BUREAU OF RECLAMATION

Notice of Funding Opportunity No. R22AS00010

Desalination and Water Purification Research Program:

Research Projects

U.S. Department of the Interior

June 2021

Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

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.

Cover photo: Yuma Desalting Plant in Yuma, Arizona (Reclamation).

Synopsis

Federal Agency Name:	Department of the Interior, Bureau of Reclamation, Research and Development Office
Funding Opportunity Title:	Desalination and Water Purification Research Program (DWPR): Research Projects
Announcement Type:	Notice of Funding Opportunity (NOFO)
Funding Opportunity Number:	R22AS00010
Catalog of Federal Domestic Assistance (CFDA) Number:	15.506
Dates: (See Sec. D.4)	Application due date: Thursday, September 9th, 2021 at 4:00 p.m. Mountain Daylight Time (MDT)
Eligible Applicants: (See Sec. C.1)	Individuals, institutions of higher education, profit organizations, State and local governmental entities, non-profit organizations, federally funded research and development centers, and Indian tribal governments and organizations. Foreign entities are not eligible for funding under the authorizing legislation for this program. Federal agencies are not eligible to apply.
Recipient Cost Share: (See Sec. C.2)	For institutions of higher education non-Federal cost share is not required but highly encouraged. All other applicants must provide at least 50 percent non-Federal cost share.
Federal Funding Amount: (See Sec. B.1)	The President's fiscal year (FY) 2022 budget request includes $7.85 million for research under the DWPR program. Funding Group I: Laboratory Scale projects. Up to $250,000 per agreement for a project that can be completed within two years. Funding Group II: Pilot Scale projects. Up to $800,000 per agreement for a project that can be completed within three years.
Estimated Number of Agreements to be Awarded: (See Sec. B.1)	Reclamation anticipates awarding approximately 10 to 20 projects dependent upon available Federal appropriations. It is expected that more awards will be made for Funding Group I: Laboratory Scale projects than Funding Group II: Pilot Scale projects and that only a small number of awards will be made for Funding Group II: Pilot Scale projects.

Application Checklist

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

√	What to submit	Required content	Form or format	When to submit
	Mandatory Federal Forms: Application for Federal Financial Assistance Budget Information Assurances	See Sec. D.2.2.1	SF-424, SF-424A, and SF-424B forms may be obtained at www.grants.gov/web/grants/forms/sf-424-family.html	*
	Title page	See Sec. D.2.2.2	Page 13	*
	Table of contents	See Sec. D.2.2.3	Page 13	*
	Technical proposal: Executive summary Background Technical approach/Project Activities Research work plan and schedule Environmental impacts Evaluation criteria	See Sec. D.2.2.4 See Sec. E.1	Page 13 Page 27	*
	Project Budget: Funding plan & letters of commitment Budget proposal Budget narrative	See Sec D.2.2.5	 Page 15 Page 16 Page 17	*
	Personnel Qualifications	See Sec. D.2.2.6	Page 22	*
	Letters of support	See Sec. D.2.2.7	Page 23	*
	Unique Entity Identifier and System for Award Management	See Sec. D.3	Page 23	**

* Submit materials with your application.

** Should be completed by application deadline; however, please refer to the applicable section of the NOFO for extended completion date.

Acronyms and Abbreviations

ARC	Application Review Committee
ASAP	Automated Standard Application for Payments
CFDA	Catalog of Federal Domestic Assistance
CFR	Code of Federal Regulations
CWA	Clean Water Act
Department	United States Department of the Interior
DUNS	Data Universal Number System
DWPR	Desalination and Water Purification Research Program
ESA	Endangered Species Act
FAPIIS	Federal Award Performance Integrity Information System
FOIA	Freedom of Information
FY	fiscal year
MDT	Mountain Daylight Time
MTDC	modified total direct costs
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOFO	Notice of Funding Opportunity
QA/QC	Quality Assurance and Quality Control
P.L.	Public Law
Reclamation	Bureau of Reclamation
SAM	System for Award Management
SPOC	Single Point of Contact
U.S.C.	United States Code
WaterSMART	Sustain and Manage America's Resources for Tomorrow

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Section A. Funding Opportunity Description

A.1. Program Information

The United States Department of the Interior (Department), Bureau of Reclamation's (Reclamation) Desalination and Water Purification Research Program (DWPR) works with Reclamation researchers and partners to develop innovative, cost-effective, and technologically efficient ways to desalinate or treat water. DWPR aligns with Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," by investing in development and application of advanced water treatment technologies that expand access to otherwise unusable water resources, thereby increasing water supply flexibility under the risks of long-term climate change and shorter-term drought. Investing in such technologies leads to development of climate-resilient, cost-effective, and low-impact solutions that bolster the ability of Reclamation, its customers, and stakeholders to cope with stresses of climate change.

DWPR funding plays a critical role in iterating an idea from the lab to a real-world demonstration, which yields products that serve the water treatment community and attract commercialization interest. Through DWPR, research sponsors partner with Reclamation to address a broad range of desalting and water purification needs. Reclamation is interested in research where the benefits are widespread and where private-sector entities are not able to make the full investment and assume all the risks. Reclamation is also interested in research that has a national significance—where the issues are of large-scale concern and the benefits accrue to a large sector of the public.

DWPR program activities are also aligned with other Federal desalination and water treatment initiatives, including the National Water Reuse Action Plan and the U.S. Department of Energy's Water Security Grand Challenge.

For further information on the DWPR Program see https://www.usbr.gov/research/dwpr.

A.2. Objectives of this Notice of Funding Opportunity

This NOFO's objective is to invite private industry, universities, water utilities, and other research sponsors to submit applications that address DWPR program goals and objectives through laboratory or pilot scale studies.

DWPR's goal is to increase water supplies by reducing the cost, energy consumption, and environmental impacts of treating impaired and otherwise unusable waters. This DWPR funding opportunity invites applicants to address any of the following objectives.

- Reduce energy consumption and lower the cost of desalination
- Reduce the environmental impacts of seawater desalination and develop technology and strategies to minimize those impacts

- Improve existing membrane technologies, including reverse osmosis
- Carry out basic and applied research on next generation desalination technologies, including improved energy recovery systems and renewable energy-powered desalination systems that could significantly reduce desalination costs
- Develop and promote innovative desalination technologies, including concentrate management and chloride control
- Study methods for the recovery of byproducts resulting from desalination to offset the costs of treatment and to reduce environmental impacts from those byproducts
- Develop metrics to analyze the costs and benefits of desalination relative to other sources of water (including costs and benefits related to associated infrastructure, energy use, environmental impacts, and diversification of water supplies)
- Assess environmental impacts from desalination intake, concentrate management approaches, and reclaimed water
- Develop improved intake methods at coastal facilities to minimize impingement of larger organisms and entrainment of smaller ones
- Improve pretreatment for membrane desalination
- Improve membrane system performance
- Develop novel approaches or processes to desalinate water in a way that reduces primary energy use
- Develop cost-effective approaches for concentrate management that minimize potential environmental impacts
- Develop a better understanding of the formation of hazardous transformation products during water treatment for reuse and ways to minimize or remove them
- Develop a better understanding of pathogen removal efficiencies and the variability of performance in various unit processes and multibarrier treatment and develop ways to optimize these processes
- Identify better indicators and surrogates to monitor process performance in reuse scenarios and develop online real-time or near real-time analytical monitoring techniques for their measurement

A.3. Statutory Authority

This NOFO is issued under the authority of the Reclamation Act of 1902, §1 and 2, and the Omnibus Public Land Management Act of 2009, Public Law (P.L.) 111- 11, §9509, Research Agreement Authority.

