



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

1313 Sherman Street, Room 718  
Denver, CO 80203

April 6, 2016

Colorado River Water Conservation District  
Mr. Eric Kuhn, General Manager  
P.O. Box 1120  
Glenwood Springs, CO 81602

RE: Notice to Proceed – WSRA Grant – **POGG1 2016-828** - Colorado River Development  
and Curtailment Risk Study in the Colorado, Gunnison, Southwest and  
Yampa/White/Green River Basins

Dear Eric,

This letter is to inform you that the purchase order (PO) to assist in the above WSRA grant project was approved on April 4, 2016. The attachments will serve as your original grant contracting documents.

With the executed PO, you are now able to proceed with the project and invoice the State of Colorado for costs incurred through November 30, 2016. Please provide the project name, PO number, and basin when corresponding with or invoicing for your project. Upon receipt of your invoice(s), the State of Colorado will provide payment no later than 30 days after review and signed approval of the project manager.

If an extension to the project is necessary, a formal letter of request must be submitted to the project manager along with a proposed completion date no later than **30 days** prior to the current expiration date. There will be no prior notice from the CWCB grant manager informing the grantee that the project is approaching its deadline, therefore the grantee must monitor the completion progress accordingly.

If you have any questions or concerns regarding the project, please contact Brent Newman, Project Manager at [303-866-3441 x3222](tel:303-866-3441) or at [brent.newman@state.co.us](mailto:brent.newman@state.co.us). You can contact me at 303-866-3441 ext. 3250 for invoicing and payment disbursement questions.

Thank you.

Sincerely,

//s//

**Doriann Vigil**  
**Program Assistant II**  
O 303-866-3441 ext. 3250  
1313 Sherman Street, Rm. 719  
Denver, CO 80203  
[Dori.vigil@state.co.us](mailto:Dori.vigil@state.co.us) / [cwcb.state.co.us](http://cwcb.state.co.us)





STATE OF COLORADO  
Department of Natural Resources

<b>ORDER</b>		<b>** IMPORTANT **</b>				
Number: POGG1 PDAA 20160000000000000828		The order number and line number must appear on all invoices, packing slips, cartons and correspondence				
Date: 04/04/16						
Description: PDAA 2500 WSRA GRANT-CO RIV DEVELOP & CURTAIL RISK STUDY		<b>BILL TO</b> COLORADO WATER BOARD CONSERVATION 1313 SHERMAN STREET, ROOM 718 DENVER, CO 80203				
Effective Date: 03/30/16      Expiration Date: 11/30/16						
<b>BUYER</b>		<b>SHIP TO</b>				
Buyer:		COLORADO WATER BOARD CONSERVATION				
Email:		1313 SHERMAN STREET, ROOM 718				
		DENVER, CO 80203				
<b>VENDOR</b>		<b>SHIPPING INSTRUCTIONS</b>				
COLORADO RIVER WATER CONSERVE DIST		Delivery/Install Date:				
PO BOX 1120		F.O.B: FOB Dest, Freight Allowed				
GLENWOOD SPRINGS, CO 81602-1120		<b>VENDOR INSTRUCTIONS:</b>				
Contact: Eric Kuhn						
Phone: 970-379-7314						
<b>Line Item</b>	<b>Commodity/Item Code</b>	<b>UOM</b>	<b>QTY</b>	<b>Unit Cost</b>	<b>Total Cost</b>	<b>MSDS Req.</b>
1	G1000		0	0.00	\$8,000.00	<input type="checkbox"/>
Description: PDAA 2500 WSRA GRANT-CO RIV DEVELOP & CURTAIL RISK STUDY						
Service From: 03/30/16      Service To: 11/30/16						
<b>Line Item</b>	<b>Commodity/Item Code</b>	<b>UOM</b>	<b>QTY</b>	<b>Unit Cost</b>	<b>Total Cost</b>	<b>MSDS Req.</b>
2	G1000		0	0.00	\$8,000.00	<input type="checkbox"/>
Description: PDAA 2500 WSRA GRANT-CO RIV DEVELOP & CURTAIL RISK STUDY						
Service From: 03/30/16      Service To: 11/30/16						
<b>Line Item</b>	<b>Commodity/Item Code</b>	<b>UOM</b>	<b>QTY</b>	<b>Unit Cost</b>	<b>Total Cost</b>	<b>MSDS Req.</b>
3	G1000		0	0.00	\$8,000.00	<input type="checkbox"/>
Description: PDAA 2500 WSRA GRANT-CO RIV DEVELOP & CURTAIL RISK STUDY						
Service From: 03/30/16      Service To: 11/30/16						
<b>Line Item</b>	<b>Commodity/Item Code</b>	<b>UOM</b>	<b>QTY</b>	<b>Unit Cost</b>	<b>Total Cost</b>	<b>MSDS Req.</b>
4	G1000		0	0.00	\$8,000.00	<input type="checkbox"/>
Description: PDAA 2500 WSRA GRANT-CO RIV DEVELOP & CURTAIL RISK STUDY						
Service From: 03/30/16      Service To: 11/30/16						
<b>TERMS AND CONDITIONS</b>						
<a href="https://www.colorado.gov/osc/purchase-order-terms-conditions">https://www.colorado.gov/osc/purchase-order-terms-conditions</a>						
<b>DOCUMENT TOTAL = \$32,000.00</b>						

**Exhibit A**  
**Statement of Work**  
**Date: Feb. 10, 2016**

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**WATER ACTIVITY NAME –Joint West Slope Roundtable Technical Study: The Colorado River Development and Curtailment Risk Study**

