

## NOTICE OF INTENT TO AWARD

THIS FUNDING ANNOUNCEMENT IS NOT A REQUEST FOR APPLICATIONS. This announcement is to provide public notice of Reclamation's intention to fund the following project activities without full and open competition.

ABSTRACT	
<b>Funding Announcement</b>	R10AS20027
<b>Project Title</b>	Cloud Seeding in the Walker Basin
<b>Recipient</b>	Desert Research Institute
<b>Principle Investigator (if applicable)</b>	Mr. Arlen Huggins
<b>Total Anticipated Award Amount</b>	\$1,357,569.00
<b>Cost Share</b>	None
<b>New Award or Continuation?</b>	New
<b>Anticipated Length of Agreement</b>	5 years
<b>Anticipated Period of Performance</b>	Date of Execution through June 30, 2015
<b>Award Instrument</b>	Grant agreement
<b>Statutory Authority</b>	<b>Public Law 107-171</b> , Section 2507 (a)(1)(2) and (b)(1)(2)(3), Farm Security and Rural Investment Act of 2002 (Farm Bill) enacted May 13, 2002, <b>amended 6/18/08 and 10/28/09</b>
<b>CFDA Number</b>	15.508
<b>Single Source Justification Criteria Cited</b>	(1) Unsolicited Proposal & (4) Unique Qualifications
<b>Reclamation Point of Contact</b>	Vivian Davis, <a href="mailto:vdavis@usbr.gov">vdavis@usbr.gov</a> , Phone Number 916-978-5543

## OVERVIEW

The Desert Research Institute, part of the Nevada System of Higher Education, has proposed a 5-year cloud seeding program in the Walker River Basin that will provide water to Walker Lake. This requisition is for the obligation of \$1,357,569 to fund that program. No competition was sought because the Desert Research Institute is uniquely qualified to perform this work.

Public Law 107-171, Section 2507(a)(1), directs the Secretary of the Interior, acting through the Commissioner of Reclamation, "to provide water to at-risk natural desert terminal lakes";

subsequent legislation, Public Law 108-7 Section 207(a)(1), limited the funding use to “Pyramid, Summit, and Walker Lakes in the State of Nevada.” This agreement will provide funding to the Desert Research Institute for cloud seeding in the Walker River Basin, which will increase flows to Walker Lake, an at-risk natural desert lake at the terminus of the Walker River.

### **RECIPIENT INVOLVEMENT**

Desert Research Institute will:

- 1) Initiate cloud seeding in the Walker River Basin in water year 2011 (beginning October 1, 2010);
- 2) Continue cloud seeding operations for four additional years;
- 3) Estimate the impact of the cloud seeding operations on Walker River flows using a hydrologic model.

### **RECLAMATION INVOLVEMENT**

Reclamation will not have substantial involvement in accomplishing activities under this grant.

### **SINGLE-SOURCE JUSTIFICATION**

<b>DEPARTMENT OF THE INTERIOR SINGLE SOURCE POLICY REQUIREMENTS</b>
<p>Department of the Interior Policy (505 DM 2) requires a written justification which explains why competition is not practicable for each single-source award. The justification must address one or more of the following criteria as well as discussion of the program legislative history, unique capabilities of the proposed recipient, and cost-sharing contribution offered by the proposed recipient, as applicable.</p>
<p>In order for an assistance award to be made without competition, the award must satisfy one or more of the following criteria:</p> <ol style="list-style-type: none"><li>(1) Unsolicited Proposal – The proposed award is the result of an unsolicited assistance application which represents a unique or innovative idea, method, or approach which is not the subject of a current or planned contract or assistance award, but which is deemed advantageous to the program objectives;</li><li>(2) Continuation – The activity to be funded is necessary to the satisfactory completion of, or is a continuation of an activity presently being funded, and for which competition would have a significant adverse effect on the continuity or completion of the activity;</li><li>(3) Legislative intent – The language in the applicable authorizing legislation or legislative history clearly indicates Congress’ intent to restrict the award to a particular recipient of purpose;</li><li>(4) Unique Qualifications – The applicant is uniquely qualified to perform the activity</li></ol>

based upon a variety of demonstrable factors such as location, property ownership, voluntary support capacity, cost-sharing ability if applicable, technical expertise, or other such unique qualifications;

- (5) Emergencies – Program/award where there is insufficient time available (due to a compelling and unusual urgency, or substantial danger to health or safety) for adequate competitive procedures to be followed.

Reclamation did not solicit full and open competition for this award based the following criteria:

#### (1) UNSOLICITED PROPOSAL

The proposed award is the result of an unsolicited assistance application which represents a unique approach which is not the subject of a current or planned contract or assistance award. In addition, the applicant is uniquely qualified to perform this activity based on multiple factors: technical expertise, proprietary model, cloud seeding equipment on the ground, and past experience.