A.4. Other Related Funding Opportunities

WaterSMART (Sustain and Manage America's Resources for Tomorrow) Title XVI Water Reclamation and Reuse Program. Water reclamation research under the Title XVI Water Reclamation and Reuse Program supports projects to apply commercially available water reclamation and reuse technologies in the 17 Western States.

DWPR Pitch to Pilot. This funding opportunity supports projects at the pilot scale to develop innovative and disruptive new technologies or processes.

Section B. Award Information

B.1. Total Program Funding

The President's fiscal year (FY) 2022 budget request includes $7.85 million for research under the DWPR program. Reclamation anticipates awarding approximately 10 to 20 projects dependent upon available Federal appropriations. Applications submitted under this NOFO also may be considered if additional funding becomes available in FY 2022 or thereafter.

B.2. Project Funding Limitations

Federal funding is limited to the funding amounts identified below for each Funding Group. The number of selected awards and the total awarded funding will be based on the quality of the applications received and congressional funding available.

Funding Group I: Laboratory Scale projects are typically bench-scale studies involving small flow rates (less than 2 gallons per minute). They are used to determine the viability of a novel process, new materials, or process modifications. Research at this stage often involves a high degree of risk and uncertainty.

Up to $250,000 in Federal funds per proposed project will be available under this funding group for projects that can be completed within two years.

Funding Group II: Pilot Scale projects test a novel process at a sufficiently large scale to determine the practicality of implementing the technology at a larger scale. Pilot studies are used to generate data that can be used to estimate the operational requirements (e.g., labor, chemical addition, power requirements) of the process and to show performance with respect to finished water quality goals. Pilot-scale projects are generally preceded by laboratory studies (funded previously by DWPR or others) that demonstrate that the technology works.

Up to $800,000 in Federal funds per proposed project will be available under this funding group for projects that can be completed within three years. Funding will be provided year by year; and, therefore, applicants should break out their funding requests annually in the proposed budget portion of the application. Funding after the first year is not guaranteed and will be made available based on adequate work completed in the previous year.

B.3. Assistance Instrument

Awards made under this NOFO will be made through cooperative agreements. The recipient should expect Reclamation to have substantial involvement in the project. Substantial involvement by Reclamation may include actions to:

- Coordinate contributions made by different partners on the project team.
- Evaluate accomplishments as each task is completed.
- Suggest changes to tasks to accomplish project goals.
- Review, provide input, and comment on draft and final research deliverables including the final project report.

You may request technical assistance from Reclamation on your project tasks. If you receive Reclamation's assistance, you must account for these costs in your budget. To discuss available assistance and Reclamation technical service costs, contact the program administrator identified in *Section G: Agency Contacts*.

Section C. Eligibility Information

C.1. Eligible Applicants

Any responsible research entity is eligible to receive an award under this NOFO, including:

- Individuals
- Institutions of higher education
- Profit organizations
- Private entities
- State and local governmental entities
- Entities that are an administrator of a federally funded research and development center
- Tribal governments and organizations
- Non-profit organizations

Those not eligible include:

- Federal governmental entities
- Foreign entities

Foreign entities are not eligible to apply to the program and receive funding directly. Applicants are encouraged to leverage the experience of international partners with considerable expertise in desalination, for example, the State of Israel, the Middle East Desalination Research Center, European Desalination Society, Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas in Spain, and academic and public global institutions.

C.2. Cost Sharing Requirements

Non-Federal cost share is required for all applicants that are not designated as institution of higher education and must be capable of providing a 50% non-Federal cost-share of the total research study costs. Although a cost share is not required, it is encouraged that higher education institutions provide cost share for the project, and cost shares are evaluated in evaluation criteria.

Cost sharing may be made through cash or in-kind contributions from the applicant or third-party partners. Cost-share funding from sources outside the applicant's organization (e.g., loans or State grants) should be secured and available to the applicant prior to award. Please see *Section D.2.2.5.1*

Funding Plan and Letters of Commitment for more information regarding the documentation required to verify commitments to meet cost sharing requirements.

C.2.1. Cost-Share Regulations

All cost-share contributions must meet the applicable administrative and cost principles criteria established in 2 Code of Federal Regulations (CFR) Part 200, available at the Electronic Code of Federal Regulations www.ecfr.gov.

C.2.2. In-Kind Contributions and Donations

In-kind contributions and donations 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 project or program. The cost or value of in-kind contributions and donations 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 an award under this NOFO; except where the Federal statute authorizing a program specifically provides that Federal funds made available for such program can be applied to matching or cost sharing requirements of other Federal programs, such as awards to tribal organizations under P.L. 93-638, as amended. Applicants should refer to 2 CFR §200.434 for regulations regarding the valuation of in-kind donations and contributions, available at www.ecfr.gov.

C.3. Eligible Projects

C.3.1. Eligible Projects

Proposals that address the DWPR program goals and objectives are eligible for funding under this NOFO.

Funding Group I: Laboratory-Scale Projects

Eligible laboratory-scale projects are typically bench-scale studies involving small flow rates less than two gallons per minute. Laboratory projects are used to determine the viability of a process, improved and/or new materials, and process modifications. Research at this stage often involves a high degree of risk and uncertainty.

Funding Group II: Pilot-Scale Projects

Pilot-scale projects eligible for funding under this NOFO should involve flow rates above one gallon per minute and should be tested using natural water sources rather than synthetic or laboratory-made feed water. These projects are typically used to determine the technical, practical, and/or economic ability of a process. Preliminary costs are also developed for capital and operation and maintenance costs.

C.3.2. Ineligible Projects

Projects not eligible for funding under this NOFO include, but are not limited to:

- Proposals for research on projects that are part of a congressionally authorized Title XVI project under Title XVI Water Reclamation and Reuse. A list of congressionally authorized Title XVI projects is at www.usbr.gov/watersmart/title/authorized.html.

- Proposals for research on projects that are part of an approved Title XVI Feasibility Study under Title XVI Water Reclamation and Reuse: Desalination and Water Recycling Feasibility Studies. A list of approved Title XVI feasibility studies is at www.usbr.gov/watersmart/title/feasibility.html.

- Proposals for research projects developing technologies or processes currently implemented and being used in a United States water treatment facility under the same intent of use as proposed (e.g., pilot testing a commercially available technology at a new location).

- Proposals for constructing permanent research facilities.

C.3.3. Length of Projects

In general, **laboratory-scale** projects should be completed within **24 months** of award and **pilot-scale** projects should be completed within **36 months** of award; including the required project presentation. Applications for projects requiring more time will be considered for funding only under limited circumstances.

Section D. Application and Submission Information

D.1. Address to Request Application Package

This document contains all 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 NOFO by emailing the Notice of Funding Opportunity staff at bor-sha-fafoa@usbr.gov.

D.2. Content and Form of Application Submission

All applications must conform to the requirements set forth below.

D.2.1. Application Format and Length

The technical proposal and responses to evaluation criteria section of the application package shall be no more than **20** (twenty) consecutively numbered pages. If an application exceeds 20 pages, only the first 20 pages will be evaluated. The font shall be at least 12 points in size and easily readable. Page size shall be 8½ by 11 inches, including charts, maps, and drawings. Oversized pages will not be accepted.

Applications will be prescreened for compliance to the page number limitations. Excess pages will be removed and not considered in the evaluation of the proposed project.

