



## REQUEST FOR PROPOSALS (RFP)

### *Available Options for Regeneration or Disposal of PFAS-Laden Drinking Water Residuals, Media, and Waste (5285)*

#### **Date Posted**

Friday, September 20, 2024

#### **Due Date**

Proposals must be received by 3:00 pm Mountain Time on Friday, November 21, 2024.

#### **WRF Project Contact**

Mary Messec Smith, [msmith@waterrf.org](mailto:msmith@waterrf.org)

#### **Project Sponsors**

This project is funded by The Water Research Foundation (WRF) as part of WRF's Research Priority Program.

#### **Project Objectives**

This project will inform utility decisions when selecting PFAS waste handling options by exploring the benefits and limitations of the following:

- Availability and efficacy of media reactivation/regeneration methods
- Options for depleted media disposal
- Reduction of solid and liquid waste volume and potential for further pre-disposal treatment
- Leaching and fate of PFAS-laden wastes in municipal waste sites

#### **Budget**

Applicants may request up to \$300,000 in WRF funds for this project.

#### **Background and Project Rationale**

Drinking water treatment of per- and polyfluoroalkyl substances (PFAS) results in multiple waste handling and disposal concerns for utilities. While the default options of incineration, agricultural land application for beneficial use, directing filter backwash to local sewers, and landfilling of wastes in municipal and hazardous waste sites may be appropriate for some utilities, an evolving regulatory landscape is likely to make these options less attractive, leading utilities to explore other available cost-saving options to extend media life, minimize disposal volumes, and reduce liabilities. These options may include media regeneration/reactivation, alternative disposal or destruction methods, or other means of decreasing the volumes or impacts of the PFAS-laden waste, whether solid or liquid. Liability, waste characteristics, and

utility location may affect the cost or availability of reactivation, regeneration, and disposal options. There is a need to understand the benefits and drawbacks of these options, including the efficacy of PFAS removal, desorption from and destruction on media, and regeneration effects on media performance. Additionally, there is a need for a greater understanding of fate of the PFAS-laden waste in disposal sites, particularly concerning the leaching potential from spent media and sludges.

### **Research Approach**

This RFP is intentionally flexible in the research approach to encourage creativity and originality from proposers. Proposers should describe how they will conduct the research to meet the above objectives. The following key aspects are included as a starting point.

#### Survey.

Utility survey of current or planned regeneration and disposal practices for granular activated carbon (GAC), single-use and regenerable ion exchange (IX) resins, membrane reject, and solids containing powder activated carbon (PAC). This survey may identify the primary technologies for the investigation and discussion of regeneration and disposal options.

#### Regeneration.

- Validation of effectiveness of various regeneration/reactivation methods in removing organo-fluorine species (PFOA/PFOS and beyond)
- Availability of regional or state facilities and benefits of offsite vs. onsite vs. in-situ
- Potential for regeneration of ion exchange resins, and brine or regenerant solution management, disposal, and fate of separated PFAS
- Fate of PFAS during onsite regeneration of MIEX-like technologies
- Impacts of waste characteristics (volume, concentration, PFAS type) on regeneration
- Conditions likely to impact the cost of regeneration/reactivation
- Technical and economic feasibility for emerging methods for in-situ reactivation of GAC or regeneration of IX media

#### Disposal.

- Summary of available disposal options and their costs
- Laboratory investigation to determine extent of leaching and behavior/fate of sedimentation or other water treatment plant sludges and spent media in landfills through bench-scale TCLP, WET, and other appropriate testing from various working sites under prescribed test conditions
- Potential utility liability and impacts of disposal in municipal and hazardous waste landfills

### **Expected Deliverables**

Guidance on selecting regeneration methods and waste handling options, including discussion of available regeneration options, their cost, effectiveness, and availability, and a utility survey of current and planned regeneration and disposal practices.

**Communication Plan**

Please review WRF's [Project Deliverable Guidelines](#) for information on preparing a communication plan. Conference presentations, webcasts, peer-reviewed publication submissions, and other forms of project information dissemination are typically encouraged.

**Project Duration**

The anticipated period of performance for this project is 24 months from the contract start date.

