivery Point switch. The document will also include contact information for the responsible operating personnel of the Parties.

"Operations Report" has the meaning set forth in Section 6.7.

"Outage" means the period during which the Facility or a portion thereof is out of service.

"Output" means, collectively, the Delivered Power produced by the Facility and all of the associated Environmental Attributes.

"Party" means Buyer or Seller.

"Parties" means Buyer and Seller.

"Performance Liquidated Damages" means \$60/MWh in respect of each MWh of Shortfall.

"Performance Tests" shall mean the performance tests required under this Agreement as set forth in Exhibit D in connection with the establishment of the Facility Capacity at the Commercial Operation Date.

"Permits" means all permits and approvals, regulatory or otherwise, required from Governmental Authorities for the construction and operation of the Facility.

"Person" means any individual, corporation, partnership, joint venture, association, joint stock company, trust, trustee, estate, limited liability company, unincorporated organization, real estate investment trust, Governmental Authority (or any agency or political subdivision thereof) or any other form of entity.

"Planned Outage" means an Outage that is not a Forced Outage, and refers to the shutdown or unavailability of greater than 50% of the Facility for inspection or maintenance in accordance with an advance schedule.

"RECs" means a renewable energy credit defined under any state or federal law or regulation associated with the production of electricity from an eligible renewable energy resource and appropriately certified as such.

"Renewable Energy System" means a "renewable energy system" as defined in NRS 704.7815.

"Renewal Term" has the meaning set forth in Section 2.4.

"Reporting Rights" means the right of Seller to report to any federal, state, or local agency, authority or other party, including under Section 1605(b) of the Energy Policy Act of 1992 and provisions of the Energy Policy Act of 2005, or under any present or future domestic, international or foreign emissions trading program, that Seller owns the Environmental Incentives.

"Schedule" or "Scheduling" means the actions of Seller, Buyer and/or their designated representatives, including each Party's transmission providers, if applicable, of notifying, requesting and confirming to each other the quantity and type of Output to be delivered on any given day or days during the Term at the Delivery Point.

"Scheduled Commercial Operation Date" has the meaning set forth in Section 5.2.

"Scheduled Interconnection Facilities Completion Date" has the meaning set forth in Section 5.6.

"Seller" has the meaning set forth in the Preamble.

"Seller's Lenders" means any Persons, and their permitted successors and assignees, providing funding in connection with any development (including credit support, letters of credit and related mechanisms), bridge, construction, short or long term debt or tax equity financing or refinancing for the Facility.

"Shortfall" has the meaning set forth in Section 4.5.

"Site" means the real property on which the Facility is located, as described in Exhibit K, Site and Site Access.

"Site Control" means that Seller either (a) owns the Site or (b) has obtained the necessary rights to construct and operate the Facility on the Site throughout the Term.

"Tax Benefits" means incentive tax credits attributable to the Facility or its Delivered Power (or cash grants in lieu thereof), accelerated depreciation attributable to the Facility, and any other tax credit or tax write-offs allowed under applicable law attributable to the Facility, irrespective of whether such Tax Benefits accrue for the benefit of Seller, any of its Affiliates or any investor of Seller or any of its Affiliates.

"Term" means the Initial Term and any Renewal Term(s).

"Termination Payment" means, with respect to the Non-Defaulting Party, the Losses or Gains, and Costs, expressed in U.S. Dollars, which such Party incurs as a result of the liquidation of this Agreement pursuant to Section 11.2 and all amounts then owed to the Non-Defaulting Party by the Defaulting Party. If the Non-Defaulting Party's aggregate Gains exceed its aggregate Losses and Costs, if any, resulting from the termination of this Agreement, the Termination Payment shall be zero.

"Termination Value" means the amount for the applicable Contract Year as set forth in Exhibit F.

B. Rules of Interpretation. The following rules of interpretation shall apply to this Agreement:

1. Unless otherwise specified herein, all references herein to any agreement or other document of any description shall be construed to give effect to amendments, supplements, modifications or any superseding agreement or document as then exist at the applicable time to which such construction applies.
2. Capitalized terms used in this Agreement, including the exhibits hereto, shall have the meaning set forth in Part A of this Exhibit A, unless otherwise specified.
3. Unless otherwise specified herein, references in the singular shall include references in the plural and vice versa, pronouns having masculine or feminine gender will be deemed to include the other. Other grammatical forms of defined words or phrases have corresponding meanings.
4. References to a particular article, section, subsection, paragraph, subparagraph, appendix or attachment shall, unless specified otherwise, be a reference to that article, section, subsection, paragraph, subparagraph, appendix or attachment in or to this Agreement.
5. Any reference in this Agreement to any natural person, Governmental Authority, corporation, partnership or other legal entity includes its permitted successors and assigns or to any natural person, Governmental Authority, corporation, partnership or other legal entity succeeding to its functions.
6. All references to dollars are to U.S. dollars.
7. A reference to a law includes any amendment or modification to such law, and all regulations, rulings and other laws promulgated under such law.
8. The words "hereof," "herein" and "hereunder" and words of similar import when used in any document shall refer to such document as a whole and not to any particular provision of such document.
9. The words "include," "includes" and "including" means "including but not limited to".
10. References to "days" means calendar days, unless the term "Business Days" shall be used.

Exhibit B
Facility Specifications

Facility Specifications

The Facility is a photovoltaic ("PV") generation facility and shall consist of SunEdison large format modules, or equivalent. These shall be mounted in rows on single axis horizontal trackers. The tracking system under consideration is the SunEdison AP90, NexTracker, or equivalent.

The PV modules will be arranged in series to form strings that capture incident solar energy. The energy harnessed by the solar panels will be collected as low voltage direct current (DC) electricity to centrally located inverter stations within each block. Each inverter station will convert the DC input to three-phase alternating current ("AC") power. Each inverter will have a nameplate capacity of 500kW or larger. These stations will also feature medium voltage step-up transformers collocated with the inverters. From these stations, the medium voltage AC electricity will be routed to the facility switchgear and subsequently delivered to the Delivery Point. Seller shall provide notice to Buyer of any changes to the specifications for the Facility.

Exhibit C
Facility Milestones

Milestone	Completion Date
The Facility shall have achieved Commercial Operation with respect to at least the Expected Facility Capacity. ("Scheduled Commercial Operation Date")	December 15, 2015

In addition to the Milestones identified above, Seller will use commercially reasonable efforts to reach the following Milestones:

Milestone	Completion Date
Site Control	7/31/2015
Permitting	8/1/2015
Construction Finance	8/1/2015
Commencement of Construction	9/1/2015

Overview

Parties to the Performance Test: Seller and Buyer

Performance Testing: Seller shall oversee a multiple-day Performance Test conducted by the general contractor of the Facility, which may be witnessed by Seller and/or Buyer, at their sole discretion, to demonstrate the reliability and performance of the Facility. The general requirement for acceptance of the Performance Test is that the Facility must have an Actual Performance Ratio (as defined below), of at least ninety percent (90%) of the Base Case Performance Ratio of the System ("Guaranteed Performance Ratio"). The "Base Case Performance Ratio" is defined as the performance ratio generated for the Monthly Base Case Performance Ratios from the base case PVSYST model, corresponding to the month in which Commercial Operation is achieved. See Table 1 for Monthly Base Case Performance Ratios.

If the System achieves the Guaranteed Performance Ratio, the general contractor of the Facility shall provide written certification of passage to Seller with the written results of the Actual Performance Ratio as compared to the Base Case Performance Ratio.

3 Day Performance Ratio Test

Data will be collected at 1-minute intervals and averaged at 15-minute intervals for use as data points in the test evaluation. The test will be based on 3 days of plant operation (either consecutive or independent days) during which the plant receives Sufficient Insolation. "Sufficient Insolation" means plane of array ("POA") insolation at that is equal to or greater than 75% of the average daily POA insolation in the relevant month multiplied by the number of days in the test period and a minimum of one day must have insolation greater than 100% of the average daily POA insolation in the relevant month. If there are no 3-days in a 10-day window with Sufficient Insolation, the test will be based on the 3 days within the 10-day window with the highest average insolation.

Data collected will be used to calculate the Actual Performance Ratio. This will then be compared with the Base Case Performance Ratio in Table 1.

The "Actual Performance Ratio" with respect to a Project shall be calculated using the following formula:

$$PR_{adj} = \frac{\sum_{i=1}^{TC} E_i}{\frac{kWp}{G_{STC}} * \sum_{i=1}^{TC} [I_{POA,i} * (1 + \gamma * (t_i - t_m))]}$$

where,

- PR_{adj} = Actual Performance Ratio.
- i = an index used to represent a 15 minute interval of time.
- TC = is the final 15 minute period of the Testing Period.
- E_i = alternating current electrical generation (kWh) measured at the Utility Meter during the time interval i.
- kWp = Summation of nameplate installed module capacity at the Facility in kWp.
- G_{STC} = 1 (kW/m²), is the irradiance at Standard Test Conditions.
- I_{POA, i} = Plane of array (POA) insolation measured for the time interval i (kWh/m²). This must be measured by a broad band pyranometer and the sensor must be cleaned at the beginning of the test and again if it becomes soiled.
- γ = -0.00XX* (1/°C), is the temperature coefficient of power of the modules installed at the Facility.
- t_i = is the Average Measured Cell Temperature (°C) measured by all functional thermocouples adhered to the back of functional modules within the Facility, averaged over the time interval i
- t_m = XX.X* (°C), is the modeled irradiance weighted cell temperature during the month of the test (from Table 1).

* Site and equipment-specific values will be updated closer to COD based on IE yield report. This includes γ and t_m

Table 1 – Base Case Monthly Performance Ratios [EXAMPLE]*

Month	Base Case PR**	Irradiance Weighted Module Temperature	Average Daily POA Insolation [kWh/m2]
January	85.3%	22.0	4.47
February	84.3%	27.1	5.27
March	81.0%	36.1	7.59
April	78.5%	40.6	8.97
May	75.5%	49.4	10.31
June	74.4%	53.7	11.04
July	72.6%	57.8	9.69
August	73.8%	55.8	8.99
September	75.8%	51.9	8.53
October	79.9%	39.4	6.29
November	83.3%	29.0	4.79
December	85.1%	21.1	3.94

* Table to be updated closer to COD based on IE yield report.

** Excludes availability and nighttime losses.

The irradiance weighted temperature of the module (shown in Table 1) is calculated for each month from the PVSYST hourly output file by:

$$t_{\text{weighted-target},j} = \frac{\sum_i t_i I_i}{\sum_i I_i} \quad (1)$$

where

- $t_m = t_{\text{weighted-target}}$ [°C] is the irradiance weighted temperature of the module for a given month
- t_i is the module temperature for a given time interval,
- I_i is the insolation incident on the module during the given time interval, and
- i is the index for all time intervals in a given month
- j is an index which refers to the specified month

Exhibit E
Contract Price

The Contract Price is \$64.65/MWh during the first Contract Year, with a 2% annual escalation per Contract Year thereafter. A schedule of the Contract Prices is included in the table below.