#### (4) UNIQUE QUALIFICATIONS

No competition was sought for this project because the Desert Research Institute (DRI) is uniquely qualified to do cloud seeding in the Walker River Basin. DRI has prior experience in cloud seeding in the Walker Basin and recently completed development of a hydrologic modeling system to be used to evaluate its efficacy. The DRI has spent several years designing, equipping and implementing a cloud seeding program for the Walker Basin and is prepared to have all equipment in place and operating, with the required land use permits, by the start of the 2011 Water Year [October 1, 2010]. The evaluation task requires a working hydrologic model adapted specifically to the Walker Basin, and capable of accepting snow water inputs over relatively high resolution terrain partitions to simulate the impact of cloud seeding operations. DRI developed such a model and has it ready for immediate use. The fact that relatively little equipment acquisition and preparation is required also makes the DRI proposal much more economically viable. No other entity would be able to obtain the needed permits, set up the necessary equipment, and have the technical expertise and model to evaluate the program results.

The DRI is uniquely qualified to immediately initiate and complete this work as proposed, based on logistical considerations, prior experience in cloud seeding in the Walker Basin, and having recently completed the development of a hydrologic modeling system to be used in the evaluation. The DRI has spent several years designing, equipping and implementing a cloud seeding program for the Walker Basin and is prepared to have all equipment in place and operating, with the required land use permits, by the start of the 2011 Water Year. The evaluation task requires a working hydrologic model adapted specifically to the Walker Basin, and capable of accepting snow water inputs over relatively high resolution terrain partitions to simulate the impact of cloud seeding operations. DRI developed such a model and has it ready for immediate use. The fact that relatively little equipment acquisition and preparation is required also makes the DRI proposal much more economically viable.

**Experience:** The DRI has conducted both research and operational cloud seeding projects in the Lake Tahoe region since the early 1960s. DRI has infrastructure and experience with the DRI

Cloud Seeding Program that has conducted operations in the Walker Basin over the past 15+ years. DRI has completed research studies in the Walker Basin within the U.S. Bureau of Reclamation Weather Damage Modification Program (WDMP) in water years 2004 and 2005 (Huggins et al., 2006),

**Evaluation Model:** The DRI has spent many years developing a method of assessing snowfall enhancement that is based on the trace chemical content of snow layers, and the physical characteristics of the snow. The technique has been tested in several project areas in the Sierra Nevada, the Snowy Mountains of Australia and the mountains of southern Idaho. One California project published results of an 8% increase in snow water equivalent using this evaluation technique (McGurty, 1999). This was the first project to provide an a real evaluation of snowfall enhancement in a specific watershed, and to provide an estimate of the amount of water in the snowpack that could be attributed to cloud seeding. DRI used this trace chemistry technique to evaluate the targeting effectiveness of seeding operations in the Walker Basin during the two years of the USBR WDMP (Huggins et al., 2006). The results indicated that snowfall in portions of the basin was being routinely enhanced by cloud seeding conducted by the Nevada State Program. The WDMP research included application of a USGS hydrologic model (Boyle et al., 2006) to assess how snowfall enhancement in specific regions of the Walker Basin would impact the flow in the Walker River. An improved version of this hydrologic model will be used to assess the impact of increased cloud seeding in the Walker Basin.

## STATUTORY AUTHORITY

**Public Law 107-171: Farm Security and Rural Investment Act of 2002  
(Farm Bill) enacted 5/13/02, amended 6/18/08 and 10/28/09**

### *SEC. 2507 - DESERT TERMINAL LAKES*

- (a) *Transfer - Subject to subsection (b) and paragraph (1) of section 207(a) of Public Law 108-7 (117 Stat. 146), notwithstanding paragraph (3) of that section, on the date of enactment of the Food, Conservation, and Energy Act of 2008, the Secretary of Agriculture shall transfer \$175,000,000 of the funds of the Commodity Credit Corporation to the Bureau of Reclamation Water and Related Resources Account, which funds shall —*
- (1) be used by the Secretary of the Interior, acting through the Commissioner of Reclamation, to provide water to at-risk natural desert terminal lakes; and*
  - (2) remain available until expended.*
- (b) *Permitted Uses- In any case in which there are willing sellers, the funds described in subsection (a) may be used—*
- (1) to lease water;*
  - (2) to purchase land, water appurtenant to the land, and related interests in the Walker River Basin in accordance with section 208(a)(1)(A) of the Energy and Water Development Appropriations Act, 2006 (Public Law 109-103; 119 Stat. 2268); and*
  - (3) for efforts consistent with researching, supporting, and conserving fish, wildlife, plant, and habitat resources in the Walker River Basin.*