

RECLAMATION

Managing Water in the West

Funding Opportunity Announcement No. BOR-DO-16-015

**Research and Development Office:
Science and Technology (S&T) Program**

Pitch to Pilot Projects for Fiscal Year 2016



**U.S. Department of the Interior
Bureau of Reclamation
Research and Development Office
Denver, Colorado**

June 2016

Mission Statements

The U.S. Department of the Interior protects America's natural resources and heritage, honors our cultures and tribal communities, and supplies the energy to power our future.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Synopsis

Federal Agency Name:	Department of the Interior, Bureau of Reclamation, Denver, Colorado
Funding Opportunity Title:	<i>Research and Development Office: Science and Technology (S&T) Program Pitch to Pilot Projects for Fiscal Year 2016</i>
Announcement Type:	Initial announcement
Funding Opportunity Announcement (FOA) Number:	BOR-DO-16-015
Catalog of Federal Domestic Assistance (CFDA) Number:	15.560
Application Due Date: Phase 1 Phase 2	July 15, 2016 at 4:00 pm Mountain Standard Time (MST) October 19-20, 2016 at BGNDRF
Eligible Applicants:	<p>Individuals, institutions of higher education, commercial or industrial organizations, federally funded research and development centers (FFRDC), private entities, public entities (including state and local), and Indian Tribal Governments.</p> <p>Foreign entities are not eligible for funding under the authorizing legislation for this program.</p> <p>Federal agencies are not eligible to apply.</p>
Applicant Cost Share:	No cost share is required but highly recommended
Federal Funding Amount:	Up to \$100,000 per project.
Estimated number of agreements to be awarded:	1 to 3
Total amount of funding available:	Up to \$300,000

Application Checklist

The following table contains a summary of the information that you are required to submit with this application.

What to Submit	Required Content and Form or Format
Cover page	Form SF 424, available at < http://www.grants.gov/web/grants/forms/sf-424-family.html#sortBy=1 > Page 12
Assurances	Form SF 424B or SF 424D, as applicable, available at < http://www.grants.gov/web/grants/forms/sf-424-family.html#sortBy=1 > Page 13
Technical proposal: <ul style="list-style-type: none"> • Title • Executive Summary • Technical Approach • Evaluation Criteria • Environmental Impact 	Pages 13–14 Page 13 Page 13 Pages 13 Page 16-18 Page 14
Project budget proposal: <ul style="list-style-type: none"> • Budget form 	Pages 12–13 Form SF 424A or SF 424C, as applicable, at < http://www.grants.gov/web/grants/forms/sf-424-family.html#sortBy=1 >

Acronyms and Abbreviations

ALC	Agency Location Code
ARC	Application Review Committee
ASAP	Automated Standard Application for Payments
BGNDRF	Brackish Groundwater National Desalination Research Facility
BOD	biological oxygen demand
CFDA	Catalog of Federal Domestic Assistance
CFR	Code of Federal Regulations
COD	chemical oxygen demand
DOI	U.S. Department of the Interior
DUNS	Data Universal Number System
FOA	Funding Opportunity Announcement
FY	fiscal year
GO	Grants Officer
MST	Mountain Standard Time
OMB	Office of Management and Budget
QA/QC	Quality Assurance and Quality Control
Reclamation	Bureau of Reclamation
R&D	Research and Development Office
SAM	System of Award Management
S&T	Science and Technology Program

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Section I. Funding Opportunity Description

Through this Funding Opportunity Announcement (FOA), the U.S. Department of the Interior (DOI), Bureau of Reclamation (Reclamation), is accepting applications for projects to be funded by the Science and Technology (S&T) Program. Through this program, Reclamation is forming partnerships with private industry, universities, water utilities, and others to address a need for innovative new technologies and processes in the area of water treatment.

Reclamation is interested in new, innovative technologies and processes that have gone past the idea and bench scale phase and are ready to go into development of prototypes and pilot scale systems to be tested with real waters. The authorizing legislation for this program is the Reclamation Act of 1902, June 17, 1902, Sec.1 and Sec. 2, and the Omnibus Public Land Management Act of 2009, Public Law 111-11, section 9509, Research Agreement Authority.

This funding opportunity is an important aspect of the Research & Development Office to support the White House Water Innovation Strategy to address Water Resource Challenges and Opportunities for Water Technology Innovation <https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/Water_Resource_Challenges_and_Technology_Innovation_12_14.pdf>

I.A. Goal and Objectives

The goal of this funding opportunity announcement (FOA) is to address the need to reduce the costs, energy requirements, and environmental impacts of treating impaired and unusable waters. The main objectives of this FOA are listed below.

- Develop innovative new technology or process at the pilot scale to treat brackish groundwater at a less energy intensive way than current processes and technologies
- Develop innovative new technology or process at the pilot scale to reduce the high cost, energy usage, and environmental impacts of concentrate management for inland desalination
- Develop innovative new technology or process for pretreatment of reverse osmosis without increasing the total cost and energy usage of current systems

Section II. Award Information

For FY 2016, Reclamation anticipates awarding up to \$300,000 for projects funded under this FOA. It is anticipated that awards will be made no later than December 2016, with an anticipated project start date on or around January 1, 2017.

