



Date Posted: Monday, September 26, 2022

REQUEST FOR PROPOSALS (RFP)

Improved Equity & Environmental Justice in Asset Management (RFP 5181)

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

WRF Project Contact: Dr. Jian Zhang, izhang@waterrf.org

Project Sponsors

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

Project Objectives

- Prepare a framework with supporting information that allows for integration of equity and justice consideration into an asset management program
- Provide tools for better identification of critical customer classes, better engagement and education of stakeholders, fuller identification and understanding of service disruption risks, and improved quantification and monetization of risks
- Identify potential funding sources available and strategies to optimize access to funding for water equity-related asset management projects

Budget

Applicants may request up to \$200,000 in WRF funds for this project.

Background and Project Rationale

Asset management is increasingly used by utilities to comprehensively guide their risk and infrastructure management activities. However, these programs may be lacking in risk considerations surrounding identification of critical customers, environmental justice, equity concerns, and full consideration of differing consequences of failures to different sectors of society. Disadvantaged neighborhoods are often more at risk of impacts from water system disruptions and emergency events. Similarly, when service is disrupted, they may be out of service for longer time periods than the wider system, and their limited resources may result in greater impacts from outages than those experienced by other communities. This disparity affects access to reliable water infrastructure and spirals to other social, health, and economic pitfalls that already under-resourced communities can never truly recover from—even after water services are restored. Asset management programs need enhancements in these practice areas to address equity and environmental justice concerns in managing utility assets.

The Water Research Foundation (WRF) project 4366, *Defining a Resilient Business Model for Water Utilities* (2014), provided approaches to integrate utility finance functions with asset management, environmental justice, and risk management considerations. Similarly, WRF projects 2607, *Costs of*

Infrastructure Failure (2003), and 4451, *Managing Infrastructure Risk: The Consequences of Failure for Buried Assets* (2017), provided approaches to monetizing social and environmental failure impacts. These reports could be useful resources for this work and can be valuable for integrating environmental justice into risk management of infrastructure failure.

Some risks, such as cost/value of an illness or death, may be difficult to quantify. However, methodologies and approaches developed by Federal Emergency Management Agency (FEMA) and other risk management agencies can be adapted to the water sector. Research has been conducted on environmental justice for lead service line replacement programs. For example, a recent study published by Wayne State University (Schwetschenau et al. 2022) “aims to assist state and local water authorities in making decisions about where to prioritize funding for infrastructure improvements on drinking water lead service line replacement programs.” Research is needed to incorporate equity and environmental justice into risk management of infrastructure failure. Moreover, equity and justice planning often misses the mark because it does not include the people and communities it is trying to serve throughout the process. Therefore, research is needed to explore ways to engage, listen to, and educate identified stakeholders throughout the process, especially at the beginning.

Research Approach

The proposal must include the following elements in the research approach:

- Monetize and incorporate (to the extent possible) impacts into a Cost of Failure calculation.
- Consider the state of the industry regarding asset management and ensure that results of this project are robust and applicable to all types and sizes of water utilities.
- Review and identify existing criteria that have been developed to evaluate potential competing projects related to providing equity with water infrastructure improvements, provide a list of criteria for water utilities to plan for future water infrastructure improvements, and explore the correlation between risk management and proactive planning to incorporate equity and environmental justice into risk models.
- Identify potential available funding sources (FEMA and other sources) and strategies to optimize access to funding for water equity-related asset management projects.
- Develop a guideline for identifying, engaging, and educating stakeholders.
- Develop a framework with supporting information that allows for integration of equity and justice considerations into an asset management program.

Expected Deliverables

A framework with supporting information that allows for integration of equity and justice consideration into an asset management program.

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.

- Cromwell, J., H. Reynolds, N. Pearson, and M. Grant. 2003. *Costs of Infrastructure Failure*. Project 2607. Denver, CO: AwwaRF.
 - Hughes J., M. Tiger, S. Eskaf, S. Berahzer, S. Royster, C. Boyle, D. Batten, P. Brandt, and C. Noyes. 2014. *Defining a Resilient Business Model for Water Utilities*. Project 4366. Denver, CO: Water Research Foundation.
 - Raucher R., J. Henderson, M. Duckworth, D. Hughes, T. Helgeson, K. Campanella, J. Oxenford, J. Plattsmier, and M. Akhoondan. 2017. *Managing Infrastructure Risk: The Consequences of Failure for Buried Assets*. Project 4451. Denver, CO: Water Research Foundation.
 - Schwetschenau S., A. Schubert, R. Smith, S. Guikema, N. Love, and S. McElmurry. 2022. "Improved Decision-Making: A Sociotechnical Utility-Based Framework for Drinking Water Investment." *ACS ES&T Engineering*, 2 (8): 1475-1490.
<https://pubs.acs.org/doi/10.1021/acsestengg.2c00008?goto=supporting-info>
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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 \$200,000. 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 \$200,000. **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/222554525247860>.

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Dr. Jian Zhang at (303) 347-6114 or jzhang@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.

5181 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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