D.2.2. Application Content

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

- Mandatory Federal Forms
  - SF-424 Application for Federal Assistance
  - SF-424A, Budget Information Non-Construction Programs
  - SF-424B Assurances Non-Construction Programs
  - SF-LLL Disclosure of Lobbying Activities (if applicable)

  These forms are at www.grants.gov/web/grants/forms/sf-424-family.html

- Title page

- Table of contents

- Technical proposal and responses to evaluation criteria (limited to 20 pages)

  - Executive summary
  - Background/introduction
  - Technical approach and project activities
  - Research work plan and schedule
  - Facilities and equipment information
  - Quality assurance and quality control (QA/QC) program
  - Environmental impacts
  - Responses to evaluation criteria

- Project budget
  - Funding plan and letters of commitment
  - Budget proposal
  - Budget narrative

- Personnel qualifications

- Letters of support

- Request for increase in Federal cost-share justification, if applicable

D.2.2.1. Mandatory Federal Forms

The application must include the following standard Federal forms.

D.2.2.1.1. SF-424 Application for Federal Assistance

A fully completed SF-424 Application for Federal Assistance signed by a person legally authorized to commit the applicant to performance of the project must be submitted with the application. Failure to submit a properly signed SF-424 may result in the elimination of the application from further consideration.

D.2.2.1.2. SF-424A Budget Information

A fully completed SF-424A Budget Information-Non-Construction Programs must be submitted with the application.

D.2.2.1.3. SF-424B 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.

D.2.2.1.4. SF-LLL Disclosure of Lobbying Activities

A fully completed and signed SF-LLL, Disclosure of Lobbying Activities is required if the applicant has made or agreed to make payment to any lobbying entity 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 a covered Federal action.

D.2.2.2. Title Page

Provide a brief, informative, and descriptive title for the proposed work that indicates the nature of the project. Include the name and address of the applicant, and the name, address, e-mail address, and telephone number of the project manager.

D.2.2.3. Table of Contents

List all major sections of the proposal in the table of contents.

D.2.2.4. Technical Proposal and Evaluation Criteria

The technical proposal should describe the project and supporting 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 the DWPR Program and should demonstrate a thorough understanding of the topic proposed for study. The technical proposal should 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 from other Federal government agencies.

The technical proposal and responses to evaluation criteria (**20** pages maximum) should include:

(1) Executive summary
(2) Background/introduction
(3) Technical approach and project activities
(4) Research work plan and schedule
(5) Facilities and equipment information
(6) QA/QC program
(7) Environmental impacts
(8) Responses to evaluation criteria

D.2.2.4.1. Executive Summary

The executive summary should include:

- The date, applicant name, city, county, and state
- A one-paragraph project summary that specifies the work proposed, including how the requested Federal funds would help accomplish the goals of the proposed project, and briefly identifies how the proposed project contributes to accomplishing the goals of this NOFO
- The length of time and estimated completion date for the proposed project
- The proposed project location and if the work will be conducted at a Federal facility

D.2.2.4.2. Background/Introduction

Describe the status of the technology supporting the specific research work proposed. Address the following:

- What is the problem to be solved?
- What is the proposed solution?
- Provide a comprehensive background on the problem based on experience and what is reported in literature. If appropriate, identify specific water types and locations.
- What technical risks are associated with the proposed investigation? Have you or anyone else conducted similar projects? If so, how successful have these projects been?
- What would success look like? If the project proved successful, what would be the result at the end of the investigation, and what would be the potential for follow-on funding for further work? What does the commercialization path look like?
- Identify one or more DWPR objectives addressed by the proposed project (as described in *Section A.2 Objectives of this Notice of Funding Opportunity).*

D.2.2.4.3. Technical Approach and Project Activities

This section should describe the technical approach and proposed research activities to be conducted under the project and include enough detail to permit a comprehensive evaluation. The applicant's understanding will be established not only by the proposed approach, but also by anticipating and/or identifying the various problems and assessing the severity of each problem.

Describe in detail the activities or tasks to be conducted, including the development of the final technical report. For each activity, describe what studies and tests you plan to conduct, what kind of apparatus you will need, what data you plan to collect, and how you will analyze the data.

D.2.2.4.4. Research Work Plan and Schedule

Provide a research work plan based on the technical approach and project activities. The research work plan should include a schedule showing individual tasks with significant milestones identified for the work to be accomplished. The work plan should also identify work-hour requirements for each task or phase, including time for the preparation, submission, and addressing review comments at key milestones. Clearly and concisely convey this schedule using a table, Gantt chart, project network diagram, or any other visual format. Include time for review and finalization of the technical report.

Clearly identify 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 a description of the work anticipated to be performed under any subcontract.

D.2.2.4.5. Facilities and Equipment Information

Describe the facilities where the work will be performed. List the equipment that is available for use on the project and that will be required for carrying out the proposed work. List and justify any special equipment that will need to be purchased and indicate the extent to which the work cannot be accomplished without it. Information on alternative sources considered for the equipment should also be included.

D.2.2.4.6. Quality Assurance and Quality Control Program

Identify the proposed procedures for QA/QC protocols to be used throughout the project, including statistical data analysis, peer review, instrument calibration, etc. If a QA/QC program already exists in your institution, provide a summary of the program as well as additional information as needed to address using the program for your proposed project.

D.2.2.4.7. Environmental Impacts

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

D.2.2.4.8. Responses to Evaluation Criteria

The responses to evaluation criteria portion of your application should clearly describe how the proposed project addresses each criterion (in the order presented) to assist in the complete and accurate evaluation of your application. See *Section E.1. Technical Proposal: Evaluation Criteria* for additional details, including a detailed description of each criterion and points associated with each.

D.2.2.5. Project Budget

The project budget includes:

(1) Funding plan and letters of commitment
(2) Budget proposal
(3) Budget narrative

Project costs that are anticipated to be incurred prior to award that the applicant would seek reimbursement for or wishes to apply as non-Federal cost share should be included in the proposed project budget. If the proposed project is selected, the awarding Reclamation Grants Officer will review the proposed pre-award costs to determine if the costs are consistent with program objectives and are allowable in accordance with the authorizing legislation. Proposed pre-award costs must also comply with all applicable administrative and cost principles criteria established in 2 CFR Part 200, available at www.ecfr.gov, and all other requirements of this NOFO. **In no case will costs incurred prior to June 1, 2021, be considered for inclusion in the budget of the proposed project.**

D.2.2.5.1. Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. Letters of commitment shall identify the following elements:

- The amount of funding commitment
- The date the funds will be available to the applicant

- Any time constraints on the availability of funds
- Any other contingencies associated with the funding commitment

Commitment letters from third-party funding sources should be submitted with your project application. If commitment letters are not available at the time of the application submission, please provide a timeline for submitting all commitment letters. Cost-share funding from sources outside the applicant's organization (e.g., loans or State grants) should be secured and available to the applicant prior to award.

Reclamation will not make funds available for an award under this NOFO until the recipient has secured non-Federal cost-share. Reclamation will execute a financial assistance agreement once non-Federal funding has been secured or Reclamation determines that there is enough evidence and likelihood that non-Federal funds will be available to the applicant after executing the agreement.

Please identify the sources of the non-Federal cost-share contributions for the project, including: Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)

- Any costs that will be contributed by the applicant
- Any third-party in-kind costs (i.e., goods and services provided by a third party)
- Any cash requested or received from other non-Federal entities
- Any pending funding requests (i.e. grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied

In addition, please identify whether the budget proposal includes any project costs that may be incurred prior to award. For each cost, describe:

- The project expenditure and anticipated amount
- The anticipated date of cost incurrence
- How the expenditure benefits the project

Please include the following chart (Table 1) to summarize all funding sources. Denote in-kind contributions with an asterisk (*).