II.A. Pilot Projects Overview

Duration: 18 months or less

Description: Pilot projects are typically preceded by research studies [funded previously by Desalination and Water Purification Research (DWPR) program or other programs] that demonstrate that the technology works. They usually involve flow rates between 1 and 20 gallons per minute and are tested using natural water sources rather than synthetic or laboratory-made feed water. Pilot projects are used to determine the technical, practical, and economic ability of a process. Costs are developed for capital and operation and maintenance costs.

Funding: Up to \$100,000 in Federal funds provided through this FOA will be available for each agreement to design, construct the pilot unit, install and test at the Brackish Groundwater National Desalination Research Facility (BGNDRF) in Alamogordo, NM.

Cost share is not required but encouraged.

II.B. Facility and Equipment Resources

Reclamation's state-of-the-art Brackish Groundwater National Desalination Research Facility in Alamogordo, New Mexico is where the final pilot technology/process will be tested for a minimum of 2 months. The technology does not have to be built at the facility but space will be available if needed for this purpose as well. Information on these facilities can be found at <http://www.usbr.gov/research/bgndrf/>.

II.C. Reclamation Responsibilities

Awards will be made through grants or cooperative agreements as applicable to each project. If a cooperative agreement is awarded, the recipient should expect Reclamation to have substantial involvement in the project. Substantial involvement by Reclamation may include the following:

- **Collaboration and participation** with the recipient in the management of the project and close oversight of the recipient's activities to ensure that the program objectives are being achieved

- **Oversight** that may include review, input, and approval at key interim stages of the research study

II.D. Award Date

Reclamation expects to contact potential award recipients and unsuccessful applicants from Phase I in August 2016 and for Phase II in October 2016, or slightly later if necessary, based on the enactment of FY 2016 appropriations. Within one to three months after the Phase II date, financial assistance agreements will be awarded to applicants that successfully pass all pre-award reviews and clearances.

It is anticipated that award announcements will be made around the October/November 2016 timeframe, with an anticipated project start date on or around January 1, 2017.

Section III. Eligibility Information

III.A. Eligible Applicants

Any responsible source, including individuals, institutions of higher education, commercial or industrial organizations, federally funded research and development centers (FFRDC), private entities, public entities (including state and local), or Indian Tribal Governments.

Those not eligible include the following entities:

- Federal government entities
- Foreign entities

III.B. Cost Sharing Requirements

Cost sharing shall be provided in accordance with the requirements stated in this section. Cost contributions may be either direct or indirect, provided such costs are otherwise allowable, allocable, and reasonable in accordance with the cost principals applicable to the award.

Recipients are not required to provide cost share in these agreements but is highly recommended to do so through in-kind, cash, or third-party contributions, or combinations thereof.

III.B.1. Cost-Share Regulations

All cost-share contributions must meet the criteria established in 2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (available at www.ecfr.gov).

III.B.2. In-Kind Contributions

In-kind contributions constitute the value of noncash contributions that benefit a federally assisted project. These contributions may be in the form of real property, equipment, supplies and other expendable property, as well as the value of goods and services directly benefiting and specifically identifiable to the proposed project or program. The cost or value of in-kind contributions that have been or will be relied on to satisfy a cost-sharing or matching requirement for another Federal financial assistance agreement, a Federal procurement contract, or any other award of Federal funds may not be relied on to satisfy the cost-share requirement for applications. Applicants should refer to 2 CFR 200.434 for regulations regarding the valuation of in-kind donations and contributions, available at www.ecfr.gov.

III.B.3. Pre-Award Costs

Project pre-award costs that have been incurred prior to the date of award but after the date of authorization and appropriation for this program may be submitted for consideration as an allowable portion of the recipient's cost share for the project.

In no case will pre-award costs incurred prior to October 1, 2015 be considered for cost share purposes.

Reclamation will review the proposed pre-award costs to determine if they are allowable in accordance with the authorizing legislation and applicable cost principles. To be considered allowable, any pre-award costs proposed for consideration under the new awards must comply with all applicable requirements under this FOA.

III.B.4. Indirect Costs

Indirect costs that will be incurred during the development or construction of a project, which will not otherwise be recovered, may be included as part of the applicant's project budget. Indirect costs are those:

- Incurred for a common or joint purpose benefiting more than one cost objective
- Not readily assignable to any one cost objective

If the applicant has never received a Federal negotiated indirect cost rate, proposals may elect to include a de minimis rate of up to 10 percent of modified total direct costs. Otherwise, if the applicant proposes indirect costs in the budget, then the applicant must either supply a copy of a current federally negotiated indirect cost rate agreement or obtain an agreement within one year of the award. Reclamation is a member of many Cooperative Ecosystem Studies Units (CESU) and strongly encourages Institutions of Higher Education to use the negotiated CESU indirect cost rate for proposals submitted under the FOA.

III.C. Other Requirements

Applicants shall adhere to Federal, State, and local laws, regulations, and codes, as applicable, and shall obtain all required approvals and permits. Applicants shall also coordinate and obtain approvals from site owners and operators.