Contract Year	Contract Price, \$/MWh
1	\$64.65
2	\$65.94
3	\$67.26
4	\$68.61
5	\$69.98
6	\$71.38
7	\$72.81
8	\$74.26
9	\$75.75
10	\$77.26
11	\$78.81
12	\$80.38
13	\$81.99
14	\$83.63
15	\$85.30
16	\$87.01
17	\$88.75
18	\$90.53
19	\$92.34
20	\$94.18

The Parties further acknowledge that the above-referenced Contract Price reflects certain cost assumptions by Seller for the construction of an overhead generator tie-line from the Facility switchyard to the Point of Interconnection. In the event that Seller is required to install an underground generator tie-line from the Facility switchyard to the Point of Interconnection, the Parties agree that the Contract Price during the first Contract Year will increase by \$0.40/MWh, to \$65.05 per MWh, and the 2% annual escalation will be based off of such adjusted first year Contract Price.

Exhibit F
Purchase Option Prices

Date	Termination Value
7 th Anniversary of COD	\$34,163,853.00
10 th Anniversary of COD	\$30,171,541.00
15 th Anniversary of COD	\$21,304,272.00
20 th Anniversary of COD	\$12,912,591.00

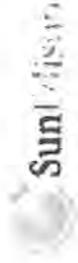
Exhibit G
Expected Annual Production

Delivered Power during the first Contract Year is expected to be 37,650 MWh ("Initial Delivered Power"). Delivered Power during the second Contract Year is expected to be the same as the first Contract Year less 0.70% thereof, and for each subsequent Contract Year shall be the amount from the prior Contract Year less 0.70% of the Initial Delivered Power (e.g., the Delivered Power for the tenth Contract Year shall be the Delivered Power for the ninth Contract Year less 0.70% of the Initial Delivered Power). The table below illustrates Expected Delivered Power by Contract Year.

Contract Year	Expected Delivered Power, MWh
1	37,650.00
2	37,386.45
3	37,122.90
4	36,859.35
5	36,595.80
6	36,332.25
7	36,068.70
8	35,805.15
9	35,541.60
10	35,278.05
11	35,014.50
12	34,750.95
13	34,487.40
14	34,223.85
15	33,960.30
16	33,696.75
17	33,433.20
18	33,169.65
19	32,906.10
20	32,642.55

Exhibit H
Form of Operations Report

[See attached]

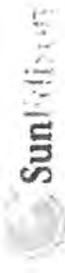


Site Performance Details

Plant		NV - Customer 2											
Capacity (kW)		24,848											
Reporting Start Date*		8/1/2012											
Data Source	Insolation (POA) (kWh/m ²)		Energy Production (kWh)				Specific Yield (kWh/kWp)		PR (%)		Performance (%)		
	Actual	Reference	Actual	Weather Adj	Reference	Actual	Weather Adj	Reference	Actual	Reference	OPR	IPR	WPR
Feb-2013	118.6	154.3	3,423,312	2,532,523	3,294,880	138	102	133	116.2%	85.9%	135.2%	103.9%	76.9%
Mar-2013	186.1	218.8	4,383,427	3,918,663	4,606,452	176	156	185	94.8%	84.7%	111.9%	95.2%	85.1%
Apr-2013	272.1	276.1	5,485,405	5,455,818	5,535,777	221	220	223	81.1%	80.7%	100.5%	98.1%	98.6%
May-2013	308.6	322.8	6,058,936	6,012,894	6,288,721	244	242	253	79.0%	78.4%	100.8%	96.3%	95.6%
Jun-2013	323.5	327.1	6,033,353	6,130,946	6,199,864	243	247	250	75.1%	76.3%	88.4%	97.3%	98.9%
Jul-2013	246.2	329.3	4,831,700	4,640,472	6,207,082	194	187	250	79.0%	75.9%	104.1%	77.8%	74.8%
Aug-2013	258.7	299.8	5,066,900	4,900,522	5,679,630	204	197	228	78.8%	76.2%	103.4%	89.2%	86.3%
Sep-2013	219.3	251.3	4,433,700	4,232,266	4,849,833	178	170	195	81.4%	77.7%	104.8%	91.4%	87.3%
Oct-2013	197.3	200.5	4,210,540	4,022,495	4,088,560	169	162	185	85.9%	82.1%	104.7%	103.0%	98.4%
Nov-2013	132.9	146.0	2,789,159	2,816,642	3,093,367	112	113	124	84.4%	85.3%	99.0%	90.2%	91.1%
Dec-2013	116.3	121.8	2,789,301	2,498,786	2,616,063	112	101	105	96.5%	86.4%	111.6%	106.6%	95.5%
Jan-2014	134.9	130.8	2,910,800	2,911,604	2,823,614	117	117	114	86.9%	86.9%	100.0%	103.1%	103.1%
Feb-2014	146.1	154.3	3,195,238	3,104,307	3,278,405	129	125	132	88.0%	85.5%	102.9%	97.5%	94.7%
Past 13 Months	2,660.6	2,932.9	55,611,772	53,176,036	58,562,290	2,236	2,140	2,357	84.1%	80.4%	104.6%	95.0%	90.7%

* = By default, Reporting Start Date is the first day of the month following commercial operation date (COD). If solar monitoring start date (SMSD) is later than COD, the SMSD will be used.

POA - Plane of Array
 Weather Adjusted Production = Reference production x WPR
 Weather Adjusted Yield = Reference Yield x WPR
 Reference Yield = Reference Production / Capacity
 Reference PR = Reference Yield / Reference Insolation
 PR (Performance Ratio) = Actual Yield / Actual Insolation. Describes performance of grid-connected PV systems irrespective of their orientation, technology and location.
 OPR (Operating Performance Ratio) = Actual Production / Weather Adjusted Production. Describes the performance of the plant (given actual weather).
 IPR (Investment Performance Ratio) = Actual Production / Reference Production. Describes the combined performance of the plant and the weather.
 WPR (Weather Performance Ratio) = Actual Insolation / Reference Insolation. Describes the weather performance.



OPERATIONS AND MAINTENANCE

Preventive Maintenance

Project Name

Work Type

Work Order No.

Completed Date

No Preventive Maintenance completed during this timeframe.

Completed Work Orders

Project Name

Work Type

Failure

Problem

Work Order No.

Outage Start

Outage End

Energy Loss (kWh)

NC - Customer 3

Breakdown

Grid Interconnection

Utility unplanned shutdown

218859

2/21/14

2/21/14

1,840

Open Work Orders

Project Name

Work Type

Failure

Work Order No.

Outage Start

NC - Customer 3

Breakdown

DC Subsystem

176054

1/11/14

NV - Customer 2

Breakdown

Tracker

225595

2/27/14

NV - Customer 1

Breakdown

Tracker

222976

2/24/14

Exhibit I
Required Insurance

Commercial General Liability:

Seller shall carry Commercial General Liability insurance, to protect against and from loss by reason of personal injury or property damage based upon and arising out of the Seller's liability under this Agreement, as follows:

\$1 million per occurrence
\$2 million aggregate

The policy shall be on the current standard ISO version Commercial General Liability occurrence form, shall name the Buyer as an additional insured and include a waiver of subrogation in favor of the Buyer.

Seller will also hold Umbrella or Excess Liability in an amount equal to \$20 million.

Commercial Property:

Seller shall carry commercial property insurance in an amount equal to the replacement cost of the Facility, to protect against risks of physical loss or damage, including, if applicable, coverage for earth movement and flood, and mechanical breakdown coverage.

Workers' Compensation:

Seller shall carry Statutory Workers' Compensation Insurance with Employers' Liability Insurance in the amount of \$500,000.

Automobile Public Liability Insurance:

Seller shall carry Automobile Public Liability Insurance with a \$1,000,000 Combined Single Limit on all self-propelled vehicles used in connection with this Agreement, whether owned, non-owned or hired. The Buyer shall be named as an additional insured with include a waiver of subrogation in favor of the Buyer.

Exhibit J
Notices and Billing Information

General Notices:

If to Seller:

River Mountains Solar LLC
c/o SunEdison LLC
44 Montgomery St, Ste 2200
San Francisco, CA 94104
Attention: Asset Operations Manager

with a copy to:

River Mountains Solar LLC
c/o SunEdison LLC
44 Montgomery St, Ste 2200
San Francisco, CA 94104
Attention: General Counsel

If to Buyer:

Southern Nevada Water Authority
P.O. Box 99956, MS 115
Las Vegas, Nevada 89193-9956
Attention: Director, Energy Management

with a copy to:

Southern Nevada Water Authority
c/o Las Vegas Valley Water District
1001 South Valley View Blvd., MS 480
Las Vegas, Nevada 89153
Attention: General Counsel

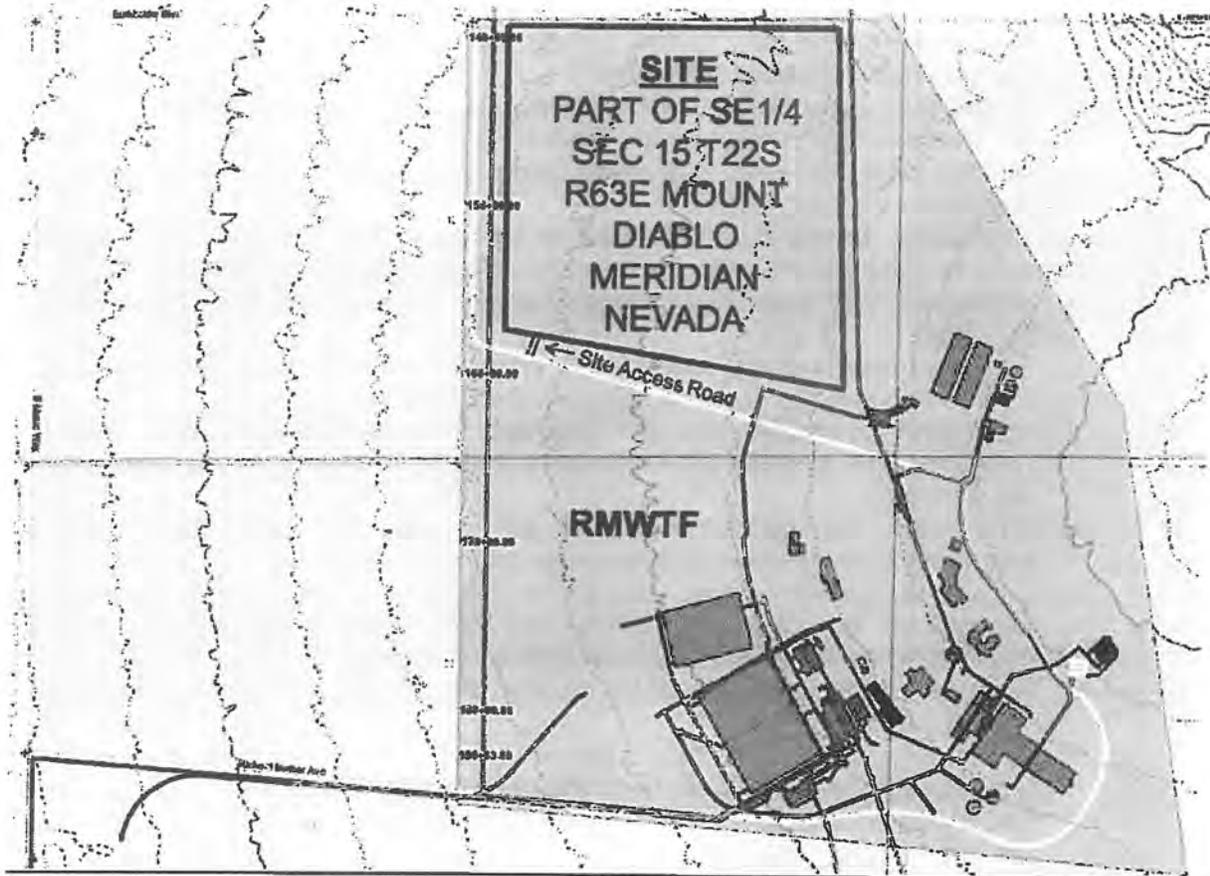
Operations Related Notices and Billing Information:

[To be designated by Parties prior to Facility construction commencement]

Exhibit K
Site and Site Access

Site

(Preliminary layout, not to scale, subject to revision by the Parties)



Site Access

Within sixty (60) days of the Execution Date, Buyer and Seller shall work together in good faith to mutually agree upon reasonable site access requirements, restrictions and obligations, which shall in any event be in compliance with applicable law, and may include the following:

1. The Site falls under the requirements of the U.S. Department of Homeland Security. As such, access to the Site is controlled as follows:
 - a. Visitors holding a United States passport or Green Card may be permitted access to the Site upon a twenty-four hour notice after the request for access is submitted to the head of SNWA Security.
 - b. Foreign nationals not holding a Green Card may be permitted access to the Site upon a two-week notice after the request for access is submitted to the head of SNWA Security.
 - i. Access to the Site shall only be granted upon the United States State Department approval.