**GRANT RECIPIENT –Colorado River Water Conservation District**

**FUNDING SOURCE - \$8K from each WS roundtable - WSRA – \$10K each from CRWCD and SWCD**

**INTRODUCTION AND BACKGROUND**

Provide a brief description of the project. (Please limit to **no more than 200 words**; this will be used to inform reviewers and the public about your proposal)

At the December 18<sup>th</sup> 2014 meeting of the four West Slope Basin Roundtables, attendees cited the need for more technical data and modeling so that the four roundtables could better understand and discuss issues surrounding future Colorado River development, the risk to existing water users and implementation of the framework principles included in the Colorado Water Plan. The proposed study is intended to begin the technical investigation process so that the roundtables will have a common technical platform.

The intent of this study is to supplement other studies and work that are underway or have been completed such as the water bank workgroup effort, the System Conservation Agreement pilot projects and the development of an Upper Basin contingency plan.

Given the complexities of the issues involved, this work will likely be the first step in a multi-year, multi-study process.

**OBJECTIVES**

List the objectives of the project

The study will address two major questions:

1. What is the likelihood that Lake Powell will drop below elevation 3525' under a range of selected water supply and water demand scenarios?
2. Evaluate how often and by how much water users of Colorado River water in Colorado would have to reduce demands/cut consumptive uses to maintain Lake Powell elevation levels above 3525'. Provide an indication and evaluation of the "risk" to existing uses at different levels of future demand levels.

The results will be shared with the sponsoring roundtables and other interested roundtables across the state via workshop/webinar in order to facilitate discussion of implications and lessons for implementation of the seven point framework. Participants will be asked to contribute to

recommendations for further studies and Hydros will develop recommendations for modeling improvements for future studies.

## **TASKS**

Provide a detailed description of each task using the following format

### **TASK 1 – Kickoff Meetings and Workshop**

#### Description of Task

Hold a technical workshop with representatives of the sponsoring and other interested Basin Roundtables on how CRSS operates and its limitations. Discuss and review assumptions and initial conditions for the baseline runs, including hydrology, demands, inclusion of contingency planning, etc. Discuss scenario development, expected outcomes from model analysis, and participate in meetings with individual roundtables, CWCB, CRWCD, SWCD and other interested parties as requested.

#### Method/Procedure

Organization of meetings will be managed by CRWCD (Eric Kuhn). Hydros Staff to provide background information, meeting content as dictated by agenda and timing.

#### Deliverable

Meeting notes, power point presentations as applicable.

### **TASK 2 – Baseline Condition Simulations**

#### Description of Task

Based on preliminary conversations with participants, identify model assumptions for baseline runs. These runs will provide project participants with a foundational analysis of “current conditions” against which the impacts of various alternatives can be evaluated. Key assumptions for the baseline runs will include demand schedules, hydrologic periods of simulation, and assumptions regarding the availability and use of contingency planning actions (extended operations and currently implemented lower basin demand management). A set of 2-4 baseline simulations will be executed. Results of these simulations will be distributed to participants, with a workshop or webinar to discuss results.

#### Method/Procedure

Use CRSS to develop baseline simulations and perform analysis on results.

#### Deliverable

Spreadsheet analysis of outputs and memo / PowerPoint describing results. Meeting or webinar to discuss results. Model files to be archived for future comparisons.

### **TASK 3 –Identification and Analysis of Additional Scenarios**

#### Description of Task

Based on results of Task 2 additional scenarios will be identified and analyzed. These scenarios may include modified demands, different hydrologic data, demand management schemes, modifications to extended operation rules for CRSP reservoirs, etc. The scenarios will be evaluated and compared to each other and to the original baseline runs. Analysis will include frequency and magnitude of required actions, and benefits to Colorado in terms of reduced risk and total consumptive use. Again, results will be presented to technical team, roundtables, CWCB, CRWCD, SWCD and other interested parties via workshop, webinar, or other meeting venues. We anticipate that multiple meetings may be necessary at this point to accommodate all participants.

The number of additional scenarios run under this task will depend on complexity of modeling runs and available budget. This task could involve multiple iterations of scenario development, analysis, and reporting.

#### Method/Procedure

Use CRSS or other models in conjunction to conduct the additional modeling requested by technical committee.

#### Deliverable

Modeling reports, power point presentations and model archive

### **REPORTING AND FINAL DELIVERABLE**

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

### **BUDGET**

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, \$/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

Project Personnel:	Project Manager	Project Eng III	Project Eng II	Total Costs
Hourly Rate:	\$ 205	\$ 135	\$ 125	
Task 1 - (Kickoff Meetings/Scoping)	16	8	8	\$ 5,360
Task 2 – (Baseline Model Runs)	24	40	40	\$ 15,320
Task 3 – (Scenario Identification and Analysis)	40	80	80	\$ 29,000
Total Hours:	80	128	128	
Est Travel Costs				\$ 2,320
Cost:				\$ 52,000

WSRA GRANT FUNDING \$ 32,000

APPLICANT MATCHING FUNDING \$ 20,000

## **SCHEDULE**

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

### **Schedule**

Task	Start Date	Finish Date
1	Upon NTP	NTP + 30 days
2	Upon NTP	NTP + 90 days
3	Following Completion of Baseline Runs and Meeting	NTP + 240 days (estimated Nov 2016)

NTP = Notice to Proceed

## **PAYMENT**

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.