III.C.1 System for Awards Management and Automated Standard Application for Payments Registration

All applicants must be registered in the System for Awards Management (SAM) prior to award under this FOA. Instructions for registering for SAM are located at www.sam.gov/portal/public/SAM. All applicants must maintain an active SAM registration with current information at all times while they have an active Federal award or an application under consideration.

All applicants must also be registered with and willing to process all payments through the Department of Treasury Automated Standard Application for Payments (ASAP) system. All recipients with active financial assistance agreements with Reclamation must be enrolled in ASAP under the appropriate Agency Location Code(s) (ALC) and the Data Universal Number System (DUNS) Number prior to the award of funds. If a recipient has multiple DUNS numbers they must separately enroll within ASAP for each unique DUNS Number and/or Agency. All of the information on the enrollment process for recipients, including the enrollment initiation form and the enrollment mailbox, can be found at <www.usbr.gov/mso/aamd/asap.html>. Note that if your entity is currently enrolled in the ASAP system with an agency other than Reclamation, you must enroll specifically with Reclamation in order to process payments.

III.C.2 Federal Awardee Performance and Integrity Information System (FAPSIIS)

Reclamation, prior to making a Federal award with a total Federal estimated amount greater than the simplified acquisition threshold (currently \$150,000.00), is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS) (see 41 U.S.C. 2313). The applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a Federal awarding agency previously entered and is currently in FAPSIIS. Reclamation will consider any comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under Federal awards when completing the review of risk posed by applicants as described in §200.205, Federal awarding agency review of risk posed by applicants.

Section IV. Application and Submission Information

IV.A. Address to Request Application Package

This document contains all the information, forms, and electronic addresses required to obtain the information required for submission of an application.

If you are unable to access this information electronically, you can request paper copies of any of the documents referenced in this FOA by contacting:

By mail: Bureau of Reclamation
Financial Assistance Management Branch
Attn: Ms Janeen Koza
Mail Code: 84-27852
P. O. Box 25007
Denver CO 80225

By email: jkoza@usbr.gov

By phone: 303-445-3446

IV.B. Application Submission

IV.B.1 Submission Date and Time

Application submission date deadlines:

Phase 1: July 15, 2016 at 4:00 pm Mountain Standard Time (MST)
Phase 2: October 19-20, 2016 at BGNDRF

Regardless of the delivery method used, you must ensure that your proposal arrives by the date and time deadline. Applications received after this date and time due to weather or express delivery/courier performance will not be considered for award. Late applications will not be eligible for consideration unless it is determined that the delay was caused by Federal Government mishandling or by a problem with the Grants.gov application system.

Please note that any application submitted to Reclamation may be subjected to a Freedom of Information Act request (5 United States Code § 552, as Amended by Public Law No. 110-175), and as a result, may be made publicly available. After final selection, Reclamation may post all successful applications on the

Reclamation website after any redactions determined necessary by Reclamation, in consultation with the Recipient as needed.

IV.B.2 Application Delivery Instructions Applications may be submitted electronically through or hard copies may be submitted to either one of the following addresses. Under no circumstances will applications received through any other method (such as email or fax) be considered eligible for award.

By mail: Bureau of Reclamation
Financial Assistance Management Branch
Attn: Ms. Janeen Koza
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

**By courier or express delivery/
mail services:** Bureau of Reclamation
Attn: Ms. Janeen Koza
Mail Code: 84-27852
Denver Federal Center, Bldg. 67, Rm. 152
6 th Avenue and Kipling Street
Denver, CO 80225

IV.C. Instructions for Submission of Project Application

Each applicant shall submit an application in accordance with the instructions contained in this section.

Regardless of the delivery method used, you must ensure that your proposal arrives by the date and time deadline stated in Section IV.B.1 — Application Submission, above. Applications received after this date and time due to weather or express delivery/courier performance will not be considered for award. Late applications will not be eligible for consideration unless it is determined that the delay was caused by Federal Government mishandling or by a problem with the Grants.gov application system.

IV.C.1 Applications Submitted by Courier or Express Delivery/Mail Services

Please follow these instructions to submit your application by courier or express delivery/mail services.

- Applicants shall submit an original and one copy of all application documents for hardcopy submissions. Each document should be clearly identified as the “ORIGINAL” or as a “COPY.”

- Hard copy applications may be submitted by mail or express methods to the addresses listed in Section IV.B.2, above.
- Materials arriving separately will not be included in the application package and may result in the application being rejected or not funded.
- Faxed and emailed copies of application documents will not be accepted.
- Do not include a cover letter or company literature/brochure with the application. All pertinent information must be included in the application package.

IV.C.2 Applications Submitted Electronically

If the applicant chooses to submit an electronic application it must be submitted through Grants.gov at <www.grants.gov>. Reclamation encourages applicants to submit their applications for funding electronically through <www.grants.gov/applicants/apply_for_grants.jsp>. Applicant resource documents and a full set of instructions for registering with Grants.gov and completing and submitting applications online are available at: <<http://www.grants.gov/web/grants/applicants.html>> .