- ii. In conjunction with the request for access, the foreign national must provide:
 - 1. The visitor's name;
 - 2. The visitor's nationality;
 - 3. The visitor's passport number; and
 - 4. A color copy of the visitor's passport, showing the visitor's picture and information.
- c. At all times on the Site, visitors that do not possess a SNWA badge must be escorted by SNWA badged escorts.
- d. All approved visitor access is limited to the Site only, as defined above.
- e. No access will be allowed on the reservoir, into the pump station or any SNWA facilities within the Site. Failure to abide by these restrictions may result in revocation of access to the Site.
- 2. Access limitations. Access may be limited or denied at any time by SNWA due to concerns for elevated security risk. Such limitations may include, but are not limited to:
 - a. Access restricted to Monday through Thursday, between 8:00 a.m. PST and 5:00 p.m. PST; or
 - b. Temporary suspension of all previously approved visitation hours or access time.
- 3. Security. All visitation to the Site shall adhere to the following procedure:
 - a. Upon arrival at the Site, the SNWA badged individual will call SNWA Security (702-865-3500) to notify SNWA Security that the badged individual and others are on site.
 - b. After entry, the badged individual will ensure the above-stated access requirements are followed by all persons entering the Site.
 - c. If injury, equipment damage, unauthorized access, or other similar occurrence happens at the Site, the badged individual shall notify SNWA Security immediately as well as the proper emergency personnel.
 - d. After visit has been completed for the day, the badged individual will ensure all visitors have left the site.
 - e. The badged individual will be the last person out of the facility, will lock the gate, and will notify SNWA Security that there is no one left in the Site.
 - f. The badged individual will coordinate his activities with personnel that may be at the Site for other purposes.
- 4. Preinstallation Conference. Seller or its agent shall schedule a preinstallation conference, prior to the start of any installation at the Site. At this conference, Seller or its agent shall provide to SNWA the final construction plans. SNWA will review the plans and designate portions of the installation that require SNWA's observation and approval.
- 5. Seller Agent or Contractor. All Seller agents or contractors (collectively "Contractor") shall submit to Seller and SNWA in writing at the preconstruction conference, the names and respective local addresses and telephone numbers of three Contractor representatives that may be contacted on a 24 hour basis to serve as emergency contacts throughout the duration of the construction of the Facility.
- 6. Subsurface and Physical Conditions. Contractor shall immediately repair, as ordered by SNWA, any and all existing SNWA facilities including, but not limited to, water service assemblies that leak, are damaged, or otherwise fail for any reason due to Contractor's or his agents' activity in connection with the Site.
- 7. Asbestos, Polychlorinated Biphenyls, Petroleum, Hazardous Waste or Radioactive Material.
 - a. SNWA will not be responsible for any asbestos, polychlorinated biphenyls, petroleum, hazardous waste or radioactive material brought to the Site by Contractor and anyone else for whom Contractor is responsible.

- b. If Contractor encounters any asbestos, polychlorinated biphenyls, petroleum, hazardous waste or radioactive materials, Contractor shall immediately:
 - i. Stop all Work in connection with the hazardous condition and in any area affected thereby (except in an emergency as required herein); and
 - ii. Notify SNWA (and thereafter confirm such notice in writing).
- 8. Indemnification. Contractor shall defend, indemnify, hold harmless, and accept liability from SNWA, its affiliates, directors, officers, and employees against any and all claims arising out of Contractor's services or work including (without limitation) any claims, liability, loss, damage, cost, expense, award, fine or judgment arising by reason of death or bodily injury of persons, injury or damage to property, defects in workmanship or materials, or design defects or arising by reason of Contractor's negligent act or omission, except to the extent those losses are solely caused by SNWA, its directors, officers and employees.
- 9. Additional Insured and Waiver of Subrogation.
 - a. By endorsement (I.S.O. Form CG 20 10 07 04 and Form CG 2037 02 04 or their equivalent), Contractor shall include SNWA as an additional insured under the Commercial General and Automobile Liability Insurance policies, including Excess and/or Umbrella Liability policies, if applicable, as to bodily injury, sickness, disease, or death, personal injury, damage to or destruction of the property of persons which may arise out of or in connection with the construction of the Facility.
 - b. By endorsement (I.S.O. Form CG 2404 10 93 or its equivalent), SNWA's General Liability, Automobile Liability and Workers' Compensation insurance carriers, including Excess and/or Umbrella Liability policies, if applicable, shall waive their rights of recovery or subrogation against SNWA.
 - c. The additional insured and waiver of subrogation endorsements, shall read as follows:

SNWA, its members and affiliated companies, successors or assigns, including their directors, officers, and employees individually and collectively; when acting within the scope of their employment.

- 10. Use of Premises.
 - a. During the progress of the work on the Site, Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from its work. At the completion of the work, Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the Site clean upon completion of its work. Contractor shall restore to original condition all property not designated for alteration by the Agreement.
 - b. Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Site or adjacent property to stresses or pressures that will endanger it.
- 11. Safety and Protection.
 - a. Safety and health program requirements shall conform to requirements set forth by all applicable Nevada Revised Statutes and all other applicable local, state and federal requirements for all work on the Site. Supervision and execution of any work performed within areas regulated by OSHA and disposal of materials deemed regulated by the Environmental Protection Agency shall be performed by, including but not limited to, personnel properly trained, equipped and

- supervised by a competent person recognized by and in accordance with all applicable OSHA regulations. Contractor shall give notices, erect and maintain all safeguards and comply with all laws, ordinances, regulations, codes and lawful orders of any public agency. Regulated substances may be encountered in various locations or systems. Proper control, handling and disposal of these materials, which may include, but not limited to, asbestos cement pipe, gaskets containing asbestos or lead-based paints, must be conducted according to local, state and federal regulations.
- b. Contractor shall make reasonable efforts to detect and abate any violations of safety standards of which it is aware and to which its employees are exposed, despite the fact that Contractor did not commit the violation.
12. Hazard Communication Programs. Contractor shall be responsible for coordinating any exchange or provision of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with federal and state laws or regulations. SNWA shall receive a copy of each material safety data sheet.
13. Emergencies. In emergencies or imminent danger situations affecting the safety or protection of persons or the Site or adjacent thereto, Contractor, without special instruction or authorization from SNWA, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give SNWA prompt written notice, in compliance with Exhibit J, if Contractor experiences any accident or injury or believes that any significant changes in its work on the Site or variations from the Agreement have been caused thereby.
14. Staging Areas. Space at the Site is limited and staging will be restricted as defined by Buyer. Seller may be required to acquire additional staging area. Staging or storing of any construction materials or office/trailers on top of the reservoir roof identified areas is strictly prohibited.
15. Identification Badge. Contractor shall provide durable, weatherproof identification badge for all employees, visitors, subcontractors, and suppliers, which shall be displayed and worn on the front chest and visible at all times while at the Site.
- a. The identification badge shall be:
- i. Minimum Size: 2 1/8 inch by 3 3/8 inch;
 - ii. Front and Back Background Color: Yellow; and
 - iii. Durable, weatherproof material.
- b. The information on the badge shall include:
- i. Name;
 - ii. Picture;
 - iii. Company affiliation; and
 - iv. Expiration date.
- c. Contractor shall:
- i. Submit a photo copy of each badge, at time of issuance, to SNWA;
 - ii. Provide SNWA with Current Employee Identification Badge Log stating:
 1. Badge number;
 2. Date of issuance;
 3. Name of employee; and
 4. Name of represented company;
- d. Collect badge when employee no longer needs access to the Site.

Exhibit L
Interconnection Facilities

Interconnection Facilities: see next page.

1. PURPOSE OF INTERCONNECTION AND REPRESENTATIONS

1.1 The purpose of this document is to ensure the parties to the Agreement understand the mutual requirements associated with the interconnection and operation of the Facility in parallel with the Interconnecting Utility System.

2. DESCRIPTION OF THE RENEWABLE ENERGY GENERATING FACILITIES

2.1 The Facility to be interconnected is generally described as follows:

Type of Generator	Generator Output Rating (A/C Watts)
Solar Photovoltaic	14,000,000 Watts

3. INTERCONNECTION

3.1 The Facility shall not be interconnected to the Interconnecting Utility System until the following conditions have been satisfied:

3.1.1 Provide to Interconnecting Utility a copy of the final inspection clearance from the governmental authority having jurisdiction over the Facilities;

3.1.2 If the Facility has changed from the installation originally described and agreed to or will have a possible effect on the interconnection and protection equipment, Seller, as the interconnecting Party, shall submit a written, detailed explanation describing the changes and what necessitated the changes.

3.2 Seller agrees to notify Interconnecting Utility or its representative five (5) working days prior to initial testing. Interconnecting Utility shall have the right to have a representative present at the initial testing of Seller's protective apparatus.

3.3 To the extent that upgrades or modifications to the Interconnecting Utility System are identified as necessary for the Facility to interconnect with the Interconnecting Utility System in accordance with the terms of this Agreement, Buyer, in its capacity as Interconnecting Utility, will use commercially reasonable efforts to complete such work promptly and in accordance with Good Industry Practice.

4. DESIGN, CONSTRUCTION AND COMMISSIONING REQUIREMENTS FOR THE INTERCONNECTION FACILITIES

- 4.1 Seller will design the Interconnection Facilities to meet all applicable safety and power quality standards established by:
- a) The National Electrical Code (NEC);
 - b) Underwriters Laboratories Inc. (UL); and
 - c) The Institute of Electrical and Electronic Engineers (IEEE).
- 4.2 Seller's design of the Interconnection Facilities shall be subject to the reasonable review and approval of Buyer in its capacity as Interconnecting Utility, such approval not to be unreasonably withheld, conditioned or delayed, and otherwise consistent with the terms and conditions of the Agreement.
- 4.3 Seller, at Seller's cost and expense, will design and construct the Interconnection Facilities in accordance with the terms and conditions of the Agreement. Buyer, in its capacity as Interconnecting Utility, will make commercially reasonable efforts to assist Seller at Seller's request.
- 4.4 Interconnecting Utility, with Seller, will clearly establish the Delivery Point as part of the final design of the Interconnection Facilities, and will define, approve and maintain system protection and metering systems at the Facility at Delivery Point. Any failure of such equipment not arising from the actions or inactions of Interconnecting Utility will be replaced by Interconnecting Utility at Seller's expense
- 4.5 Seller will be responsible for commissioning of the protection equipment and energization of the Facility, in cooperation with the Interconnecting Utility.
- 4.6 Seller and the Interconnecting Utility will amend these procedures and the Agreement as necessary to accommodate the final design of the Interconnection Facilities.
- 4.7 On or prior to Commercial Operation of the Facility, Seller and Buyer will cooperate to effect transfer of title to the Interconnection Facilities to Buyer.

