



Date Posted: Monday, September 26, 2022

REQUEST FOR PROPOSALS (RFP)

Cost-Effective Approaches for Control of Multiple Constituents of Emerging Concern (CECs) (RFP 5171)

Due Date: Proposals must be received by **3:00 pm Mountain Time on Tuesday, December 13, 2022**

WRF Project Contact: Lola Olabode, lolabode@waterrf.org

Project Sponsors

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

Project Objectives

- Establish an integrated framework and cost-effective strategies for the best management practices/control for multiple constituents of emerging concern (CECs) in all water types (i.e., wastewater treatment, stormwater treatment, and other non-point and site-specific source control).
- Provide utilities with benefit and cost guidance in determining viable treatment options at the water resource recovery facility or the source. If protection measures are implemented at the source, the research would guide the selection of the most cost-effective practices.
- Outline and address gaps in current and future regulatory drivers for more effective management approaches.

Budget

Applicants may request up to \$250,000 in WRF funds for this project.

Background and Project Rationale

Utilities, regulators, and policymakers need quantitative information to help develop policies that support the best and most cost-effective solutions to CECs. Research is needed to address gaps in current and future regulatory drivers to facilitate more effective management approaches that protect human and ecological health. Some of the gaps identified among key water quality stakeholders are between concentrations of CECs measured in surface waterbodies (e.g., streams, lakes, estuaries) and its effects on aquatic life or people. Previous WRF research (e.g., Diamond et al. 2021) and many recent studies emphasized the need to examine multiple levels of organization when determining whether CECs (singly or as a mixture) could pose a risk to aquatic life either prospectively or retrospectively.

Source control, which generally succeeds at managing contaminations, is often dismissed because current funding and regulation supports on-site treatment at facilities receiving the waste. Research is needed to establish an integrated framework of wastewater treatment, stormwater treatment, and other non-point and site-specific source control options; this should include a cost-benefit (including

restored ecosystem services) and cost-effectiveness analysis for justifying Water Treatment Plant upgrades or source control Best Management Practices (BMPs) where CECs are thought to present an unacceptable risk. There is limited information on how different treatment and source control approaches can address multiple constituents; comparative evaluations of the cost-effectiveness of treatment versus source control are also limited. Data on source control practices may require additional information to specify the key contributors of CECs and the actual performance standards for the various BMPs.

Please note this RFP is not exclusively focused on PFAS or any one contaminant/CEC.

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 objectives listed above. The following approach is intended as a starting point. Proposers may want to summarize the state of knowledge on CECs in all water matrices to verify the best research path forward.

This study can be applied to CECs that have the highest public health risk and load, building on lessons learned from Rauch-Williams et al. 2018, *A Framework for Assessing the Costs and Benefits of Managing Compounds of Emerging Concern in Surface Water*, and the simultaneous compliance tools from Schendel et al. 2009, *Decision Tool to Help Utilities Develop Simultaneous Compliance Strategies*.

Diamond et al. 2021, *Technical Brief: Constituents of Emerging Concern Using a One Water Approach*, provides some information on loads/risk from other sources. It also provides a framework for communicating what is known about CECs and their risks relative to other stressors, what the current uncertainties are, and what critical information gaps exist:

<https://storymaps.arcgis.com/stories/be6f88f1cc094810869e11f17f9fdc24>

Expected Deliverables

- Provide utilities with cost/benefit guidance to use in determining viable treatment options at a water resource recovery facility or at the source. If protection measures are implemented at the source, the research would guide the selection of the most cost-effective practices.
- Develop a report and matrix demonstrating the costs and benefits of implementing various control strategies for common receiving water scenarios.
- Summarize the gaps present in current and future regulatory drivers for more effective management approaches.

Proposers are expected to articulate and outline what a successful deliverable(s) will look like. Traditional deliverables, such as those listed below, could facilitate more ideas that will be useful to the water and public health sector.

- Guidance Research Report/Manual
- Webcast, Conference Presentation, Workshop (consider plan to document workshop)
- Field Demonstration, Research Roadshow
- Fact Sheet, FAQs, Case Study, Infographic, Video, etc.
- Decision Tree Matrix/diagram based on resources available
- Web Tool (consider plan for maintenance)
- Peer-Reviewed Journal Article

Communication Plan

Please review WRF's *Project Deliverable Guidelines* for information on preparing a communication plan. The guidelines are available at <https://www.waterrf.org/project-report-guidelines>. Conference presentations, webcasts, peer review 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.

References and Resources

The following list includes examples of research reports, tools, and other resources that may be helpful to proposers. It is not intended to be comprehensive, nor is it a required list for consideration.

Diamond, J., J. Flippin, and A. Burton. 2021. *Technical Brief: Constituents of Emerging Concern Using a One Water Approach*. Project 5036. Denver, CO: The Water Research Foundation.

Rauch-Williams, T., E. Dickenson, J. Drewes, S. Snyder, T. Letzel, S. Bieber, C. Glover, G. Woods, S. Deslaurier, and S. Dagnino. 2018. *A Framework for Assessing the Costs and Benefits of Managing Compounds of Emerging Concern in Surface Water*. Project 4494. Denver, CO: The Water Research Foundation.

Schendel, D. B., Z. K. Chowdhury, C. P. Hill, R. S. Summers, E. Towler, R. Balaji, R. S. Raucher, and J. Cromwell. 2009. *Decision Tool to Help Utilities Develop Simultaneous Compliance Strategies*. Project 3115. Denver, CO: Water Research Foundation.

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 the WRF document *Guidelines for Research Priority Program Proposals*. The current version of these guidelines is available at <https://www.waterrf.org/proposal-guidelines>, along with *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 Web Tool Criteria and Feasibility Study for The Water Research Foundation Project Deliverables at <https://www.waterrf.org/project-report-guidelines#deliverables>.

Eligibility to Submit Proposals

Proposals will be accepted from domestic or international 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. The policy can be reviewed at <https://www.waterrf.org/policies>. 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*, both available at <https://www.waterrf.org/proposal-guidelines>.

Budget and Funding Information

The maximum funding available from WRF for this project is \$250,000. The applicant must contribute additional resources equivalent to at least 33 percent 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 percent to the project, but the maximum WRF funding available remains fixed at \$250,000. **Proposals that do not meet the minimum 33 percent of the project award will not be accepted.** Consult the *Instructions for Budget Preparation* available at <https://www.waterrf.org/proposal-guidelines> 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. The policy can be reviewed at <https://www.waterrf.org/policies>.

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 Tuesday, December 13, 2022.

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/222616404580855>

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Lola Olabode at (571) 384-2109 or lolabode@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.

5171 Utility and Organization Participants

The following utilities have indicated an 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 upon your settings, you may need to click refresh on your browser to load the latest file.)**

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5171 Utility and Organization Participants (continued)

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