- Please note that submission of an application electronically requires prior registration through Grants.gov, which may take 7 to 21 days. Please see registration instructions at <<http://www.grants.gov/web/grants/applicants.html>>.
- Applicants have sometimes experienced significant delays when attempting to submit applications through Grants.gov. If you plan to submit your application through Grants.gov, you are encouraged to submit your application several days prior to the application deadline. If you are a properly registered Grants.gov applicant and encounter problems with the Grants.gov application submission process, you must contact the Grants.gov Help desk to obtain a “Case Number.” This Case Number will provide evidence of your attempt to submit an application prior to the submission deadline.

IV.C.3 Application Preparation Instructions

The technical proposal should present information in a manner which allows it to “stand alone” without the need to reference other documents. It should describe the capability of your organization to participate in this program and should demonstrate a thorough understanding of the technology of the work topic proposed for study. The proposal shall be organized and written so that it can be easily read and meaningfully evaluated by Reclamation personnel and selected external evaluators from a variety of different functional and technical disciplines. The applicant shall include work-hour requirements for each phase. The workhour

information will be used as an aid in evaluating your understanding of the work requirement.

IV.C.4 Application Format and Length

The total application package shall be no more than 15 (fifteen) consecutively numbered single-sided pages. If an application exceeds 15 pages, only the first 15 pages will be evaluated. The font shall be at least 12 point in size and easily readable. Page size shall be 8½ x 11 inches including maps and charts. The SF-424 forms are not considered in the total page count. Applications will be prescreened for compliance to the page number limitations.

IV.C.5 Application Content

The application must include the following elements in order to be considered complete:

- Mandatory Federal Forms
 - Application for Federal Assistance, form SF-424
 - Budget – Non-construction Programs, form SF-424A
 - Assurances – Non-Construction Programs, form SF-424B

- Technical proposal
 - Title
 - Executive summary
 - Technical Approach
 - Research Work Plan and Schedule
 - Project Management
 - Environmental Compliance
 - Dismantling Plans
 - Other Information

SF-424 Application Cover Page

This fully completed form must be signed by a person legally authorized to commit the applicant to performance of the project. **Failure to submit a properly signed SF-424 may result in the elimination of the application from further consideration.**

If you are not submitting your application electronically through Grants.gov, you will need to access copies of the SF-424, SF-424A, SF-424B forms at www.grants.gov/web/grants/forms/sf-424-family.html#sortby=1.

SF-424 A, Budget Form

For the initial proposal submission, the applicant must complete an SF-424A, Budget Information—Nonconstruction Programs. This form is available at <http://www.grants.gov/web/grants/forms/sf-424-family.html#sortby=1>.

If selected for funding, the applicant will be required to submit a full budget proposal, narrative and supporting documentation.

SF-424 B, Assurances

A SF-424B – Assurances – Non-Construction Programs, signed by a person legally authorized to commit the applicant to performance of the project shall be included. **Failure to submit a properly signed SF-424B may result in the elimination of the application from further consideration.**

IV.C.6 Technical Proposal Content

The format listed in the following subsections shall be used in preparing the technical proposal:

Title

Provide a brief and informative title for the proposed work

Executive Summary

Discuss clearly key elements of proposal including brief description of problem, proposed solution, what the highlights of the proposal are, and funding request.

Technical Approach

Discuss the approach that will be used to accomplish the proposed work. This discussion shall be in sufficient detail to permit a comprehensive evaluation of the proposal. The applicant's understanding will be established not only by the proposed approach, but also by anticipating and/or identifying various problems and assessment of the severity of each problem. The proposal shall detail the actual effort proposed as specifically as possible. Repeating the work statement without elaborating on the specific tasks to be performed is unacceptable.

Describe in detail the tasks to be conducted, including reporting. For each task describe what studies and tests you plan to conduct, what kind of apparatus you will need, what data you plan to collect, and what you will do with the data. Describe the kind of staff, the number of staff hours, and the schedule for completing each task.

Research Work Plan and Schedule

Provide a research work plan based on the tasks and schedule showing individual tasks with significant milestones identified for the work to be accomplished, including time for the preparation, submission, and approval of required data and reports. Provide this in a table, Gantt chart, project network diagram, or any other visual format.

The pilot technologies need to be completely built and ready to start testing at BGNDRF no later than October 1, 2017. The work plan and schedule

should reflect this milestone. One full month of data needs to be obtained before the end of the agreement along with a final report of the findings.

Project Management

Show the proposed organization to manage the work, its relationship to the applicant's overall corporate structure, and the function and responsibilities of any subcontractors. Include an estimate of the extent of anticipated subcontracting together with a list of items or work to be subcontracted.

Environmental Impact

Describe any potential environmental benefits or adverse impacts of the proposed work, and plans for disposal of wastes if any result from the study. If any permits and licenses are required for this study, describe how they will be obtained.

Dismantling Plans

Describe plans for the subsequent use or dismantling of equipment once the research or study is completed or Federal funding expires. The recipient shall be responsible for dismantling all equipment and returning the site to its original condition to the satisfaction of the site owner, unless other arrangements are made to the satisfaction of the site owner to retain the pilot plant equipment and approval has been received from the government. Equipment ownership shall be in accordance with the requirements of 2 CFR 200.313.