5. MAINTENANCE AND PERMITS FOR THE INTERCONNECTION FACILITIES

- 5.1 Seller shall:
- 5.1.1 Obtain any governmental authorizations and permits required for the construction and commissioning of the Interconnection Facilities; and
 - 5.1.2 Reimburse Interconnecting Utility for any and all claims, losses, and/or penalties it incurs as a result of Seller's failure to maintain any

governmental authorizations and permits required for construction of the Interconnection Facilities.

5.2 Buyer shall:

5.2.1 Maintain and operate the Interconnection Facilities in a safe and prudent manner and in conformance with all applicable standards, laws and regulations; and

5.2.2 Obtain and maintain any governmental authorizations and permits required for the operation and maintenance of the Interconnection Facilities.

6. ACCESS TO INTERCONNECTION FACILITIES

6.1 Interconnecting Utility may enter Seller's bounded area:

6.1.1 To inspect the Interconnection Facilities and, if applicable, to read, maintain, or test meters; and

6.1.2 To disconnect the Interconnection Facilities from the Interconnecting Utility System in the event of a Forced Outage, as provided in the Agreement.

7. INTERRUPTION OR REDUCTION OF DELIVERIES

7.1 Interconnecting Utility may require Seller to interrupt or reduce deliveries of Output:

7.1.1 When necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any of its equipment or part of the Interconnecting Utility System; or

7.1.2 If the Interconnecting Utility determines that curtailment, interruption, or reduction is necessary because of emergencies, Forced Outages, Force Majeure, or otherwise in compliance with Good Industry Practice.

7.2 Notwithstanding any other provision of this Agreement, if at any time Interconnecting Utility determines that either 1) the Facility or its operation may endanger Interconnecting Utility personnel or 2) the continued operation of the Facility may endanger the integrity of the Interconnecting Utility System, Interconnecting Utility shall have the right to disconnect the Facility from the Interconnecting Utility System. The Facility shall remain disconnected until such time as Interconnecting Utility is satisfied that the condition(s) referenced in this Section have been corrected and has provided Seller with written authorization to reconnect the Facilities.

- 7.3 Interconnecting Utility shall make a reasonable attempt to provide notice to Seller prior to disconnection of Facilities. When it is not reasonable to provide notice prior to disconnection, Interconnecting Utility shall provide notice to the Seller within six (6) hours of disconnecting the Facilities.

8. NOTICES FROM SELLER RELATED TO INTERCONNECTION OR THE INTERCONNECTION FACILITIES

- 8.1 All notices must be in writing and shall be directed to the appropriate Interconnecting Utility representative at the following address:

Colorado River Commission
Attn: Assistant Director, Engineering and Operations
1299 Burkholder Avenue
Henderson, NV 89015

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Agreement	Director's Backup
Petitioner: Gregory J. Walch, General Counsel	
Recommendations: That the Board of Directors approve an agreement, in substantially the same form, between the Wyoming Water Development Office and the Authority to provide supplemental funds for the Wyoming Weather Modification Program.	

Fiscal Impact:

The required \$134,500 is available in the Authority's Operating Budget.

Background:

The U.S. Bureau of Reclamation's Colorado River Basin Water Supply and Demand Study (Basin Study), published in December 2012, defined current and future imbalances in water supply and demand in the Colorado River Basin for approximately the next 50 years, and developed and analyzed adaptation and mitigation strategies to resolve those imbalances. Cloud seeding was included in the Basin Study as a strategy to increase snowfall in mountainous regions and the Basin Study noted that earlier studies have concluded that the potential exists to generate a significant amount of additional runoff in the Colorado River Basin. This additional runoff will benefit all users of Colorado River water by increasing reservoir elevations.

Since 2007, the Authority, along with partners in California and Arizona, has provided supplemental funding to the Wyoming Water Development Commission (WWDO). This funding was used to augment a multi-year weather modification study in western and south-central Wyoming which included a cloud seeding program designed to increase snowpack and runoff within Wyoming's Green River, Wind River/Bighorn, and Platte River Basins.

If approved, the Authority would contribute \$134,500 towards the WWDO program for the winter of 2014/2015. Activities represent a continuation and transition of the existing program in the Wind River Range from a research-based program to an operational program for Water Year 2015. The estimated total cost of the program is \$912,000. WWDO will provide \$228,000 for the program and will also receive supplemental funding from the Arizona Department of Water Resources (\$65,000), the Central Arizona Water Conservation District (\$100,000), the (California) Six Agency Committee (\$134,500), the State of Utah (\$50,000), and the Bureau of Reclamation (\$200,000).

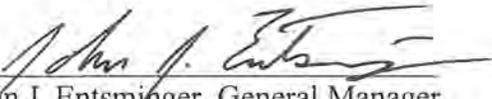
AGENDA
ITEM #

8

Agreement
July 17, 2014
Page 2

This agreement is being entered into pursuant to NRS 277.180 and Section 6(j) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved the agreement.

Respectfully submitted:


John J. Entsminger, General Manager
JJE:PDS:GJW:CNP:cmc
Attachment

**AGREEMENT BETWEEN
THE WYOMING WATER DEVELOPMENT OFFICE AND
THE SOUTHERN NEVADA WATER AUTHORITY
TO PROVIDE SUPPLEMENTAL FUNDS
FOR THE WYOMING WEATHER MODIFICATION PROGRAM**

1. **Parties.** This Agreement is made and entered into by the Southern Nevada Water Authority (SNWA), whose address is 1001 S. Valley View Boulevard, Las Vegas, Nevada 89153 and the Wyoming Water Development Office, whose address is 6920 Yellowtail Road, Cheyenne, Wyoming 82002 (WWDO).

2. **Authority.**

A. The SNWA is authorized to enter this Agreement pursuant to NRS 277.180.

B. The WWDO is authorized to enter this Agreement pursuant to 2014 Wyo. Sess. Laws 349.

3. **Background and Guiding Principles.**

A. The SNWA is a Nevada joint powers agency and political subdivision of the State of Nevada, created by Cooperative Agreement dated July 25, 1991, as amended November 17, 1994, and January 1, 1996. SNWA was formed to address Southern Nevada's unique water needs on a regional basis. SNWA manages the region's water resources, including water from the Colorado River, in order to provide for Las Vegas Valley residents' and businesses' present and future water needs.

B. The WWDO is an agency of the State of Wyoming. The WWDO manages the Wyoming Water Development Program which was established in 1975 to promote the optimal development of the State's human, industrial, mineral, agricultural, water and recreational resources. The program provides, through a commission, procedures and policies for the planning, selection, financing, construction, acquisition, and operation of water projects. The Wyoming Water Development Commission is currently concluding a multi-year weather modification study in Western and South Central Wyoming which included a cloud seeding program designed to increase snowpack and runoff within Wyoming's Green River, Wind River/Bighorn, and Platte River Basins.

C. The U.S. Bureau of Reclamation's Colorado River Basin Water Supply and Demand Study, December 2012, defined current and future imbalances in water supply and demand in the Colorado River Basin and the adjacent areas of the Basin States that receive Colorado River water for approximately the next 50 years, and developed and analyzed adaptation and mitigation strategies to resolve those

imbalances. The watershed management concept in the study featured cloud seeding as a strategy to increase snowfall in mountainous regions and noted that earlier studies have concluded that the potential exists to generate a significant amount of additional runoff in the Basin. Numerous portfolios of options identified to implement flow augmentation in the Colorado River Basin included weather modification as a strategy for increasing water supplies.

D. States in the Upper Colorado River Basin (Colorado, Utah and Wyoming) have a variety of operational and experimental weather modification programs in the Colorado River Basin funded, operated, and regulated at the state and local level.

E. Appropriately designed winter season orographic weather modification programs can increase winter snowpack in the Colorado River Basin. Increases in snowpack can increase the yield of the Colorado River by increasing runoff to the river, which augments the water supply in the Colorado River system.

F. All Colorado River Basin States benefit from augmentation of the water supply in the Colorado River system. These benefits include: additional system storage to avoid or delay the onset of shortage conditions, increased power production, and increases in available water supply at local, regional, and basin wide scales.

G. The science and operational data strongly suggest weather modification may be a cost-effective water supply augmentation strategy. However, detailed efforts to quantify the magnitude of increased snowpack and resulting increased water supply from weather modification programs needs to continue.

H. Opportunities exist for the Basin States to augment Colorado River system runoff through a cooperative weather modification program. Such a collaborative effort has been an ongoing practice over the past few years through the implementation of a Lower Colorado River Basin Entities (Southern Nevada Water Authority, Six Agency Committee, and the Central Arizona Water Conservation District) program to cost-share with the Upper Basin States (Colorado, Utah, Wyoming) for cloud seeding in the Upper Basin in an effort to improve system conditions.

4. **Purpose.** In an effort to augment the supply of water available for use in the Colorado River, the Parties seek to supplement the weather modification program in the Wind River Range (located in west-central Wyoming) during the winter of 2014-2015 as identified in Exhibit 1. The purpose of this Agreement is to transfer and manage funds for weather modification activities, financed in part by the SNWA, in conjunction with the State of Wyoming and other partners, to be implemented by the WWDO.

5. **Definitions.** As used in this Agreement, the following terms have the following meanings:

Activities. Those practices, performances, transactions, studies, modeling, Operations, or other actions that carry out the tasks identified in Exhibit 1.

Colorado River System. This term shall have the meaning as defined in the Colorado River Compact, Article II(a).

Colorado River Basin States (Basin States). Any of the states of Arizona, California, Nevada, Colorado, Utah, New Mexico or Wyoming as the context requires.

Evaluation Component. A scientific study by a third-party that will evaluate the seeding potential for storms impacting the Wind River Range in Wyoming.

Funds. The money contributed by the SNWA to the WWDO for the administration of, and spending for, weather modification activities as described in Exhibit 1.

Operations. Winter orographic (i.e. mountain) cloud seeding, permitted by the Wyoming State Engineer's Office, and performed by professional operators under contract with the WWDO.

Party or Parties. Any signatory to this Agreement.

Water Year. The period of time from October 1st of any calendar year for a 12-month period ending September 30 of the next calendar year.

6. **Term of Agreement.** This Agreement shall commence upon the day and date last signed and executed by the duly authorized representatives of the Parties to this Agreement and shall remain in full force and effect until terminated.

7. **Payment.** The SNWA shall provide Funds to the WWDO in the amount set forth in Exhibit 1, which is hereby incorporated by reference.

8. **Special Provisions.**

A. **Reaffirmation of Existing Law.** Nothing in this Agreement is intended to, nor shall this Agreement be construed so as to, diminish or modify the right of any Party under existing law, including, without limitation, the Colorado River Compact, the Upper Colorado River Basin Compact, or the U.S. Supreme Court's consolidated Decree in *Arizona v. California*. The Parties hereby affirm the entitlement and right of each State under such existing law to use and develop the waters of the Colorado River System.