**Proposal Evaluation Criteria**

The following criteria will be used to evaluate proposals:

- Understanding the Problem and Responsiveness to RFP (maximum 20 points)
- Technical and Scientific Merit (maximum 30 points)
- Qualifications, Capabilities, and Management (maximum 15 points)
- Communication Plan, Deliverables, and Applicability (maximum 20 points)
- Budget and Schedule (maximum 15 points)

## **PROPOSAL PREPARATION INSTRUCTIONS**

Proposals submitted in response to this RFP must be prepared in accordance with WRF's [Guidelines for Research Priority Program Proposals](#) and the [Instructions for Budget Preparation](#). The guidelines contain instructions for the technical aspects, financial statements, indirect costs, and administrative requirements that the applicant must follow when preparing a proposal.

Proposals that include the production of web- or software-based tools, such as websites, Excel spreadsheets, Access databases, etc., must follow the criteria outlined for web tools presented in the [Technology Deliverables Guidance](#).

### **Eligibility to Submit Proposals**

Proposals will be accepted from both U.S.-based and non-U.S.-based entities, including educational institutions, research organizations, governmental agencies, and consultants or other for-profit entities.

WRF's Board of Directors has established a [Timeliness Policy](#) that addresses researcher adherence to the project schedule. Researchers who are late on any ongoing WRF-sponsored studies without approved no-cost extensions are not eligible to be named participants in any proposals. Direct any questions about eligibility to the WRF project contact listed at the top of this RFP.

### **Administrative, Cost, and Audit Standards**

WRF's research program standards for administrative, cost, and audit compliance are based upon, and comply with, Office of Management and Budget (OMB) Uniform Grants Guidance (UGG), 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, and 48 CFR 31.2 Contracts with Commercial Organizations. These standards are referenced in WRF's [Guidelines for Research Priority Program Proposals](#) and include specific guidelines outlining the requirements for indirect cost negotiation agreements, financial statements, and the Statement of Direct Labor, Fringe Benefits, and General Overhead. Inclusion of indirect costs must be substantiated by a negotiated agreement or appropriate Statement of Direct Labor, Fringe Benefits, and General Overhead. Well in advance of preparing the proposal, your research and financial staff should review the detailed instructions included in WRF's [Guidelines for Research Priority Program Proposals](#) and consult the [Instructions for Budget Preparation](#).

### **Budget and Funding Information**

The maximum funding available from WRF for this project is \$300,000. The applicant must contribute additional resources equivalent to at least 33% of the project award. For example, if an applicant requests \$100,000 from WRF, an additional \$33,000 or more must be contributed by the applicant. Acceptable forms of applicant contribution include cost share, applicant in-kind, or third-party in-kind that comply with 2 CFR Part 200.306 cost sharing or matching. The applicant may elect to contribute more than 33% to the project, but the maximum WRF funding available remains fixed at \$300,000. Proposals that do not meet the minimum 33% of the

project award will not be accepted. Consult the [Instructions for Budget Preparation](#) for more information and definitions of terms.

### **Period of Performance**

It is WRF's policy to negotiate a reasonable schedule for each research project. Once this schedule is established, WRF and its sub-recipients have a contractual obligation to adhere to the agreed-upon schedule. Under WRF's [No-Cost Extension Policy](#), a project schedule cannot be extended more than nine months beyond the original contracted schedule, regardless of the number of extensions granted.

### **Utility and Organization Participation**

WRF encourages participation from water utilities and other organizations in WRF research. Participation can occur in a variety of ways, including direct participation, in-kind contributions, or in-kind services. To facilitate their participation, WRF has provided contact information, on the last page of this RFP, of utilities and other organizations that have indicated an interest in this research. Proposers are responsible for negotiating utility and organization participation in their particular proposals. The listed utilities and organizations are under no obligation to participate, and the proposer is not obligated to include them in their particular proposal.

### **Application Procedure and Deadline**

Proposals are accepted exclusively online in PDF format, and they must be fully submitted before 3:00 pm Mountain Time on Thursday, November 21, 2024.

The online proposal system allows submission of your documents until the date and time stated in this RFP. To avoid the risk of the system closing before you press the submit button, do not wait until the last minute to complete your submission. Submit your proposal at <https://forms.waterrf.org/cbruck/rfp-5285>.

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Mary Messec Smith at 303.347.6134 or [msmith@waterrf.org](mailto:msmith@waterrf.org). Questions related to proposal submittal through the online system may be addressed to Caroline Bruck at 303.347.6118 or [cbruck@waterrf.org](mailto:cbruck@waterrf.org).

## ***Utility and Organization Participants***

The following utilities have indicated interest in possible participation in this research. This information is updated within 24 business hours after a utility or an interested organization submits a volunteer form, and this RFP will be re-posted with the new information. **(Depending on your settings, you may need to click refresh on your browser to load the latest file.)**

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