Other Information

Include in this section any additional information which is relevant to the application.

Section V. Application Review Information

V.A. Review and Selection Process

The government reserves the right to reject any and all applications which do not meet the requirements of this FOA and which are determined to be outside the scope of the S&T program. Awards will be made to the responsible applicants submitting applications which conform to the FOA and are most advantageous to the government, considering the factors and any significant subfactors listed above. The evaluation process will be comprised of three levels of review as described in the rest of this section.

The first level screening is to ensure eligibility. The second level review (technical review) will be implemented in two phases, a technical review of the submitted proposal and an in-person evaluation. All proposals will be evaluated in the first phase. A group of proposals will be selected in phase 1 to move forward to phase 2, based on the Application Review Committee's (ARC) recommendations. All applicants will be notified of their proposal status at the end of phase 1 and will either move onto phase 2 or will be notified that they have not been selected for phase 2.

V.A.1. First-Level Screening

All applications will be screened to ensure that:

- The application meets the requirements of the FOA, including submission of technical and budget proposals, a funding plan, and related forms that are prepared in accordance with the instructions stated in Section 4 of this document.
- The proposed pilot project is within the scope of the S&T program and the scope of the eligible activities identified in this FOA. The application must contain a properly executed SF-424 Application for Financial Assistance and a form SF-424B, Assurances—Non-Construction Programs.
- The applicant meets the eligibility requirements stated in Section III "Eligibility Information."

An application must pass all first-level screening criteria to be forwarded for further consideration at the second-level evaluation phase.

V.A.2. Second-Level Evaluation (Technical Review)

The technical review will be conducted in two phases. In phase 1, all applications will be scored against the evaluation criteria in Section V.B. "Evaluation Criteria" by an Application Review Committee (ARC) comprised of experts in relevant disciplines. The ARC will make recommendations for a select group of applications to proceed to phase 2. All other applications will receive a notification that their proposal has not made it to phase 2 based on the ARC's review.

The ARC will provide comments and feedback to the selected group of applications that will be moving forward to phase 2. These applicants will then have an opportunity to review the comments and prepare for an in-person meeting with the final judging panel to discuss their proposal. The applicants will be invited to attend this in-person review at the BGNDRF facility in Alamogordo, NM. Each applicant will be provided a tour of the BGNDRF facility prior to their meeting with the judging panel. Each applicant will have 1 hour to explain their proposal to the panel as well as an opportunity to address the comments provided. The judging panel will then score all selected applications against the evaluation criteria in Section V.B. "Evaluation Criteria" and make a final recommendation to the management team. Submission to phase 1 is required for phase 2 consideration.

It is highly recommended for applications that have been selected for phase 2 to review the ARC's comments and make sure they will be able to travel to BGNDRF for the Phase 2 evaluation. **If the applicant is not present for Phase 2, the proposal is automatically disqualified from proceeding further and will be ineligible for an award.** Reclamation will be able to provide assistance with invitation travel for one representative to attend the in-person meeting in Alamogordo, NM up to a maximum of \$2,500 total.

The deadline for phase 1 application submission is July 15, 2016. The ARC will review and make their recommendations and provide feedback to the selected applications by August 23, 2016. The selected applicants in phase 2 will have the opportunity to prepare for travel and are expected to be at BGNDRF October 19-20, 2016.

V.A.3. Third-Level Evaluation (Managerial Review)

Management will conduct a final review to prioritize projects based on availability of funds and to consider the research goals, objectives and priorities listed in Sections I.A. "Goal and Objectives".

V.B. Evaluation Criteria

The relative importance to be placed on the evaluation criteria is shown below. Applications will be evaluated by the ARC in accordance with these criteria and the corresponding weights assigned to each criterion as displayed in table 4.

V.B.1. Technical Factors

- 1) Impact of the proposed work on the current technology and on its related economics if a completely successful outcome were achieved. Examples include energy and cost reduction, impact on water supply and/or ease use/operation of the technology.
- 2) Relevance of proposed pilot project investigation to goals and objectives.
- 3) Novelty of the proposed pilot technology or process.
- 4) Applicability of the project to local, state, regional, or national water problems, industries and issues.

V.B.2. Readiness Factors

- 1) Demonstrated the readiness for pilot scale testing, idea has been fully analyzed and the concepts are understood and ready for pilot prototype design and testing
- 2) Adequacy, completeness, and realism of the research schedule, task phasing, and milestones
- 3) Proposed procedures for Quality Assurance and Quality Control (QA/QC) protocols to be used throughout the project including statistical data analysis, peer review, instrument calibration, etc.