B. **Consistency with Existing Law.** This Agreement is consistent with and shall be interpreted to be consistent with existing law, particularly Article III(a)-

(e) inclusive of the Colorado River Compact, Sections 601 and 602(a) of the Colorado River Basin Project Act of 1968 (43 U.S.C. §§ 1551 and 1552(a)), and all applicable rules and regulations promulgated thereunder.

C. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which, when taken together, shall constitute one and the same instrument with the same force and effect as though all signatures appeared on a single document. The signature page of any counterpart may be detached without impairing the legal effect of the signature(s) thereon, provided such signature page is attached to another counterpart identical thereto, except for having the additional signature page executed by the other Party to this Agreement.

D. Authority of Persons Executing Agreement. The persons and entities executing this Agreement on behalf of the Parties are recognized by the Parties as those persons and entities authorized to bind the respective Parties to the terms hereof. Each person executing this Agreement has the full power and authority to bind the respective Party to the terms of this Agreement.

E. Non-waiver. None of the provisions of this Agreement shall be considered waived by any Party, except when such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or its relinquishment of any such rights for the future, but such provisions and rights shall continue and remain in full force and effect.

F. Accounting. The WWDO shall keep records of funds and expenditures provided under this Agreement in accordance with generally accepted accounting practices. By December 31, 2015, the WWDO shall provide an itemized statement to the SNWA documenting how the funds were spent.

G. Natural Water Supply. Water developed by cloud seeding is part of the natural water supply subject to all applicable laws.

H. Termination. This Agreement will terminate on December 31, 2015. This Agreement may be terminated, without cause, prior to December 31, 2015, by any party upon thirty (30) days written notice, which notice shall be delivered by hand or by certified mail.

I. Refunds.

1. If the SNWA terminates this Agreement prior to December 31, 2015, pursuant to section H, no refund of payment shall be provided, except as outlined in this Agreement. If WWDO terminates this Agreement prior to December 31, 2015, pursuant

to Section H, the WWDO shall refund to the SNWA any unused or uncommitted funds in an amount proportionate to its payment as provided in Exhibit 1.

2. If for any reason, the WWDO does not commence the weather modification program described in Exhibit 1, by February 1, 2015, the WWDO shall refund the full SNWA payment, if requested in writing by SNWA.

3. Any unused or uncommitted funds, upon expiration of this Agreement, shall be refunded to the SNWA in an amount proportionate to its payment as provided in Exhibit 1.

9. General Provisions.

A. Amendments. Any Party may request changes in this Agreement. Any changes, modifications, revisions or amendments to this Agreement which are mutually agreed upon by and among the Parties to this Agreement, shall be incorporated by written instrument, executed and signed by all Parties to this Agreement.

B. Availability of Funds. Each payment obligation of either Party is conditioned upon the availability of funds which are appropriated or allocated for the payment of this obligation. If funds are not allocated and available for the continuance of the services performed by any Party, the Agreement may be terminated by any Party at the end of the period for which the funds are available. Each Party shall notify the other Party at the earliest possible time of the services which will or may be affected by a shortage of funds. No penalty shall accrue to any party in the event this provision is exercised, and no Party shall be obligated or liable for any future payments due or for any damages as a result of termination under this section.

C. Entirety of Agreement. This Agreement, consisting of seven (7) pages, and Exhibit 1, consisting of 1 page, represents the entire and integrated agreement among the parties and supersedes all prior negotiations, representations and agreements, whether written or oral.

D. Indemnification. Neither Party to this Agreement agrees to indemnify the other party or to hold harmless the other party from liability thereunder.

E. Notice. All notices arising out of, or from, the provisions of this Agreement shall be in writing and given to the Parties either by regular mail or delivery in person.

F. Prior Approval. This Agreement shall not be binding upon any Party unless this Agreement has been reduced to writing before performance begins as described under the terms of this Agreement, and unless this Agreement is approved as to form by the Wyoming Attorney General or his representative, and counsel for the SNWA.

G. Severability. Should any portion of this Agreement be judicially determined to be illegal or unenforceable, the remainder of the Agreement shall continue in full force and effect, and either party may renegotiate the terms affected by the severance.

H. Sovereign Immunity. The State of Wyoming and the WWDO do not waive sovereign immunity by entering into this Agreement and each specifically retains all immunities and defenses available to them as sovereigns or governmental entities pursuant to Wyo. Stat. 1-39-101, et seq., and all other applicable laws. As a political subdivision of the State of Nevada, SNWA specifically retains the immunities, defenses, and limitation on damages provided to it under Nevada law pursuant to NRS 41.0305, et seq.

I. Third Party Beneficiary Rights. The Parties do not intend to create in any other individual or entity the status of third party beneficiary, and this Agreement shall not be construed so as to create such status. The rights, duties and obligations contained in this Agreement shall operate only between the Parties to this Agreement, and shall inure solely to the benefit of the parties to this Agreement. The provisions of this Agreement are intended only to assist the Parties in determining and performing their obligations under this Agreement.

J. Equal Opportunity/Non-Discrimination. The Parties agree to comply with all applicable federal and state laws relating to equal opportunity and non-discrimination.

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10. **Signatures.** In witness whereof, the Parties to this Agreement through their duly authorized representatives have executed this Agreement on the days and dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this Agreement as set forth herein.

The effective date of this Agreement is the date of the signature last affixed to this page.

SOUTHERN NEVADA WATER AUTHORITY

John J. Entsminger
General Manager

Date

APPROVED AS TO FORM:

Dana Walsh

Dana R. Walsh
Deputy Counsel, Southern Nevada Water Authority

7-9-14

Date

WYOMING WATER DEVELOPMENT OFFICE

Harry C. LaBonde, Jr.
Director

Date

APPROVED AS TO FORM:

S. Jane Caton
Senior Assistant Attorney General
State of Wyoming

Date

EXHIBIT 1
WYOMING WEATHER MODIFICATION PROGRAM
WIND RIVER RANGE WINTER 2014/2015 ACTIVITIES

Objectives and Activities.

Activities for Winter 2014/2015 represent a continuation and transition of the existing precipitation enhancement program targeting the Wind River Range from a research-based study to an operational program. Such operations may increase runoff during Water Year 2015 in the Green River Basin and as part of a larger Colorado River Basin flow augmentation strategy. The funds provided will be used to lease equipment/facilities (ground generators, shop, etc.), acquire services (forecasting, equipment maintenance/calibration, operations, data collection/archival, reporting) and for the purchase of supplies (propane, seeding solution, weather balloons, etc). The funds provided will also be used to reimburse the operations contractor for associated housing and per diem, travel, permit renewals and utilities costs incurred under the conduct of these activities.

Contributions.

The Southern Nevada Water Authority will provide \$134,500 in Funds to the Wyoming Water Development Office to implement, manage and oversee the activities listed in Exhibit 1. These Funds will be matched with State of Wyoming funding as provided through the passage of the Omnibus Water Bill – Construction by the 2014 Wyoming State Legislature which capped State of Wyoming participation in the program at 25%. The SNWA Funds will be further matched with funds from other Colorado River Basin funding partners (under separate agreements with the WWDO) and associated State of Wyoming matching funds; and spent to conduct an operational cloud seeding program targeting the Wind River Range during the Winter of 2014/2015.

Estimated Budget.

The total estimated cost of the program is approximately \$912,000 for this operational program focused on snowpack augmentation in the Wind River Range target area and includes funds for the operations contractor to prepare operational forecasts, release soundings, maintain the equipment, conduct the seeding operations through leased ground-based generators, and related work. Also included in the budget are funds for the National Center for Atmospheric Research (NCAR) for the operation of the Weather Research and Forecasting (WRF) model, radiometer deployment with real-time data access, a real-time seeding decision system trial, and related work.

Schedule.

August, 2014	– Funds transferred from the SNWA to the WWDO.
November, 2014	– Winter cloud seeding operations begin in the Wind River Range.*
April, 2015	– Winter cloud seeding operations end (barring early suspension).
October, 2015	– Final summary report of Water Year 2015 Activities and Evaluation Component report to the SNWA.

* During the operational season, daily forecasts, weekly seeding logs and monthly reports of contractor activities will be provided to the SNWA.

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Agreement	Director's Backup
Petitioner: Gregory J. Walch, General Counsel	
Recommendations: That the Board of Directors approve an agreement, in substantially the same form, among the Bureau of Reclamation, the Arizona Department of Water Resources, the (California) Six Agency Committee, the Colorado Water Conservation Board, the New Mexico Interstate Stream Commission, the Utah Division of Water Resources, the Wyoming State Engineer's Office, and the Authority to fund the Next Steps Phase 1 Activities Related to the Colorado River Basin Water Supply and Demand Study.	

Fiscal Impact:

The required \$71,428.57 is available in the Authority's Operating Budget.

Background:

The Bureau of Reclamation (Reclamation) and a representative agency from each of the seven Colorado River Basin States (Basin States): the Arizona Department of Water Resources, the (California) Six Agency Committee, the Colorado Water Conservation Board, the New Mexico Interstate Stream Commission, the Utah Division of Water Resources, the Wyoming State Engineer's Office, and the Authority are considering funding the Next Steps Phase 1 Activities Related to the Colorado River Basin Water Supply and Demand Study (Phase 1).

On January 21, 2010, and July 21, 2011, the Board of Directors approved an agreement and amendment among Reclamation and the Basin States to provide funding for the Colorado River Basin Water Supply and Demand Study (Basin Study). In December 2012, the Basin Study Report was published. It addressed potential effects of climate change, risks to Basin resources, and options and strategies to resolve any imbalances.

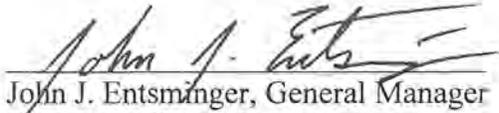
Phase 1 activities build on findings for critical next investigations described in the Basin Study and consist of the formation of three multi-stakeholder workgroups to investigate: 1) Municipal and Industrial Conservation and Water Reuse, 2) Agricultural Conservation and Water Transfers, and 3) Flows to support ecological and recreational resources.

The estimated total cost of Phase 1 is \$1 million, which would be shared equally between Reclamation and the Basin States. Each cost share partner would contribute one-seventh of the Basin States' \$500,000 obligation.

If approved, the Authority would contribute \$71,428.57 to fund its portion of the costs and in-kind services to support the process.

This agreement is being entered into pursuant to NRS 277.180 and Section 6(j) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved the agreement.

Respectfully submitted:



John J. Entsminger, General Manager

JJE:PDS:GJW:CNP:cmc

Attachment

AGREEMENT

AMONG

Arizona Department of Water Resources

AND

(California) Six Agency Committee

AND

Colorado Water Conservation Board

AND

New Mexico Interstate Stream Commission

AND

Southern Nevada Water Authority

AND

Utah Division of Water Resources

AND

Wyoming State Engineer's Office

AND

Bureau of Reclamation, Department of the Interior

for the

NEXT STEPS PHASE 1 ACTIVITIES RELATED TO THE

COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY

Preamble

THIS AGREEMENT for the Next Steps Phase 1 Activities Related to the Colorado River Basin Water Supply and Demand Study, hereinafter called "Agreement", is entered into by the STATE OF ARIZONA, acting through the ARIZONA DEPARTMENT OF WATER RESOURCES, the (CALIFORNIA) SIX AGENCY COMMITTEE, the COLORADO WATER CONSERVATION BOARD, the SOUTHERN NEVADA WATER AUTHORITY, the NEW MEXICO INTERSTATE STREAM COMMISSION, the UTAH DIVISION OF WATER RESOURCES, the WYOMING STATE ENGINEER'S OFFICE, and the UNITED STATES OF AMERICA, DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION.