Table 1.—Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1.	$
2.	$
3.	$
Non-Federal Subtotal	$
Other Federal Entities	
1.	$

FUNDING SOURCES	AMOUNT
2.	$
3.	$
Other Federal Subtotal	$
REQUESTED RECLAMATION FUNDING	$

D.2.2.5.2. Budget Proposal

The total project cost (Total Project Cost), is the sum of all allowable items of costs, including all required cost sharing, voluntary committed cost sharing, and third-party contributions, that are necessary to complete the project. Please include the following charts (Table 2 and Table 3) to summarize all funding sources.

Table 2.—Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	$
Costs to be paid by the applicant	$
Value of third-party contributions	$
TOTAL PROJECT COST	**$**

Table 3.—Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1.	$
2.	$
3.	$
Non-Federal Subtotal	$
REQUESTED RECLAMATION FUNDING	**$**

The budget proposal should include detailed information on the categories listed in this subsection and must clearly identify all items of cost, including those that will be contributed as non-Federal cost share by the applicant (required and voluntary), third-party in-kind contributions, and those that will be covered using the funding requested from Reclamation, and any requested pre-award costs. Unit costs must be provided for all budget items including the cost of services or other work to be provided by consultants and contractors. The budget should include the mandatory trip to provide a final presentation at Reclamation's office in Lakewood, Colorado towards the end of the project. Budget proposals may only include the costs for up to 2 people to attend one conference, and the budget should not include any construction costs of permanent research facilities. Applicants are strongly encouraged to review the procurement standards for Federal awards found in 2 CFR §200.317 through §200.327, available at the Electronic Code of Federal Regulations (www.ecfr.gov), before developing their budget proposal.

It is also strongly advised that applicants use the budget proposal format shown in Table 4 or a similar format that provides this information. Successful applicants must submit detailed supporting documentation for all budgeted costs.

Note: The budget proposal must include all project costs. Costs not included in the budget proposal are not eligible to be applied as non-Federal cost share.

Table 4.—Sample Budget Proposal Format

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Employee 1				$
Employee 2				$
Employee 3				$
Fringe Benefits				
Full-Time Employees				$
Part-Time Employees				$
Travel				
Lakewood, Colorado for presentation				$
Trip 2				$
Trip 3				$
Equipment (items over $5,000)				
Item A				$
Item B				$
Item C				$
Supplies and Materials (items less than $5,000)				
Item A				$
Item B				$
Contractual				
Contractor A				$
Contractor B				$
Third Party Contributions				
Contributor A				$
Contributor B				$
Other				
Other				$
TOTAL DIRECT COSTS				$
Indirect Costs				
Type of rate	percentage	$base		$
TOTAL ESTIMATED PROJECT COSTS				$

D.2.2.5.3. Budget Narrative

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation

for, items included in the budget proposal. Include the value of in-kind contributions or donations of goods and services and sources of funds provided to complete the project. The types of information to describe in the narrative include, but are not limited to, those listed in the following subsections. Costs, including the valuation of in-kind contributions and donations, must comply with the applicable cost principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations (www.ecfr.gov).

D.2.2.5.3.1. Salaries and Wages

Indicate the program manager and other key personnel by name and title. Other personnel may be indicated by title alone. For all positions, indicate salaries and wages, estimated hours or percent of time, and rate of compensation. The labor rates should identify the direct labor rate separate from the fringe rate or fringe cost for each category. All labor estimates should be allocated to specific tasks as outlined in the recipient's technical proposal. Labor rates and proposed hours should be displayed for each task.

The budget proposal and narrative should include estimated hours for compliance with reporting requirements, including all interim technical and administrative reports, project presentation, and final project technical and administrative reports. Please see *Section F.3. Reporting Requirements and Distribution* for information on types and frequency of reports required.

Generally, salaries of administrative and/or clerical personnel will be included as a portion of the stated indirect costs. If these salaries can be adequately documented as direct costs, then they should be included in this section; however, a justification should be included in the budget narrative.

D.2.2.5.3.2. Fringe Benefits

Identify the rates/amounts, what costs are included in this category, and the basis of the rate computations. Federally approved rate agreements are acceptable for compliance with this item.

D.2.2.5.3.3. Travel

A maximum of one conference attendance for up to two people can be included in the budget. In addition, up to two people can be included for the project presentation, in the budget to travel to Lakewood, Colorado, to present your final findings. In general, this trip should only include lodging for one night.

For all other travel anticipated to occur for your proposed project, identify the purpose of each trip, the destination, number of persons traveling, length of stay, and all travel costs including airfare (basis for rate used), per diem, lodging, and miscellaneous travel expenses. For local travel, include mileage and rate of compensation. ***Note: travel costs incurred by contractors should not be included in this section but can be included in the contract cost estimate.***

D.2.2.5.3.4. Equipment

If equipment will be purchased, itemize all equipment valued at or greater than $5,000. For each item, identify why it is needed for the completion of the project and how the equipment was priced (i.e. quotes, previous similar project, engineering estimates, or other methodology). ***Note: if the value is less than $5,000, the item should be included under materials and supplies.***

If equipment is being rented, specify the rental duration and rate. Local rental rates are only accepted for equipment being rented or leased.

D.2.2.5.3.5. Materials and Supplies

Itemize supplies by major category, unit price, quantity, and purpose, such as whether the items are needed for office use, research, or construction. Identify how these costs were estimated (e.g., quotes, past experience, engineering estimates, or other methodology).

D.2.2.5.3.6. Contractual

Identify all work that will be accomplished by subrecipients, consultants, or contractors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. Identify how the budgeted costs for sub-recipients, consultants, or contractors were determined to be fair and reasonable.

D.2.2.5.3.7. Third-Party In-Kind Contributions

Identify all work that will be accomplished by third-party contributors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. Third-party in-kind contributions, including contracts, must comply with all applicable administrative and cost principles criteria, established in 2 CFR Part 200, available at www.ecfr.gov, and all other requirements of this NOFO.

D.2.2.5.3.8. Environmental and Regulatory Compliance Costs

If the proposed project includes ground-disturbing activities, the applicant must include a line item in the budget to cover environmental compliance costs. "Environmental compliance costs" refer to costs incurred by Reclamation and the recipient in complying with environmental regulations applicable to an award under this NOFO, including costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include National Environmental Policy Act (NEPA), Endangered Species Act (ESA), National Historic Preservation Act (NHPA), Clean Water Act (CWA), and other regulations depending on the project. Such costs may include, but are not limited to:

- The cost incurred by Reclamation to determine the level of environmental compliance required for the project
- The cost incurred by Reclamation, the recipient, or a consultant to prepare any necessary environmental compliance documents or reports
- The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant
- The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures

The amount of the line item should be based on the actual expected environmental compliance costs for the project, including Reclamation's cost to review environmental compliance documentation. However, the minimum amount budgeted for environmental compliance should be

equal to at least one to two percent of the total project costs. If the amount budgeted is less than one to two percent of the total project costs, then you must include a compelling explanation of why less than one to two percent was budgeted.