Table 4. Evaluation Criteria and Corresponding Weight

Criteria		Max Points
Technical	Impact of the proposed work	20
	Relevance of proposed pilot project investigation to goals and objectives	15
	Novelty of the proposed pilot technology or process	15
	Applicability of the project to local, state, regional, or national water problems, industries, and issues	10
Readiness	Demonstrated the readiness for pilot scale testing, idea has been fully analyzed and the concepts are understood and ready for pilot prototype design and testing	30
	Adequacy, completeness, and realism of the schedule	5
	QA/QC	5
Total Possible Points		100

V.C. Pre-Award Clearances and Approvals

After completion of the third level evaluation, Reclamation will complete a business evaluation and determination of responsibility. During these evaluations, the Reclamation Grants Officer (GO) will also consider several factors which are important, but are not quantified, such as:

- Pre-award clearances, determinations, reviews, and approvals
- Allowability, allocability, and reasonableness of proposed costs
- Financial strength and stability of the organization
- Past performance, including satisfactory compliance with all terms and conditions of previous awards, such as compliance with reporting requirements, proper procurement of supplies and services, and compliance with audit requirements
- Adequacy of personnel practices; procurement procedures; and accounting policies and procedures, in accordance with the applicable OMB circulars referenced in Section III.B.1 “Cost-Share Regulations”

If the results of all pre-award reviews and clearances are satisfactory, an award of funding will be made once the agreement is finalized.

Section VI. Award Administration Information

VI.A. Award Notices

Successful applicants will receive, by electronic or regular mail, a notice of award.

VI.B. Award Document

If your organization is awarded a financial assistance agreement as a result of this FOA, the proposed project and other relevant information from the application will be referenced in the agreement. The agreement document must be signed by a Reclamation GO before it becomes effective.

VI.C. Reporting Requirements and Distribution

If your organization is awarded an agreement as a result of this request for applications, you will be required to submit the following types of reports during the term of the agreement. Detailed information on the type, frequency, and distribution of these reports will be included in the final, executed financial assistance award.

VI.C.1. Interim Performance Reports

A report shall be submitted nine months after the award date by the Project Manager and will be used by Reclamation to ensure that the goals and objectives of the project are being met. The following should be included in the mid-year report:

- For each project or activity within a task, list the start date and anticipated completion date as well as the work conducted within the reporting period.
- Describe any significant accomplishments as well as any unanticipated delays encountered during the reporting period.
- Discuss whether the activities comprising the agreement are on schedule to meet expected completion date. If not, discuss the actions being taken bring the activities back on schedule.
- State the progress of spending within each task.
- Compare spending in each task relative to the planned expenditures and provide an explanation for any discrepancies.

- Provide sufficient information to allow for tracking of project expenditures for each task.
- Properly mark any intellectual property or confidential information.

VI.C.2. Financial Reports

The applicant shall submit an SF-425 Federal Financial Report semi-annually and at project completion.

VI.C.3. Final Technical Report

Please note that final technical reports are public documents and will be made available on Reclamation's website. Upon award of an agreement, recipients will be provided information regarding the format to be used in completion of their final report.

VI.C.4. Presentation

Approximately at the time of delivery of the draft final report, the Project Manager shall make a presentation via GoToWebinar on the achievements of the project. This review shall inform Reclamation on the project accomplishments, the final results of each task item, and suggestions for future work. This presentation will be open to the public as a webinar and will be recorded and made available on S&T website.

Section VII. Federal Award Agency Contacts

There will be no pre-application conference. Organizations or individuals interested in submitting applications in response to this FOA may *direct questions to Reclamation in writing*. Questions may be submitted to the attention of Janeen Koza, as follows:

By mail:

Bureau of Reclamation
Financial Assistance Management Branch
Attn: Ms Janeen Koza
Mail Code: 84-27852
P.O. Box 25007
Denver, Colorado 80225

By overnight delivery:

Bureau of Reclamation
Attn: Ms Janeen Koza
Mail Code: 84-27852
Denver Federal Center, Bldg. 67 Rm. 152
6th Avenue and Kipling Street
Denver, CO 80225

By email: jkoza@usbr.gov

Byphone: 303-445-3446

Section VIII. Other Information

VIII.A. Use and Disclosure of Proposal Information - Department of the Interior (APR 1984)

a) Definitions. For the purposes of this provision and the Freedom of Information Act (5 U.S.C. 552), the following terms shall have the meaning set forth below:

1) 'Trade Secret' means an unpatented, secret, commercially valuable plan, appliance, formula, or process, which is used for making, Preparing, compounding, treating or processing articles or materials, which are trade commodities.

2) 'Confidential commercial or financial information' means any business information (other than trade secrets) which is exempt from the mandatory disclosure requirement of the Freedom of Information Act, 5 U.S.C. 552. Exemptions from mandatory disclosure which may be applicable to business information contained in proposals include exemption (4), which covers 'commercial and financial information obtained from a person and privileged or confidential,' and exemption (9). which covers 'geological and geophysical information, including maps, concerning wells.'

b) If the applicant, or its subcontractor(s) believes that the proposal contains trade secrets or confidential commercial or financial information exempt from disclosure under the Freedom of Information Act, (5 U.S.C. 552), the cover page of each copy of the proposal shall be marked with the following legend:

"The information specifically identified on pages of this proposal constitute trade secrets or confidential commercial and financial information which the applicant believes to be exempt from disclosure under the Freedom of Information Act. The applicant requests that this information not be disclosed to the public, except as may be required by law. The applicant also request that this information not be used in whole or part by the Government for any purpose other than to evaluate the proposal, except that if a contract is awarded to the offer as a result of or in connection with the submission of the proposal, the Government shall have the right to use the information to the extent provided in the contract."