Explanatory Recitals

WHEREAS, pursuant to Contract No. 10-XX-30-W0548, Agreement for the Colorado River Basin Water Supply and Demand Study, among the Arizona Department of Water Resources, the (California) Six Agency Committee, the Colorado Water Conservation Board, the New Mexico Interstate Stream Commission, the Southern Nevada Water Authority, the Utah Division of Water Resources, the Wyoming State Engineer's Office and Reclamation, as

amended by Amendment No. 1, the Non-Federal Cost Share Partners and Reclamation funded and completed performance of the Colorado River Basin Water Supply and Demand Study (Study); and

WHEREAS, the Study was completed and was made publicly available in December 2012; and

WHEREAS, the Non-Federal Cost Share Partners and Reclamation, working in collaboration with multiple stakeholders, desire to undertake next steps that relate to and will follow up on the findings of the Study (Next Steps); and

WHEREAS, the Non-Federal Cost Share Partners and Reclamation desire to fund Phase 1 of the Next Steps activities; and

WHEREAS, the Secretary, through the Bureau of Reclamation, has the ability to receive money contributions through the Sundry Civil Expenses Appropriations Act, March 4, 1921, 43 U.S.C. §395 (Contributed Funds Act); and

WHEREAS, the Non-Federal Cost Share Partners contributed funds to the Bureau of Reclamation for the performance of the Study, and also performed concurrent studies, which were used in the furtherance of the Study; and

WHEREAS, the Non-Federal Cost Share Partners desire to share the cost of Next Steps activities with Reclamation, such that each of the seven Non-Federal Cost Share Partners has or will provide to Reclamation a cash contribution of \$71,428.57 to fund Next Steps Phase 1 activities, for a combined cash contribution total of \$500,000; and

WHEREAS, Reclamation desires to share in the cost of the Next Steps Phase 1 activities, such that Reclamation will provide \$500,000 of the cost of such activities; and

WHEREAS, in addition to the cash contribution, the Non-Federal Cost Share Partners also desire to provide in-kind services to support and contribute to Next Steps Phase 1 activities; and

WHEREAS, on June 4, 2013, the New Mexico Interstate Stream Commission and Reclamation entered into Contract No. 13-XX-30-W0570 under which the New Mexico Interstate Stream Commission has made a cash contribution of \$71,428.57 to Reclamation to fund its share of the cost of Next Steps Phase 1 activities.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the Parties agree as follows:

ARTICLES

I. Purpose of the Agreement

This Agreement establishes the terms for identifying, approving and funding the Next Steps Phase 1 activities and the terms that will guide the performance of Next Steps Phase 1 activities.

II. Definitions

- A. Reclamation means the United States Department of the Interior, Bureau of Reclamation.
- B. UC Region means the Upper Colorado Region of the Bureau of Reclamation.
- C. LC Region means the Lower Colorado Region of the Bureau of Reclamation.
- D. Non-Federal Cost Share Partners mean the Arizona Department of Water Resources, the (California) Six Agency Committee, Colorado Water Conservation Board, the New Mexico Interstate Stream Commission, the Southern Nevada Water Authority, the Utah Division of Water Resources, and the Wyoming State Engineer's Office.
- E. Parties means Reclamation and each Non-Federal Cost Share Partner referred to collectively.
- F. Party means either Reclamation or an individual Non-Federal Cost Share Partner.
- G. Confidential Information means trade secrets or commercial or financial information that is privileged or confidential under the meaning of 5 U.S.C. §552(b)(4). However, actions taken under this Agreement relating to the withholding or release of the documents that are shared pursuant to this Agreement must comply with relevant Freedom of Information Act (FOIA) and State open records act laws.
- H. Term of Agreement means that period set forth under Article VIII.A below.
- I. Subject Invention means any invention or discovery, which is or may be patentable under Title 35 of the United States Code, conceived or first actually reduced to practice in the performance of work under this Agreement.
- J. Basin State means any of the States of Arizona, California, Colorado, New Mexico, Nevada, Utah and Wyoming.

III. Next Steps Approach and Management

- A. The Parties will identify and undertake the categories of Next Steps activities, as described in the Study published in December 2012 using a collaborative approach similar to that used to undertake and complete the Study. Next Steps activities will be undertaken in phases with the identified funding applied to Next Steps Phase 1 activities and any remaining funds distributed or used as provided for in Article IV.F below. Subsequent activities to be conducted under future phases will be determined upon the completion of previous phases. Next Steps Phase 1 activities build on findings for critical next investigations described in the Study and consist of the formation of three multi-stakeholder workgroups to investigate: 1) Municipal and Industrial (M&I) Conservation and Water Reuse, 2) Agricultural Conservation and Water Transfers, and 3) Flows to support ecological and recreational resources. Additionally and separate from this Agreement, State or Reclamation-led activities will simultaneously pursue the other categories described in the Study.

The Parties will identify and undertake specific Next Steps Phase 1 activities using the management structure and processes described in Article III.B below conducting the work in phases as described in Article III.C below and utilizing work plans as described in Article III.D below. For the purposes of this Agreement, the Next Steps Phase 1 activities will include both activities performed by Reclamation or Reclamation's contractors and in-kind services provided by the Non-Federal Cost Share Partners.

- B. Management of the Next Steps Phase 1 activities will be undertaken by workgroups whose efforts will be directed and reviewed by a Coordination Team.
1. Co-Chairs will sit on and lead the Coordination Team. One Co-Chair will be designated by Reclamation and one Co-Chair will be collectively designated by the Non-Federal Cost Share Partners.
 2. The Coordination Team will include groups representing Federal, State, tribal, agricultural, municipal, hydropower, environmental, and recreational interests. The Coordination Team will direct and review the efforts of the designated workgroups.
 3. Workgroups, consisting of members with subject-matter expertise from various entities, will build on findings for critical next investigations described in the Study. Workgroup membership includes federal and state agencies, local municipalities and water districts, agricultural organizations and irrigation districts, federally-recognized tribes, non-governmental organizations, consultants, and other interested stakeholders. Each workgroup will be led by multiple co-chairs. The Phase 1 Workgroups are designated as:
 - i. Municipal and Industrial (M&I) Conservation and Water Reuse Workgroup

- ii. Agricultural Conservation, Productivity, and Water Transfers Workgroup
 - iii. Environmental and Recreational Flows Workgroup
- C. Management of the Next Steps activities will be performed in phases. Next Steps Phase 1 activities were initiated in 2013 and are anticipated to be concluded in 2014 with the publishing of reports from each of the Phase 1 Workgroups identified in Article III.B3.
- D. Management of the Next Steps activities will be in accordance with work plans adopted by the Coordination Team. In accordance with the Phase 1 Work Plan, prepared under the guidance of the Coordination Team, each of the Phase 1 Workgroups listed in Article III.B3 will complete identified tasks and produce a Phase 1 Workgroup Report.

IV. Next Steps Cost and Funding

- A. The Parties agree to provide a total cash contribution of \$1,000,000 to fund the costs of Next Steps Phase 1 activities performed by Reclamation or Reclamation's contractors, to be cost-shared equally between Reclamation and the Non-Federal Cost Share Partners (\$500,000 from Reclamation, \$500,000 from the Non-Federal Cost Share Partners). It is anticipated that this contribution would fund Phase 1 activities, with any remaining funds distributed as provided for in Article IV.F below. The Non-Federal Cost Share Partners agree to split their cost-share obligation of \$500,000 equally, so that each Non-Federal Cost Share Partner shall make a cash contribution of \$71,428.57 to Reclamation as specified in Article IV.B below. At any time during the term of this Agreement, the Parties may, by written mutual agreement, increase the total amount of funds provided to fund the costs of Next Steps activities with any such increase in contributions to be cost-shared in such manner as the Parties may collectively then decide.
- B. On or before August 30, 2014, each Non-Federal Cost Share Partner shall contribute \$71,428.57 in cash to Reclamation. All cash funds contributed shall be electronically transferred to Reclamation and deposited within an account to be provided by Reclamation. The New Mexico Interstate Stream Commission's \$71,428.57 cash contribution made under Contract No. 13-XX-30-W0570, effective June 4, 2013, fully satisfies the obligations of the New Mexico Interstate Stream Commission under this Article IV.B.
- C. In accordance with agreements reached between the Upper Colorado Region of the Bureau of Reclamation and the Upper Colorado River Basin States (Wyoming, Colorado, New Mexico, and Utah), the Upper Colorado River Basin States may elect to satisfy their cash contributions specified in Article IV.A and Article IV.B above using funds made available to them from the Upper Colorado River Basin Fund. If the New Mexico Interstate Stream Commission elects to fund its \$71,428.57 share of the Non-Federal Cost Share Partners cost-share obligation using funds made available to it from the Upper Colorado River Basin

Fund, Reclamation shall, at the request of the New Mexico Interstate Stream Commission, return the \$71,428.57 cash contribution made under Contract No. 13-XX-30-W0570 dated June 4, 2013, without interest, no later than sixty (60) days upon receipt of written notice by the New Mexico Interstate Stream Commission of the same.

- D. In addition to the cash contributions specified in Article IV.A and Article IV.B above, the Parties may mutually agree upon in-kind services to be provided by each Non-Federal Cost Share Partner to support and contribute to the Next Steps. Any such in-kind services provided under this Agreement shall be accounted for and credited in the same manner as the in-kind services provided by the Non-Federal Cost Share Partners under Contract No. 10-XX-30-W0548, as amended, provided, however, that the in-kind services provided under this Agreement shall not be treated as an offset to reduce the cash contribution required of a Party under this Agreement.
- E. In the event a Non-Federal Cost Share Partner is unable to participate due to lack of funding, that Non-Federal Cost Share Partner shall immediately withdraw from this Agreement in accordance with Article VIII. C. In the event of a notice of withdrawal, the remaining Non-Federal Cost Share Partners may meet and agree to alter their contributions to cover any lack of funding created by the withdrawal of a Non-Federal Cost Share Partner. If such an agreement is made, the remaining Non-Federal Cost Share Partners shall provide a written copy of their agreement to Reclamation within sixty (60) days. If an agreement is not reached within sixty (60) days, Reclamation and the remaining Non-Federal Cost Share Partners shall meet and discuss other options that allow the Next Steps to move forward.
- F. In the event that any funds advanced to Reclamation by the Non-Federal Cost Share Partners are not required to complete the Next Steps activities, such excess funds shall be returned by Reclamation to the Non-Federal Cost Share Partners without interest, upon completion of the Next Steps activities; provided, however, that in the event the Parties agree on additional work, by written mutual agreement, consistent with the direction of this Agreement, such excess funds may be retained by Reclamation to be applied toward the additional work.