How environmental compliance activities will be performed (e.g., by Reclamation, the applicant, or a consultant) and how the environmental compliance funds will be spent, will be determined pursuant to subsequent agreement between Reclamation and the applicant. The amount of funding required for Reclamation to conduct any environmental compliance activities, including Reclamation's cost to review environmental compliance documentation, will be withheld from the Federal award amount and placed in an environmental compliance account to cover such costs. If any portion of the funds budgeted for environmental compliance is not required for compliance activities, such funds may be reallocated to the project, if appropriate.

If you have questions on Reclamation's costs to include in the application, please contact the Program Administrator. See *Section G. Agency Contacts.*

D.2.2.5.3.9. Other Expenses

Any other expenses not included in the above categories should be listed in this category, along with a description of the item and why it is necessary. No profit or fee will be allowed.

D.2.2.5.3.10. Indirect Costs

Indirect costs are costs incurred by the applicant for a common or joint purpose that benefit more than one activity of the organization and are not readily assignable to the activities specifically benefitted without undue effort. Costs that are normally treated as indirect costs include, but are not limited to, administrative salaries and fringe benefits associated with overall financial and organizational administration; operation and maintenance costs for facilities and equipment; and, payroll and procurement services. If indirect costs will be incurred, identify the proposed rate, cost base, and proposed amount for allowable indirect costs based on the applicable cost principles for the applicant's organization. It is not acceptable to simply incorporate indirect rates within other direct cost line items.

Any non-Federal entity that does not have a current negotiated (including provisional) rate, except for those non-Federal entities described in appendix VII to 2 CFR §200, paragraph D.1., may elect to charge a *de minimis* rate of 10% of modified total direct costs (MTDC) which may be used indefinitely. For further information on MTDC, refer to 2 CFR §200.68 available at www.ecfr.gov.

If you do not have a federally approved indirect cost rate agreement and is proposing a rate greater than the de minimis 10 percent rate, include the computational basis for the indirect expense pool and corresponding allocation base for each rate. Information on "Preparing and Submitting Indirect Cost Proposals" is available from the Department's Interior Business Center, Office of Indirect Cost Services, at www.doi.gov/ibc/services/finance/indirect-cost-services.

D.2.2.6. Personnel Qualifications

Provide the following information for personnel:

- Identification of the Project Manager responsible for ensuring completion of the work.
- Identification of key personnel, including consultants, to be assigned for direct work on the project and as direct technical supervision, along with the nature of each individual's involvement and estimated work hours by task.
- A statement of assurance that the proposed personnel will be available for work on this agreement.
- A list of alternative personnel to be used in the event proposed personnel are not available as planned.
- A brief resume limited to two pages maximum (to include education, experience, accomplishments, and other pertinent information) for all key personnel named.

D.2.2.7. Letters of Support

Please include letters from interested stakeholders supporting the proposed project. To ensure your application is accurately reviewed, please attach all letters of support and/or partnership letters as an appendix. Letters of support and partnership letters received after the application deadline for this NOFO will not be considered in the evaluation of the application.

D.2.2.8. Justification for Reduction in Non-Federal Cost-Share Contribution (if applicable)

If applicable, please include adequate information as to why this project is not feasible without a reduction to the non-Federal cost-share contribution as described in *Section C.2 Cost Sharing Requirements*. Information regarding the financial capabilities of the applicant and project partners should be included as well as any additional information that will support the claims being made by the applicant. Clearly state the reduced non-Federal cost share being requested. Under no circumstances will the Federal share of projects funded under this NOFO exceed 50 percent of the total project costs.

D.2.2.9. Prohibition on Certain Telecommunication and Video Surveillance Services or Equipment

Federal award recipients are prohibited from using government funds to enter contracts (or extend or renew contracts) with entities that use covered telecommunications equipment or services as described in §889 of the 2019 National Defense Authorization Act. This prohibition applies even if the contract is not intended to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services.

D.3. Unique Entity Identifier and System for Award Management

All applicants (unless the applicant is an individual or has an exception approved by Reclamation under 2 CFR §25.110[d]) are required to:

(i) Be registered in System for Award Management (SAM) before submitting its application.

(ii) Provide a valid unique entity identifier in its application.

(iii) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

Meeting the requirements set forth above is mandatory. If the applicant is unable to provide a valid unique entity identifier or complete SAM registration by the application deadline, the valid unique entity identifier must be obtained and the SAM registration must be initiated within 30 days after the application deadline to be considered for selection and award.

Reclamation will not make a Federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements. Additional information on how to complete SAM registration can be found at https://sam.gov/content/entity-landing.

D.4. Submission Date and Time

The application submission deadline is:

- Thursday, September 9th, 2021 at 4:00 p.m. Mountain Daylight Time (MDT) for applications to be considered for funding, contingent on appropriations.

Applications received after the application deadline will not be considered unless it can be determined that the delay was caused by Reclamation mishandling or technical issues with the Grants.gov application system. Please note that difficulties related to an applicant's Grants.gov profile (e.g., incorrect organizational representative), the upload of documents to Grants.gov, or an applicant's SAM registration are not considered technical issues with the Grants.gov system.

Please note that any application submitted for funding under this NOFO may be subjected to a Freedom of Information Act request (5 United States Code [U.S.C.] Section 552, as amended by P.L. No. 110-175), and as a result, may be made publicly available.

D.4.1. Application Delivery Instructions

Applications may be submitted electronically through Grants.gov (www.grants.gov) 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 e-mail or fax) be considered eligible for award.

By mail or USPS Priority Mail Express:	Bureau of Reclamation Financial Assistance Operations Attn: NOFO Team P.O. Box 25007, MS 84-27133 Denver, CO 80225

By other express delivery service and courier services:	Bureau of Reclamation mail services Attn: NOFO Team (MS 84-27133) Denver Federal Center Bldg 67, Room 152 6th Avenue and Kipling Street Denver, CO 80225

D.4.2. Instructions for Submission of Project Application

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

D.4.2.1. Applications Submitted by Mail, Express Delivery or Courier Services

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

- Applicants shall submit one copy of all application documents for hardcopy submissions. Only use a binder clip for documents submitted. Do not staple or otherwise bind application documents.

- Hard copy applications may be submitted by mail, express delivery, or courier services to the addresses identified in this NOFO.

- Materials arriving separately will not be included in the application package and may result in the application being rejected or not funded. This does not apply to letters of support and funding commitment letters. A letter of support must be received by the application deadline to be considered in the evaluation.

- Faxed and e-mailed 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.

D.4.2.2. Applications Submitted Electronically

If the applicant chooses to submit an electronic application, it must be submitted through Grants.gov (www.grants.gov). Proposals submitted through GrantSolutions will ***not*** be accepted. Reclamation encourages applicants to submit their applications for funding electronically at: www.grants.gov/applicants/apply-for-grants.html. Applicant resource documents and a full set of instructions for registering with Grants.gov (www.grants.gov) and completing and submitting applications online are available at: www.grants.gov/applicants/apply-for-grants.html.

- Please note that submission of an application electronically requires prior registration through Grants.gov, which generally takes 7 to 21 days. Please see registration instructions at www.grants.gov/applicants/apply-for-grants.html. ***In addition, please note that the Grants.gov system only accepts applications submitted by individuals that are registered and active in SAM as both a user and an Authorized Organizational Representative.***

- Applicants have experienced significant delays when attempting to submit applications through Grants.gov. Please note that Grants.gov will not notify an applicant if their SAM registration is inactive. Applicants are encouraged to verify that their SAM.gov registration is active well in advance of the application deadline. 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.