c) The applicant shall also specifically identify trade secret information and confidential commercial and financial information on the pages of the 36 proposal on which it appears and shall mark each such page with the following legend:

"This page contains trade secrets or confidential commercial and financial information which the applicant believes to be exempt from disclosure under the Freedom of Information Act and which is subject to the legend contained on the cover page of this proposal."

d) Information in a proposal identified by an applicant as trade secret information or confidential commercial and financial information shall be used by the Government only for the purpose of evaluating the proposal, except that: (i) If a contract is awarded to the applicant as a result of or in connection with submission of the proposal, the Government shall have the right to use the information as provided in the contract, and (ii) if the same information is obtained from another source without restriction it may be used without restriction.

e) If a request under the Freedom of Information Act seeks access to information in a proposal identified as trade secret information or confidential commercial and financial information, full consideration will be given to the applicant's view that the information constitutes trade secrets or confidential commercial or financial information. The applicant will also be promptly notified of the request and given an opportunity to provide additional evidence and argument in support of its position, unless administratively unfeasible to do so. If it is determined that information claimed by the applicant to be trade secret information or confidential commercial or financial information is not exempt from disclosure under the Freedom of Information Act, the applicant will be notified of this determination prior to disclosure of the information.

f) The government assumes no liability for the disclosure or use of information contained in a proposal if not marked in accordance with paragraphs (b) and (c) of this provision. If a request under the Freedom of Information Act is made for information in a proposal not marked in accordance with paragraphs (b) and (c) of this provision, the applicant concerned shall be promptly notified of the request and given an opportunity to provide its position to the government. However, failure of an applicant to mark information contained in a proposal as trade secret information or confidential commercial or financial information will be treated by the government as evidence that the information is not exempt from disclosure under the Freedom of Information Act, absent a showing that the failure to mark was due to unusual or extenuating circumstances, such as a showing that the applicant had intended to mark, but that markings were omitted from the applicant's proposal due to clerical error.

VIII.B. Patents, Copyrights, Rights to Data

VIII.B.1. Patent Rights

a) Definitions

- 1) “Invention” means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).
- 2) “Subject invention” means any invention of the recipient conceived or first actually reduced to practice in the performance of work under this agreement, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of agreement performance.
- 3) “Practical Application” means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.
- 4) “Made” when used in relation to any invention means the conception or first actual reduction to practice of such invention.
- 5) “Small Business Firm” means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this provision, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.
- 6) “Nonprofit Organization” means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

b) Allocation of Principal Rights. The Recipient may retain the entire right, title, and interest throughout the world to each subject invention subject to this provision and 35 U.S.C. 203. With respect to any subject invention in which the Recipient retains title, the Federal government shall have a nonexclusive, 38

nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

c) Invention Disclosure, Election of Title and Filing of Patent Application by Recipient

1) The Recipient will disclose each subject invention to the Bureau of Reclamation within two months after the inventor discloses it in writing to Recipient personnel responsible for patent matters. The disclosure to the Bureau of Reclamation shall be in the form of a written report and shall identify the agreement under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the Bureau of Reclamation, the Recipient will promptly notify the Bureau of Reclamation of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Recipient.

2) The Recipient will elect in writing whether or not to retain title to any such invention by notifying the Bureau of Reclamation within two years of disclosure to the Bureau of Reclamation. However, in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the Bureau of Reclamation to date that is no more than 60 days prior to the end of the statutory period.

3) The Recipient will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The Recipient will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

4) Requests for extension of the time for disclosure, election, and filing under subparagraphs 1), 2), and 3) may, at the discretion of the Bureau of Reclamation, be granted. Section IX. Financial Assistance Information 39

d) Conditions When the Government May Obtain Title. The Recipient will convey to the Bureau of Reclamation, upon written request, title to any subject invention:

- 1) If the Recipient fails to disclose or elect title to the subject invention within the times specified in (c), above, or elects not to retain title; provided that the Bureau of Reclamation may only request title within 60 days after learning of the failure of the Recipient to disclose or elect within the specified times.
- 2) In those countries in which the Recipient fails to file patent applications within the times specified in (c) above; provided, however, that if the Recipient has filed a patent application in a country after the times specified in (c) above, but prior to its receipt of the written request of the Bureau of Reclamation, the Recipient shall continue to retain title in that country.
- 3) In any country in which the Recipient decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

e) Minimum Rights to Recipient and Protection of the Recipient Right to File

- 1) The Recipient will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the Recipient fails to disclose the invention within the times specified in (c), above. The Recipient's license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the Recipient is a party and includes the right to grant sublicenses of the same scope to the extent the Recipient was legally obligated to do so at the time the agreement was awarded. The license is transferable only with the approval of the Bureau of Reclamation except when transferred to the successor of that party of the Recipient's business to which the invention pertains.
- 2) The Recipient's domestic license may be revoked or modified by the Bureau of Reclamation to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR part 404 and Bureau of Reclamation licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the Recipient has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified

at the discretion of the Bureau of Reclamation to the extent the Recipient, 40 its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

3) Before revocation or modification of the license, the Bureau of Reclamation will furnish the Recipient a written notice of its intention to revoke or modify the license, and the Recipient will be allowed thirty days (or such other time as may be authorized by the Bureau of Reclamation for good cause shown by the Recipient) after the notice to show cause why the license should not be revoked or modified. The Recipient has the right to appeal, in accordance with applicable regulations in 37 CFR part 404 and Bureau of Reclamation regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

f) Recipient Action to Protect the Government's Interest

1) The Recipient agrees to execute or to have executed and promptly deliver to the Bureau of Reclamation all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the Recipient elects to retain title, and (ii) convey title to the Bureau of Reclamation when requested under paragraph (d) above and to enable the government to obtain patent protection throughout the world in that subject invention.