V. Authorities

- A. Nothing in this Agreement alters any authorities of the Non-Federal Cost Share Partners or Reclamation. This Agreement is intended to facilitate cooperative efforts for mutual provision of services and support and technical assistance by the Parties in the conduct of meeting the objectives and scope of the Next Steps. This Agreement does not supersede or void existing agreements between the Non-Federal Cost Share Partner(s) and Reclamation.
- B. Reclamation's authority to enter into this Agreement:

1. Reclamation Act of June 17, 1902 (ch. 1093, 32 Stat. 388; 43 U.S.C. §372, et seq.) and acts amendatory thereof and supplementary thereto.
2. The Sundry Civil Expenses Appropriations Act, March 4, 1921, 43 U.S.C. §395 (Contributed Funds Act).
3. The Colorado River Basin Project Act, section 201 (82 Stat. 885; 43 U.S.C. § 1511).

C. Non-Federal Cost Share Partners' authority to enter into this Agreement:

1. The Arizona Department of Water Resources, through its Director, is authorized and directed, subject to the limitations in A.R.S. § 45-106, for and on behalf of the State of Arizona, to consult, advise and cooperate with the Secretary of the Interior of the United States ("Secretary") with respect to the exercise by the Secretary of congressionally authorized authority relative to the waters of the Colorado River (including, but not limited to, the Boulder Canyon Project Act of 1928, 43 U.S.C. § 617, and the Colorado River Basin Project Act of 1968, 43 U.S.C. § 1501). Additionally, under A.R.S. § 45-105(A)(8), the Director is authorized to "[e]nter into an interagency contract or agreement with any public agency pursuant to title 11, chapter 7, article 3 and contract, act jointly or cooperate with any person to carry out the provisions and purposes of" A.R.S. Title 45. Pursuant to A.R.S. § 45-105(A)(3) and (A)(10), the Director may "[c]ollect and investigate information upon and prepare and devise means and plans for the development, conservation and utilization of all waterways, watersheds, surface water, groundwater and groundwater basins in this state and of all related matters and subjects," and "cooperate with agencies of the United States or of any state or government."
2. (California) Six Agency Committee: The Colorado River Board ("CRB") of California was created in 1937 by the California Legislature in recognition of the vital nature of the Colorado River water and power resources to the general well being of the state, its agencies, and its citizens. As California Water Code Section 12550 permits monies to be contributed in support of the state's funding of the Colorado River Board, the Six Agency Committee was created in 1950 to provide such support. The Six Agency Committee is composed of six Southern California public agencies with Colorado River water and power interests: Coachella Valley Water District, Imperial Irrigation District, Los Angeles Department of Water and Power, Palo Verde Irrigation District, San Diego County Water Authority and the Metropolitan Water District of Southern California.
3. The Colorado Water Conservation Board is a division of the State of Colorado, Department of Natural Resources, created for the purpose of aiding in the protection and development of the waters of the State of Colorado. The Colorado Water Conservation Board is authorized to enter this Agreement

pursuant to Section 37-60-106 C.R.S. (2009).

4. The New Mexico Interstate Stream Commission is a statutory agency of the State of New Mexico with broad powers to investigate, protect, conserve and develop the state's waters, including both interstate and intrastate stream systems. The New Mexico Interstate Stream Commission is authorized to enter into this Agreement pursuant to Section 72-14-3 NMSA 1978.
5. The Southern Nevada Water Authority is a Nevada joint powers agency and political subdivision of the State of Nevada, created by Cooperative Agreement dated July 25, 1991, as amended November 17, 1994, and January 1, 1996. The Southern Nevada Water Authority is authorized to contract with public entities for the provision of services pursuant to Paragraph 6(h) of the Cooperative Agreement that formed SNWA. Additionally, NRS 277.180 authorizes the Southern Nevada Water Authority to enter into agreements with public agencies to perform any governmental service or activity which the public agency is authorized by law to perform.
6. The Division of Water Resources (DWR) is the water resource authority for the State of Utah. Utah Code Ann. § 73-10-18. The Utah Department of Natural Resources Executive Director (Department), with the concurrence of the Utah Board of Water Resources (Board), appoints the DWR Director (Director). § 63-34-6 (1). The Board makes DWR policy. § 73-10-1.5. The Board develops, conserves, protects, and controls Utah waters, § 73-10-4(4), (5), and in cooperation with the Department and Governor, supervises administration of interstate compacts, § 73-10-4, such as the Colorado River Compact, §§ 73-12a-1 through 3, and the Upper Colorado River Basin Compact, § 73-13-10. The Board, with Department and Gubernatorial approval, appoints a Utah Interstate Stream Commissioner, § 73-10-3, currently the DWR Director, to represent Utah in interstate conferences to administer interstate compacts. §§ 73-10-3 and 73-10-4. These delegations of authority authorize the Utah Interstate Stream Commissioner/DWR Director to sign this document.
7. Water in Wyoming belongs to the state. Wyoming Constitution Article 8 Section 1. The Wyoming State Engineer is a constitutionally created office and is Wyoming's chief water official with general supervisory authority over the waters of the State. Wyoming Constitution, Article 8, Section 5. The Wyoming legislature conferred upon Wyoming officers the authority to cooperate with and assist like authorities and entities of other states in the performance of any lawful power, duty or authority. Wyo. Stat. Ann. Section 16-1-101 (2005). Wyoming and its State Engineer represent the rights and interests of all Wyoming appropriators with respect to other states. Wyoming v. Colorado, 286 U.S. 494 (1922). See Hinderlider v. La Plata River & Cherry Creek Ditch Co., 304 U.S. 92 (1938). In signing this Agreement, the State Engineer intends that this Agreement be mutually and equally binding between the Parties.

VI. Anti-Deficiency Act

The expenditure or contribution of any funds for the performance of any obligation of any Party under this Agreement shall be contingent upon appropriation or allotment of funds for the payment of such obligation. No liability shall accrue to any Party in case funds are not appropriated or allotted. No provision herein shall be interpreted to require obligation or payment of funds by Reclamation in violation of the Anti-Deficiency Act, 31 U.S.C. §1341.

VII. Reports and Confidentiality

- A. Freedom of Information Act (FOIA) Disclosures: The Parties understand and agree that all communications, including this Agreement, may be disclosed to the public in accordance with the FOIA, unless protected under any FOIA exemptions. Similarly, there are State open records act requirements that the Parties understand may require disclosure to the public in accordance with those State laws, unless protected under those State laws.
- B. Final Reports: The results of this Agreement and the science, engineering, and technology data that are collected, compiled, and evaluated under this Agreement shall be shared and mutually interchanged by Non-Federal Cost Share Partners, Reclamation and other Coordination Team members. The Parties may jointly prepare a final report or reports summarizing all data and findings. The final content of any such report will be determined by Reclamation and the Non-Federal Cost Share Partners.
- C. Confidentiality:
 1. Any Confidential Information provided by a Party and used in the implementation of this Agreement shall be clearly marked confidential or proprietary by the Party submitting the document and shall not be disclosed by the recipient without permission of the submitter. To the extent any Party orally submits its Confidential Information to another Party, the submitting Party will prepare a document marked "CONFIDENTIAL" embodying or identifying in reasonable detail such orally submitted Confidential Information and provide the document to the other Party within thirty (30) days of disclosure.
 2. No Party shall be bound by confidentiality if the Confidential Information received from another Party:
 - a. Is already available to the public or known to the recipient;
 - b. Becomes available to the public through no fault of the recipient; or
 - c. Is non-confidentially received from another Party legally entitled to it.
 3. It shall not be a breach of this Agreement if the recipient is required to disclose the Confidential Information by a valid order of a court or other government body, or as otherwise required by law, or as necessary to establish the rights of any Party under this Agreement; PROVIDED THAT the

recipient shall provide prompt prior notice thereof to the submitting Party to enable the submitting Party to seek a protective order or otherwise prevent such disclosure, and PROVIDED FURTHER THAT the Confidential Information otherwise shall continue to be confidential.

VIII. Term and Termination

- A. Term: This Agreement shall take effect upon the approval of the Parties and, unless earlier terminated by the Parties, will expire on December 31, 2014, unless otherwise amended.
- B. Amendment: If any Party desires to modify this Agreement, all Parties shall confer in good faith to determine the desirability of such modification. Such modification shall not be effective until a written amendment is signed by all Parties.
- C. Withdrawal: Individual Non-Federal Cost Share Partners may withdraw from this Agreement at any time, with or without cause, and without incurring liability or obligation to the other Parties by providing notice to Reclamation and the remaining Non-Federal Cost Share Partner(s) at least ninety (90) calendar days prior to withdrawing from this Agreement. The withdrawing Non-Federal Cost Share Partner shall forfeit any funds transferred by it to Reclamation prior to the date on which the notice of withdrawal occurs.

IX. Key Personnel

- A. Each Party shall designate key personnel for receipt of notices and other purposes under this Agreement (“Key Personnel”). The Key Personnel for each Party are listed in Exhibit A, which is attached hereto and incorporated herein.
- B. Should a Party designate new Key Personnel during the term of this Agreement, the Party shall provide the other Parties with notice of the name of its new designated Key Personnel in accordance with Article X.
- C. The Key Personnel are not authorized to change or interpret with authority the terms and conditions of this Agreement.

X. Notices

Notices, requests, demands, or other communications between or among the Parties under this Agreement, including copies of any correspondence among the scientific and/or technical representatives of each Party that interpret or may have a bearing on the legal effect of this Agreement’s terms and conditions, shall be sent to the Key Personnel listed in Exhibit

A. Notice will be sufficiently given for all purposes as follows:

- A. Personal Delivery: When delivered to the recipient, notice is effective upon delivery.
- B. United States Mail: When mailed, postage prepaid, by first class mail, notice is effective three business days after the date the notice is mailed by the sender. When mailed, postage prepaid, by certified mail, return receipt requested, notice is effective on receipt, if a return receipt confirms delivery.
- C. Overnight Delivery: When delivered by an overnight delivery service such as Federal Express, charges prepaid or charged to the sender's account, notice is effective on delivery, if delivery is confirmed by the delivery service.

XI. General Provisions

- A. Limitations: This Agreement sets out the Parties' intentions and objectives and does not direct or apply to any person besides the Non-Federal Cost Share Partners and Reclamation. This Agreement is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by anyone against the United States, its agencies, its officers, or any person or any Party to this Agreement.
- B. Subcontracting Approval: A Party hereto desiring to obtain and use the services of a third party via contract or otherwise in connection with Next Steps activities under this Agreement shall give prior notice to the other Parties, including details of the contract or other arrangement. This requirement is to assure that confidentiality is not breached and rights in Subject Inventions are not compromised.
- C. Assignment: No Party has the right to assign this Agreement or any of its responsibilities hereunder.
- D. Endorsement: This Agreement and/or the results of the Next Steps funded under this Agreement are not to be construed as an endorsement of the results of the Next Steps by the Federal government or any non-Federal Cost Share partner, except as may be explicitly stated by an authorized representative of the Federal government or by an authorized representative of a specific Non-Federal Cost Share Partner.
- E. Disputes: Any dispute arising under this Agreement, which cannot be readily resolved, shall be submitted jointly to the Key Personnel, identified in Exhibit A, Key Personnel. Each Party agrees to seek in good faith to resolve the issue through negotiation or other forms of nonbinding dispute resolution processes mutually acceptable to the Parties. Pending the resolution of any dispute or claim, each Party agrees that performance of all obligations shall be pursued diligently.
- F. Force Majeure: No Party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such Party:

1. Which causes the Party to be unable to perform its obligations under this Agreement; and
 2. Which it has been unable to overcome by the exercise of due diligence.
 3. This includes, but is not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strikes, labor dispute, failure or sabotage of any Party's facilities or any order or injunction made by a court or public agency.
- G. **Governing Law:** The construction, validity, performance, and effect of this entire Agreement shall be governed by the laws applicable to the Government of the United States of America in accordance with applicable Federal Law as interpreted by Federal Courts.
- H. **Waiver:** The failure of any Party to enforce any term hereof shall not be deemed a waiver of any rights contained herein.
- I. **Severability:** In the event any provision of this Agreement is determined to be invalid or unenforceable under any controlling law, the invalidity or unenforceability of that provision shall not in any way affect the validity or enforceability of the remaining provisions of this Agreement.
- J. **Entire Agreement:** The terms and conditions contained in this Agreement constitute the entire Agreement and understanding by and among the Parties and shall supersede all other communications, negotiations, arrangements and agreements either oral or written, with respect to the subject matter herein.
- K. **Notwithstanding Article XI.J. above,** individual Non-Federal Cost Share Partners may enter into separate agreements with Reclamation as may be necessary under applicable State law to implement the terms and conditions of this Agreement requiring contribution of funds.¹ Such agreements between Non-Federal Cost Share Partners and Reclamation shall not be inconsistent with the terms and conditions of this Agreement.
- L. **Counterparts:** This Agreement may be executed in duplicate and each original shall be equally effective.
- M. **Sovereign Immunity:** The Parties do not waive their sovereign immunity by entering into this Agreement, and each fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this

¹ The State of Colorado will enter into an agreement with Reclamation that will be consistent with Colorado fiscal rules and applicable statutes relating to the funding obligation of the Colorado Water Conservation Board under this Agreement. The New Mexico Interstate Stream Commission has previously entered into Contract No. 13-XX-30-W0570, effective June 4, 2013, to address the funding obligation of the New Mexico Interstate Stream Commission under this Agreement.