Regardless of the delivery method used, you must ensure that your proposal arrives by the date and time deadline stated in this NOFO. 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 considered unless it is determined that the delay was caused by Reclamation mishandling or by a problem with the Grants.gov application system. Please note that difficulties related to an applicant's Grants.gov profile (e.g., incorrect organizational representative), the upload of documents to Grants.gov, or an applicant's SAM registration are not considered technical issues with the Grants.gov system.

D.4.2.3. Acknowledgement of Application Receipt.

If an application is submitted by mail, express delivery, or courier, Reclamation will notify you via email that your application was received and whether it was received prior to the deadline identified in the NOFO.

If an application is submitted through Grants.gov, you will receive an e-mail acknowledging receipt of the application from Grants.gov. In addition, Reclamation will notify you in writing that your application was successfully downloaded from Grants.gov.

D.5. Intergovernmental Review

This NOFO is subject to Executive Order 12372, "Intergovernmental Review of Federal Programs." A list of States that have elected to participate in the intergovernmental review process is at www.whitehouse.gov/omb/management/office-federal-financial-management. Applicants in these states must contact their state's Single Point of Contact (SPOC) to find out about and comply with the state's process under Executive Order 12372. The names and addresses of the SPOCs are listed in the Office of Management and Budget's website, www.whitehouse.gov/omb/management/office-federal-financial-management.

D.6. Automated Standard Application for Payments Registration

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) and the Data Universal Number System (DUNS) Number prior to the award of funds. If you have multiple DUNS numbers, you must separately enroll within ASAP for each unique DUNS Number and/or Agency. If you have multiple DUNS numbers, you must separately enroll within ASAP for each unique DUNS Number and/or Agency. All of the information on the enrollment process for recipients, including requesting the enrollment initiation form, can be requested by email from the enrollment mailbox at sha-dro-ASAP_ENR@usbr.gov.

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.

Section E. Application Review Information

E.1. Technical Proposal: Evaluation Criteria

Applications should thoroughly address each criterion in the order presented below. Copy and paste the below criteria into applications to ensure that all criteria are addressed. **Applications will be evaluated directly against the evaluation criteria listed below.** If the work described in your application is a phase of a larger project, only discuss the benefits that will result directly from the work discussed in the technical project description and that is reflected in the budget, not the larger project.

Please note that projects may be prioritized to ensure balance among the program priorities and to ensure that the projects address the goals and objectives of this NOFO. Final award decisions will be made based on research needs and budget available for the DWPR program under this NOFO.

Two applicant categories are identified for evaluating applications:

- **Category A:** Institutions of higher education
- **Category B:** All other applicants

The criteria and maximum possible points for each is identified in Table 5.

Table 5.—Evaluation Criteria with Points Available by Applicant Category

Evaluation Criteria	Category A	Category B
Impact of the proposed work	25	25
Familiarity in the field of work	15	15
Readiness level	10	15
Novelty of approach to work	10	15
Relationship to DWPR objectives	10	10
Qualifications of team	10	10
Adequacy and completeness of schedule	10	10
Non-Federal cost share	10	N/A
Total	**100**	**100**

E.1.1. Impact of the Proposed Work

Impact of the proposed work on the field of water treatment and/or currently used technologies and on its related economics. The impact can be measured by the promise of the solution, the problem being addressed, and the likelihood for success. Examples include energy and cost reduction, impact on water supply, and/or improvements for the technology's usability and operational efficiency. Provide information as to what a successful outcome would be for the proposed project.

E.1.2. Familiarity in the Field of Work

Demonstrate familiarity with the current technology in the field of work. Clearly state the problem being solved, how the proposed approach differs from current solutions, potential challenges that will be faced throughout the proposed testing, and mitigation strategies for these challenges.

E.1.3. Readiness Level

Describe prior research on the proposed technology or process and how this prior work supports the need for the proposed project. Information such as a process flow diagram, mass and energy balances, and data from previous testing can be used to support the readiness of the proposed project. As applicable, provide the location of the proposed testing, water type(s) to be tested, and system flow rate.

Using the definitions in the Table 6 below, clearly identify what technology readiness level (TRL) the proposed technology is currently at, and what technology readiness level will be achieved if the proposed project is implemented. This funding opportunity is targeting technologies that are currently at TRLs 1-6, but technologies at other TRLs will also be considered if sufficient justification is provided for the need for additional research.

Table 6.—Technology Readiness Levels

TRL	Definition
1	Basic principles observed and reported
2	Technology concept and/or application formulated
3	Analytical and experimental critical function and/or characteristic proof of concept
4	Component and/or system validation in laboratory environment
5	Laboratory scale, similar system validation in relevant environment
6	Pilot-scale system validation in relevant environment
7	Full-scale system demonstrated in relevant environment
8	Actual system completed and qualified through test and demonstration.
9	Actual system operated over the full range of expected conditions.

E.1.4. Novelty of Approach to Work

Describe the novelty of approach to the proposed work or novelty of the idea itself. Novelty is defined as new and/or original where the approach or the technology is not being implemented at full scale in its intended use in any water facility in the United States.

E.1.5. Relationship to DWPR Objectives

Describe how the proposed work aligns with one or more of the objectives shown in *Section A.2. Objectives of this Notice of Funding Opportunity*. Clearly identify which objective(s) are supported by the proposed project. Points will be allocated based on the degree to which the proposed work supports one or more of the stated objectives, and not the number of objectives identified. It is not necessary to address objectives that are not applicable to your proposed work.

E.1.6. Qualifications of Team

Describe the qualifications, capabilities, and experience of the proposed project manager and other key personnel who are critical to achievement of the proposed objectives. Describe if the proposed team expertise is being leveraged by participating global expert(s) from outside the United States.

E.1.7. Adequacy and Completeness of Schedule

Describe the schedule, task phasing, and milestones for the proposed project, with the schedule directly tied to tasks.

E.1.8. Non-Federal Cost Share

Points will be awarded for voluntary committed non-Federal cost share from Category A applicants only. A breakdown of these points by percentage of cost share for the total cost of the proposed project is in Table 7 below. For Category B applicants, this criterion is not applicable.

Table 7.—Non-Federal Cost-Share Points Possible

Non-Federal Cost-Share Percentage	Total Points Possible
0%	0
1% - 4%	1
5% - 10%	2
11% - 20%	4
21% - 35%	6
36% - 49%	8
50%+	10

E.2. Review and Selection Process

The Federal government reserves the right to reject any and all applications that do not meet the requirements or objectives of this NOFO. Awards will be made for projects most advantageous to the Federal government. Award selection may be made to maintain balance among the eligible projects listed in this NOFO. The evaluation process will be comprised of the steps described in the following subsections.

E.2.1. Initial Screening

All application packages will be screened to ensure that:

- The applicant meets the eligibility requirements stated in this NOFO.
- The applicant meets the unique entity identifier and SAM registration requirements stated in this NOFO. This may be initiated up to 30 days after the application deadline.
- The application meets the content requirements of the NOFO package, including submission of technical and budget proposals, a funding plan, letter(s) of commitment, and related forms.
- The application contains a properly executed SF-424, Application for Financial Assistance, and forms SF424A, Budget Information for Non-Construction Programs, and form SF-424B, Assurances for Non-Construction Programs.
- The application's funding plan meets or exceeds the minimum non-Federal cost-share requirements identified in this NOFO.

Reclamation reserves the right to remove an application from funding consideration if it does not pass all initial screening criteria listed above. An applicant that has submitted an application that is determined to be ineligible for funding will be notified along with other applicants, or sooner, if possible.