2) The Recipient agrees to require, by written agreement, its employees, other than clerical and non-technical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Recipient each subject invention made under agreement in order that the Recipient can comply with the disclosure provisions of paragraph (c), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (c)(1), above. The Recipient shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

3) The Recipient will notify the Bureau of Reclamation of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.

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4) The Recipient agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a Section IX. Financial Assistance Information 41 subject invention, the following statement, "This invention was made with government support under (identify the agreement) awarded by (identify the Federal agency). The government has certain rights in the invention."

g) Subcontracts

The Recipient will include this provision, suitably modified to identify the parties, in all sub-agreements or subcontracts, regardless of tier, for experimental, developmental or research work. The sub-recipient or subcontractor will retain all rights provided for the Recipient in this provision, and the Recipient will not, as part of the consideration for awarding the subagreement or subcontract, obtain rights in the sub-recipient's or subcontractor's subject inventions.

h) Reporting on Utilization of Subject Inventions

The Recipient agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the Recipient or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Recipient, and such other data and information as the Bureau of Reclamation may reasonably specify. The Recipient also agrees to provide additional reports as may be requested by the Bureau of Reclamation in connection with any march-in proceeding undertaken by the Bureau of Reclamation in accordance with paragraph (j) of this provision. As required by 35 U.S.C. 202(c)(5), the Bureau of Reclamation agrees it will not disclose such information to persons outside the government without permission of the Recipient.

i) Preference for United States Industry

Notwithstanding any other part of this provision, the Recipient agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Bureau of Reclamation upon a showing by the Recipient or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

j) March-in Rights

The Recipient agrees that with respect to any subject invention in which it has acquired title, the Bureau of Reclamation has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the Bureau of

Reclamation to require the Recipient, an assignee or exclusive licensee of a 42 subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Recipient, assignee, or exclusive licensee refuses such a request the Bureau of Reclamation has the right to grant such a license itself if the Bureau of Reclamation determines that:

- 1) Such action is necessary because the Recipient or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;
- 2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Recipient, assignee or their licensees;
- 3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Recipient, assignee or licensees; or
- 4) Such action is necessary because the agreement required by paragraph (i) of this provision has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

k) Special Provisions for Agreements with Nonprofit Organizations

If the Recipient is a nonprofit organization, it agrees that:

- 1) Rights to a subject invention in the United States may not be assigned without the approval of the Bureau of Reclamation, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the Recipient;
- 2) The Recipient will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the Bureau of Reclamation deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;
- 3) The balance of any royalties or income earned by the Recipient with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and
- 4) It will make efforts that are reasonable under the circumstances to attract licensees of subject invention that are small business firms and that

it will give a preference to a small business firm when licensing a subject Section IX. Financial Assistance Information 43 invention if the Recipient determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the Recipient is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the Recipient. However, the Recipient agrees that the Bureau of Reclamation may review the Recipient's licensing program and decisions regarding small business applicants, and the Recipient will negotiate changes to its licensing policies, procedures, or practices with the Bureau of Reclamation when this review discloses that the Recipient could take reasonable steps to implement more effectively the requirements of this paragraph (k)(4).

l) Communication

Communications regarding matters relating to this provision shall be directed to the Deputy Associate Solicitor, Branch of Procurements and Patents, Office of the Solicitor, U.S. Department of the Interior, Washington, DC 20240.

VIII.B.2. Copyrights (Reclamation 08/03)

For recipients subject to the administrative standards set forth in OMB Circular A-110, the following copyright provision, as implemented by 43 CFR 12.936(a), shall apply:

“The recipient may copyright any work that is subject to copyright and was developed, or for which ownership was purchased, under an award. The Federal awarding agency(ies) reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.”

For recipients subject to the administrative standards set forth in OMB Circular A-102 and the Grants Management Common Rule, the following copyright provision, as implemented by 43 CFR 12.74, shall apply:

“The Federal awarding agency reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes:

- a) The copyright in any work developed under a grant, subgrant, or contract under a grant or subgrant; and
- b) Any rights of copyright to which a grantee, subgrantee or a contractor purchases ownership with grant support.”

VIII.B.3. Rights to Data (Reclamation 08/03)

For recipients subject to the administrative standards set forth in OMB Circular A-110, the following provision, as implemented by 43 CFR 12.936(c), shall apply:

“The Federal Government has the right to:

- 1) Obtain, reproduce, publish or otherwise use the data first produced under an award; and
- 2) Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.”