Agreement.

- N. Prior Approval: This Agreement shall not be binding upon the Wyoming State Engineer's Office unless it has been reduced to writing before performance begins and unless it is approved as to form by the Wyoming Attorney General or his representative.
- O. Third Party Beneficiary Rights: The Parties do not intend to create in any other individual or entity the status of third party beneficiary. The rights, duties, and obligations contained in this Agreement shall operate only among the Parties and shall inure solely to the benefit of the Parties to this Agreement.
- P. All contractors shall strictly comply with all applicable federal and State laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.
- Q. The State of Arizona may withdraw from and terminate its participation in this Agreement upon finding that a State employee that was significantly involved in the creation of this Agreement is, at the time the Agreement is in effect but no later than three years after its termination, an employee or consultant to any other Party in the Agreement.
- R. Drafting Considerations: Each Party has participated fully in the drafting, review and revision of this Agreement, each of whom is sophisticated in the matters to which this Agreement pertains, and no Party shall be considered to be the sole drafter of this Agreement.
- S. Officials Not To Benefit: No Member of or Delegate to the Congress, or Resident Commissioner, shall benefit from this Agreement other than as a water user or landowner in the same manner as other water users or landowners.
- T. Nothing in the Next Steps or in any report prepared in connection with the Next Steps is intended for use against any of the Basin States, the Federal government, any federally-recognized Indian tribe, or the Upper Colorado River Commission in administrative, judicial or other proceedings to evidence legal interpretations of the laws applicable to the Colorado River (the Law of the River). As such, assumptions contained in the Next Steps activities or in associated reports do not, and shall not, represent a legal position or interpretation by the Basin States, any federally recognized tribe, Federal government or Upper Colorado River Commission as it relates to the Law of the River. Furthermore, nothing in the Next Steps or associated reports is intended to, nor shall the Next Steps or associated reports be construed so as to, interpret, diminish or modify the rights of any Basin State, any federally recognized tribe, the Federal government or the Upper Colorado River Commission under Federal, State, or tribal law or administrative rule, regulation or guideline, including without limitation the Colorado River Compact (45 Stat. 1057), the Upper Colorado River Basin Compact (63 Stat. 31), the Utilization of Waters of the Colorado and Tijuana

Rivers and of the Rio Grande, Treaty Between the United States of America and Mexico (Treaty Series 994, 59 Stat. 1219), the United States/Mexico agreement in Minute No. 242 of August 30, 1973, (Treaty Series 7708, 24 UST 1968) or Minute No. 314 of November 26, 2008, or Minute No. 318 of December 17, 2010, or Minute No. 319 of November 20, 2012, the Consolidated Decree entered by the United States Supreme Court in *Arizona v. California* (547 U.S. 150 (2006)), the Boulder Canyon Project Act (45 Stat. 1057), the Boulder Canyon Project Adjustment Act (54 Stat. 774, 43 U.S.C. 618a), the Colorado River Storage Project Act of 1956 (70 Stat. 105, 43 U.S.C. 620), the Colorado River Basin Project Act of 1968 (82 Stat. 885, 43 U.S.C. 1501), the Colorado River Basin Salinity Control Act (88 Stat. 266, 43 U.S.C. 1951), the Hoover Power Plant Act of 1984 (98 Stat. 1333), the Colorado River Floodway Protection Act (100 Stat. 1129, 43 U.S.C. 1600), and the Grand Canyon Protection Act of 1992 (Title XVIII of Public Law 102-575, 106 Stat. 4669), or the Hoover Power Allocation Act of 2011 (Public Law 122-72), or any amendments to any of the statutes or other authorities listed hereinabove. In addition, nothing in the Next Steps or associated reports shall be construed so as to, interpret, diminish, or modify the rights of any federally recognized tribe, pursuant to Federal Court Decrees, State Court Decrees, treaties, agreements, executive orders, and federal trust responsibility. Reclamation and the Basin States continue to recognize the entitlement and right of each State and federally recognized tribe under existing law, to use and develop the water of the Colorado River System.

- U. The provisions of Article XI.T above shall survive the termination or expiration of this Agreement and, further, shall continue to apply to any Party withdrawing from this Agreement after the time of such withdrawal.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed.

Approved as to form:

THE STATE OF ARIZONA acting
through the ARIZONA
DEPARTMENT OF WATER
RESOURCES

By: _____
Nicole Klobas
Deputy Counsel

By: _____
Michael J. Lacey
Director

Date

DRAFT

(CALIFORNIA) SIX AGENCY COMMITTEE

By: _____
Dana B. Fisher, Jr.
Chairman

Date

DRAFT

Approved as to form:

COLORADO WATER
CONSERVATION BOARD

By: _____
Maggie Van Cleef
Purchasing Director
Colorado Department of Natural Resources

By: _____
James Eklund
Director

Date

DRAFT

Approved as to form:

SOUTHERN NEVADA
WATER AUTHORITY

By: _____
Dana R. Walsh
Deputy Counsel

By: _____
John J. Entsminger
General Manager

Date

DRAFT

Approved as to form:

NEW MEXICO
INTERSTATE STREAM
COMMISSION

By: _____
Amy Haas
General Counsel

By: _____
Estevan R. López
Director

Date

DRAFT

Approved as to form:

UTAH DIVISION OF
WATER RESOURCES

By: _____
Robert V. King
Chief, Interstate Streams

By: _____
Eric Millis
Director

Date

DRAFT

Approved as to form:

WYOMING STATE
ENGINEER'S OFFICE

By: _____
S. Jane Caton
Senior Assistant Attorney General
Wyoming Attorney General's Office

By: _____
Patrick T. Tyrrell
Wyoming State Engineer

Date

DRAFT

Approved as to form:

BUREAU OF RECLAMATION

By: _____
Katherine Ott Verburg
Field Solicitor
Department of the Interior
Office of the Solicitor

By: _____
Terrance J. Fulp, Ph.D.
Regional Director
Lower Colorado Region

Date

DRAFT

Exhibit A.

Next Steps Key Personnel

DRAFT

Non-Federal Cost Share Partners' Key Personnel

Organization	Primary Contact	Contact Information
Arizona Department of Water Resources	Tom Buschatzke	Assistant Director Water Planning 3550 North Central Avenue Phoenix, AZ 85012 (602) 771-8500 tbuschatzke@azwater.gov
Colorado River Board of California	Tanya Trujillo	Executive Director Colorado River Board of California 770 Fairmont Avenue, Suite 100 Glendale, CA 91303-1035 (818) 500-1625 ttrujillo@crb.ca.gov
Colorado Water Conservation Board	Ted Kowalski	Program Manager 1313 Sherman Street, Room 721 Denver, CO 80203 (303) 866-3441 ext. 3220 ted.kowalski@state.co.us
Southern Nevada Water Authority	Colby Pellegrino	100 City Parkway, Suite 700 Las Vegas, NV 89193-9956 (702) 862-3364 colby.pellegrino@snwa.com
New Mexico Interstate Stream Commission	Kevin Flanigan	Colorado River Basin Manager PO Box 25102 Santa Fe, NM 87504-5102 (505) 827-6172 kevin.flanigan@state.nm.us
Utah Division of Water Resources	Robert King	Chief, Interstate Streams 1594 West, North Temple Street Salt Lake City, UT 84114-6201 (801) 538-7259 robertking@utah.gov
Wyoming State Engineer's Office	Steve Wolff	Colorado River Coordinator Wyoming State Engineer's Office Herschler Building, 4 th East Cheyenne, WY 82002-0370 (307) 777-1942 steve.wolff@wyo.gov

Reclamation's Key Personnel

Region	Primary Contact	Contact Information
Lower Colorado Region	Carly Jerla	Operations Research Analyst 1777 Exposition Drive Boulder, CO (303)735-1729 cjerla@usbr.gov
Upper Colorado Region	Jim Prairie	Hydrologic Engineer 1777 Exposition Drive Boulder, CO (303)492-8572 jprairie@usbr.gov

**SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM**

July 17, 2014

Subject: Update on Water Resources	Director's Backup
Petitioner: Gregory J. Walch, General Counsel	
Recommendations: That the Board of Directors receive an update from staff on water resources including, but not limited to, drought conditions in the Colorado River Basin, the results of the implementation of the Authority's Water Resource and Conservation Plans, activities on the Colorado River, the development of in-state water resources, and the status of the third intake project.	

Fiscal Impact:

None by approval of the above recommendation.

Background:

The Colorado River Basin has been experiencing a severe drought that began in 2000. The severity of these conditions has become increasingly evident in lake levels along the lower Colorado River Basin, where major reservoirs such as Lake Powell and Lake Mead are experiencing some of the lowest water levels in recent memory.

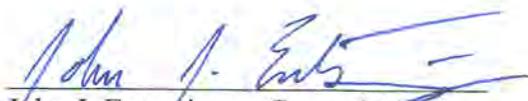
The nature of the drought in the Colorado River Basin has direct effects on water resources and future planning. The drought has prompted communities to launch major conservation initiatives to reduce water use among citizens and businesses, and has resulted in the development and implementation of the Authority's Water Resource and Conservation Plans.

In May 2005, the Board of Directors approved a project for design and construction of a third intake in Lake Mead with the primary objective of protecting southern Nevada's water supply from significant loss of system capacity resulting from a continuing decline in lake elevation. The project design and environmental approvals were completed by 2007. Construction began on the project in March 2008.

This agenda item provides for an update from staff on the drought, the results of the implementation of the Authority's Water Resource and Conservation Plans, activities on the Colorado River, the development of in-state water resources, and the status of the third intake project.

The office of the General Counsel has reviewed and approved this agenda item.

Respectfully submitted:


John J. Entsminger, General Manager
JJE:PDS:GJW:td

AGENDA ITEM #	10
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