E.2.2. Application Review Committee

Evaluation criteria will comprise the total evaluation score as stated in the *Section E.1 Evaluation Criteria*. Applications will be scored against the evaluation criteria by an Application Review Committee (ARC), made up of experts in relevant disciplines from Reclamation and other Federal entities. The ARC will also review the application to ensure that the Project meets the description of eligible projects and meets the objective of this NOFO. Each applicant will be scored based on the criteria applicable to their category as detailed in *Section E.1 Technical Proposal: Evaluation Criteria.* above.

During the ARC review, Reclamation may contact applicants to request clarifications to the information provided, if necessary.

E.2.3. Red-Flag Review

Following the results of the ARC review, Reclamation offices will review the top-ranked applications and will identify any reasons why a proposed project would not be feasible or otherwise advisable, including environmental or cultural resources compliance issues, permitting issues, legal issues, or financial position. Positive or negative past performance by the applicant and any partners in previous working relationships with Reclamation may be considered, including whether the applicant is making significant progress toward the completion of outstanding financial assistance agreements and whether the applicant is in compliance with all reporting requirements associated with previously funded projects.

In addition, during this review, Reclamation will address any specific concerns or questions raised by members of the ARC, conduct a preliminary budget review, and evaluate the applicant's ability to meet cost share as required.

E.2.4. Managerial Review

Reclamation management will prioritize projects to ensure the total amount of all awards does not exceed available funding levels. Management will also ensure that all projects meet the scope, priorities, requirements, and objectives of this NOFO. Management may also prioritize projects to ensure that multiple project types are represented.

E.2.5. Pre-Award Clearances and Approvals

The following pre-award clearances and approvals must be obtained before an award of funding is made. If the results of all pre-award reviews and clearances are satisfactory, an award of funding will be made once the agreement is finalized. If the results of pre-award reviews and clearances are unsatisfactory, consideration of funding for the project may be withdrawn.

E.2.5.1. Budget Analysis and Business Evaluation

A Reclamation Grants Officer will conduct a detailed budget analysis and complete a business evaluation and responsibility determination. During this evaluation, the Grants Officer will consider several factors that are important, but not quantified, such as:

- Allowability, allocability, and reasonableness of proposed costs
- Financial strength and stability of the applicant
- Past performance, including satisfactory compliance with all terms and conditions of previous awards, such as environmental compliance issues, reporting requirements, proper procurement of supplies and services, and audit compliance
- Adequacy of personnel practices, procurement procedures, and accounting policies and procedures, as established by applicable Office of Management and Budget circulars

E.2.5.2. Environmental Review

If it is determined that environmental review is required, Reclamation will forward all applications to the appropriate Reclamation Regional or Area Office to for completion of environmental compliance. To the extent possible, environmental compliance will be completed before a financial assistance agreement is signed by the parties. However, in most cases, the award will be made contingent on completion of environmental compliance. The financial assistance agreement will describe how compliance will be carried out and how the costs will be paid. The amount estimated for Reclamation's costs to conduct environmental and cultural compliance activities or review environmental and cultural compliance documentation will be withheld from the initial obligation of Federal funding. Ground-disturbing activities may not occur until this second level of environmental analysis is completed.

E.3. Federal Award Performance Integrity Information System

Reclamation is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently Federal Award Performance Integrity Information System [FAPIIS]) (see 41 U.S.C. §2313). An 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 the designated integrity and performance system accessible through SAM. Reclamation will consider any comments by the applicant, in addition to the other information in FAPIIS, 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 2 CFR §200.205 Federal awarding agency review of risk posed by applicants.

E.4. Anticipated Announcement and Federal Award Date

Reclamation expects to contact potential award recipients and unsuccessful applicants in Spring 2022, subject to the timing and amount of final appropriations. Financial assistance agreements will be awarded to applicants that successfully pass all pre-award reviews and clearances. Award recipients will be contacted individually to discuss the time frame for the completion of their agreement.

Section F. Federal Award Administration Information

F.1. Federal Award Notices

Successful applicants will receive by electronic mail, a notice of selection signed by a Reclamation Grants Officer. This notice is not an authorization to begin performance.

F.2. Administrative and National Policy Requirements

F.2.1. Environmental and Cultural Resources Compliance

Projects being considered for award funding that include ground-disturbing activities will require compliance with NEPA before any ground-disturbing activity may begin. Compliance with all applicable state, Federal and local environmental, cultural, and paleontological resource protection laws and regulations is also required. These may include, but are not limited to, CWA, ESA, NHPA, consultation with potentially affected tribes, and consultation with the State Historic Preservation Office.

Reclamation will be the lead Federal agency for NEPA compliance and will be responsible for evaluating technical information and ensuring that natural resources, cultural, and socioeconomic concerns are appropriately addressed. As the lead agency, Reclamation is solely responsible for determining the appropriate level of NEPA compliance. Further, Reclamation is responsible to ensure that findings under NEPA, and consultations, as appropriate, will support Reclamation's decision on whether to fund a project. Environmental and cultural resources compliance costs are considered project costs. These costs will be considered in the ranking of applications.

Under no circumstances may an applicant begin any ground-disturbing activities (e.g., grading, clearing, and other preliminary activities) on a project before environmental and cultural resources compliance is complete and Reclamation explicitly authorizes work to proceed. This pertains to all components of the proposed project, including those that are part of the applicant's non-Federal cost share. Reclamation will provide a successful applicant with information once such compliance is complete. An applicant that proceeds before environmental and cultural resources compliance is complete may risk forfeiting Reclamation funding under this NOFO.

F.2.2. Approvals and Permits

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

F.2.3. Intangible Property (2 CFR 200.315)

(a) Title to intangible property (see §200.59 Intangible property) acquired under a Federal award vests upon acquisition in the non-Federal entity. The non-Federal entity must use that property for the originally authorized purpose and must not encumber the property without approval of the Federal awarding agency. When no longer needed for the originally authorized purpose, disposition of the intangible property must occur in accordance with the provisions in §200.313 Equipment paragraph (e).

(b) The non-Federal entity may copyright any work that is subject to copyright and was developed, or for which ownership was acquired, under a Federal award. The Federal awarding agency reserves a royalty-free, non-exclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.

(c) The non-Federal entity is subject to applicable regulations governing patents and inventions, including government wide regulations issued by the Department of Commerce at 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Awards, Contracts and Cooperative Agreements."

(d) The Federal Government has the right to:

> (1) Obtain, reproduce, publish, or otherwise use the data, reports, and figures produced under a Federal award; and
>
> (2) Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

(e) Freedom of Information Act (FOIA).

> (1) In response to a FOIA request for research data relating to published research findings produced under a Federal award that were used by the Federal Government in developing an agency action that has the force and effect of law, the Federal awarding agency must request, and the non-Federal entity must provide, within a reasonable time, the research data so that they can be made available to the public through the procedures established under the FOIA. If the Federal awarding agency obtains the research data solely in response to a FOIA request, the Federal awarding agency may charge the requester a reasonable fee equaling the full incremental cost of obtaining the research data. This fee should reflect costs incurred by the Federal agency and the non-Federal entity. This fee is in addition to any fees the Federal awarding agency may assess under the FOIA [5 U.S.C. 552(a)(4)(A)].
>
> (2) Published research findings means when:
>
> > (i) Research findings are published in a peer-reviewed scientific or technical journal or
> >
> > (ii) A Federal agency publicly and officially cites the research findings in support of an agency action that has the force and effect of law. "Used by the Federal Government in developing an agency action that has the force and effect of law" is

defined as when an agency publicly and officially cites the research findings in support of an agency action that has the force and effect of law.

(3) Research data means the recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues. This "recorded" material excludes physical objects (e.g., laboratory samples). Research data also do not include:

(i) Trade secrets, commercial information, materials necessary to be held confidential by a researcher until they are published, or similar information which is protected under law; and

(ii) Personnel and medical information and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, such as information that could be used to identify a particular person in a research study.

F.2.4. Requirements for Notices of Funding Opportunities, Regulations, and Application Instructions

All applications to this Notice of Funding Opportunity will need to comply with 2 CFR § 170.210 unless exempt under 2 CFR § 170.110(b). This requires that the Federal Financial Assistance awards to non-Federal entity, 2 CFR § 170.320, have the necessary processes and systems in place to comply with the reporting requirements of the Federal Funding Accountability and Transparency Act.

F.3. Reporting Requirements and Distribution

If the applicant is awarded an agreement as a result of this NOFO, the applicant will be required to submit the following reports during the term of the agreement. The specific terms and conditions pertaining to the reporting requirements will be included in the financial assistance agreement.

F.3.1. Financial Reports

Recipients will be required to submit a fully completed form SF-425 Federal Financial Report on at least an annual basis and with the final performance report. The SF-425 must be signed by a person legally authorized to obligate the recipient.

F.3.2. Performance Reports

Recipients will be required to submit administrative performance reports on at least an annual basis and with the final financial report. The administrative performance reports will be used by Reclamation to ensure that the goals and objectives of the project are being met. Administrative performance reports shall include the following information:

- A comparison of actual accomplishments to the milestones established by the financial assistance agreement for the period.

- The reasons why established milestones were not met, if applicable.
- The status of milestones from the previous reporting period that were not met, if applicable.
- Whether the project is on schedule and within the original cost estimate.
- Any additional pertinent information or issues related to the status of the project.

F.3.3. Interim Technical Project Reports

Reports shall be submitted quarterly by the Project Manager and will be used by Reclamation to ensure that the goals and objectives of the project are being met. Each quarterly report should include the following information:

- Identify the start date and anticipated completion date for each project task and provide a description of the work performed under each task during the reporting period.
- Describe any significant accomplishments during the reporting period.
- Describe any delays encountered during the reporting period.
- Discuss whether the project is on track to be completed during the period of performance, or if an agreement modification may be needed in the future.
- Provide summary-level budget information, including total project expenditures to date for both cost share and Federal funds
- Provide, in pdf format, copies of presentations given at conferences and any journal publications that have resulted in this study during the reporting period.
- Provide a minimum of two Microsoft PowerPoint slides in a pdf format at the end of 2nd and 4th quarter for laboratory-scale projects, and 2nd, 4th, 6th, and 8th quarter for pilot-scale projects. These PowerPoints should summarize the problems and objectives, project description, research process, and any findings up to that date. Do not include any intellectual property or confidential information.

F.3.4. Project Presentation

All recipients are required to make a presentation on project achievements at Reclamation's office in Lakewood, Colorado. The presentation should occur after the draft final report has been submitted to Reclamation for review. The presentation should inform Reclamation on the project accomplishments, the final results of each task, lessons learned, and future research needs. If the presentation is not able to be presented in person, arrangements can be made to be done virtually.

F.3.5. Final Technical Project Report

Publication guidelines and published final reports from previous projects are at: www.usbr.gov/research/dwpr. Recipients will use the provided template and provide their final

report in a Microsoft Word document. Recipients will address review comments from Reclamation in a timely manner for Reclamation to publish. Please note that final project reports are public documents and will be made available on Reclamation's website.

F.4. Conflicts of Interest

F.4.1. Applicability

This section intends to ensure that non-Federal entities and their employees take appropriate steps to avoid conflicts of interest in their responsibilities under or with respect to Federal financial assistance agreements. In the procurement of supplies, equipment, construction, and services by recipients and by subrecipients, the conflict of interest provisions in 2 CFR §200.318 apply.

F.4.2. Requirements

Non-Federal entities must avoid prohibited conflicts of interest, including any significant financial interests that could cause a reasonable person to question the recipient's ability to provide impartial, technically sound, and objective performance under or with respect to a Federal financial assistance agreement.

In addition to any other prohibitions that may apply with respect to conflicts of interest, no key official of an actual or proposed recipient or subrecipient, who is substantially involved in the proposal or project, may have been a former Federal employee who, within the last year, participated personally and substantially in the evaluation, award, or administration of an award with respect to that recipient or subrecipient or in development of the requirement leading to the funding announcement.

No actual or prospective recipient or subrecipient may solicit, obtain, or use non-public information regarding the evaluation, award, or administration of an award to that recipient or subrecipient or the development of a Federal financial assistance opportunity that may be of competitive interest to that recipient or subrecipient.

F.4.3. Notification

Non-Federal entities, including applicants for financial assistance awards, must disclose in writing any conflict of interest to the Department's awarding agency or pass-through entity in accordance with 2 CFR §200.112, Conflicts of Interest. Recipients must establish internal controls that include, at a minimum, procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest. The recipient is responsible for notifying the Financial Assistance Officer in writing of any conflicts of interest that may arise during the life of the award, including those that have been reported by subrecipients.

F.4.4. Restrictions on Lobbying

Non-Federal entities are strictly prohibited from using funds under this grant or cooperative agreement for lobbying activities and must provide the required certifications and disclosures pursuant to 43 CFR Part 18 and 31 U.S.C. 13 52.

F.4.5. Review Procedures

The Financial Assistance Officer will examine each conflict of interest disclosure based on its facts and the nature of the proposed grant or cooperative agreement. The Financial Assistance Officer will determine whether a significant potential conflict exists and, if it does, develop an appropriate means for resolving it.

F.4.6. Enforcement

Failure to resolve conflicts of interest in a manner that satisfies the Government may be cause for termination of the award. Failure to make required disclosures may result in any of the remedies described in 2 CFR §200.338, Remedies for Noncompliance, including suspension or debarment (see also 2 CFR Part 180).

F.5. Data Availability

F.5.1. Applicability

The Department is committed to basing its decisions on the best available science and providing the American people with enough information to thoughtfully and substantively evaluate the data, methodology, and analysis used by the Department to inform its decisions.

F.5.2. Use of Data

The regulations at 2 CFR §200.315 apply to data produced under a Federal award, including the provision that the Federal Government has the right to obtain, reproduce, publish, or otherwise use the data produced under a Federal award as well as authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

F.5.3. Availability of Data

The recipient shall make the data produced under this award and any subaward(s) available to the Government for public release, consistent with applicable law, to allow meaningful third-party evaluation and reproduction of the following:

1. The scientific data relied upon
2. The analysis relied upon
3. The methodology, including models, used to gather and analyze data

Section G. Agency Contacts

Organizations or individuals interested in submitting applications in response to this NOFO may direct questions to the Reclamation personnel identified below.

G.1. Financial Assistance Contact

Questions regarding application and submission information and award administration may be submitted to the attention of the Notice of Funding Opportunity Team, at bor-sha-fafoa@usbr.gov.

G.2. Program Administrator Contact

Questions regarding applicant and project eligibility and application review may be submitted to the attention of Ms. Yuliana Porras-Mendoza, Program Administrator, as follows:

By mail: Bureau of Reclamation
Research and Development Office
Attn: Ms. Yuliana Porras-Mendoza
P.O. Box 25007, MS 86-69100
Denver, CO 80225

By e-mail: yporrasmendoza@usbr.gov

By phone: 303-445-2265