



REQUEST FOR PROPOSALS (RFP)

The Foundations of Water Resource Planning: Guidance for Establishing Water Utility Service Levels (5306)

Date Posted

Friday, September 20, 2024.

Due Date

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

WRF Project Contact

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Project Sponsors

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

Project Objectives

- Review and establish a consistent definition of service levels (service level standards, service level assumptions, levels of service, etc.), differentiate from key performance indicators, identify the appropriate uses of service levels, and recommend consistent terminology for the water sector.
- Review and document current national and international practices for the establishment of utility service levels, including the impetus and process for how they are established, and the different business functions included (e.g., water supply planning, water use planning, engineering, operations, water treatment, etc.).
- Develop a guidance framework for utilities establishing their own water resource planning service levels that aligns with organizational performance goals and objectives (considering utility size, community types served, geographic region, financial and political drivers/constraints, climate change, and social equity, etc.). Include guidance for aligning capital investment decision-making with established service levels.
- Develop guidance for engaging stakeholders during the service levels setting process and for internal and external communications to achieve better understanding and alignment of staff, the community, and service levels.

Budget

Applicants may request up to \$175,000 in WRF funds for this project.

Background and Project Rationale

Water utility service levels (service level standards, service level assumptions, levels of service, etc.) are the foundation for water resource planning and are an essential component of utilities establishing how they will fulfill their core missions and how they will serve customers. Service levels guide water system development, investment, and operational management. For example, service levels provide guidance to the utility when answering the following fundamental water planning questions:

- How much total water storage is needed to meet current and future water demands?
- How many water treatment plants and what total treatment capacity does a water utility need?
- How much daily water demand capacity should a water distribution system be designed to maintain?
- What water quality and treatment standards should a utility be planning to uphold?
- What levels of water demand and future water conservation should a utility be planning for?
- How does a water utility ensure compliance with clean water and safe drinking water regulations?
- Should all utility customers and areas be treated alike, or should certain customers/areas be prioritized due to vulnerable populations, equity considerations, or rates of asset failure?
- How does extreme weather, drought, or emergency conditions impact water service?
- How should the tradeoff between level of service and cost of infrastructure be handled?

The answers to these questions—which are determined based on utility service levels—ultimately guide the decision-making process for billions of dollars of potential future infrastructure investments. However, despite the importance of service levels for guiding the answers to these foundational planning questions, there is minimal industry guidance for how utilities should go about establishing and communicating service levels. This was reflected in the results of a survey assessing the state of utility asset management practices that was commissioned by the American Water Works Association in 2020. Although 77% of utilities reported that some levels of service (LOS) have been established—a marked improvement from the 57% reported in an initial survey in 2015—only 12% reported that the LOS are developed for each significant aspect of business and contained in a specific LOS document. Furthermore, only 13% responded that all service levels have targets and only 8% indicated that those targets are well known throughout the organization (AWWA 2015).

WRF's project 4615 provided initial guidance on selecting LOS goals and performance metrics specifically related to evaluating alternative water supplies while incorporating the concepts of reliability, resilience, and sustainability (Paulson et al. 2018). Another WRF study (project 4727) provides guidance on defining, measuring and deploying LOS to help utilities manage natural assets and to meet strategic objectives (Raucher et al. 2020). The guidance shows alignment of the management of natural assets to the core business goals to water supply reliability, water quality, and cost management (Raucher et al. 2020). However, the lack of detailed planning guidance for establishing service levels in relation to water resource planning has resulted in

utilities generally starting from scratch in their planning process and ending with minimal benchmarks by which to guide their future planning. This project is intended to provide utilities with a framework they can use to establish or enhance their own service levels to support effective water resource planning and guide decision-making processes.

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.

- Review of literature, industry reports, and guidance documents, including those from international utilities, regulators, or water associations.
- Utility interviews regarding existing/planned/needed service levels, including utilities of various sizes, from differing geographical regions, and serving a diverse range of community types.
- Interviews with academic and think tank researchers that focus on aspects of water resource planning, water service reliability, and decision making under deep uncertainty.
- Utility workshop, convening collective discussions between water resource planners on the current state of service levels and the most important needs for industry guidance and frameworks.

Expected Deliverables

This RFP is left intentionally flexible in the deliverables to encourage creativity and originality from proposers. Proposers should describe how the deliverables proposed will provide wide sector accessibility and ensure practical applicability of the project results. Potential deliverables for this project could include, but are not limited to, the following:

- Research report (must use WRF's [Research Report Template](#))
- State of the Field Review (to include academic sources, utility case studies, etc.)
- Guidance Framework
- Webcast, conference presentation, etc.
- Peer-reviewed journal article
- Fact sheet, case study, white paper, etc.
- Workshop (consider plan to document workshop)
- Technology Deliverable (e.g. website, online tool/database, etc.) (must follow the [Technology Deliverables Guidance](#))

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 18-24 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.

- AWWA (American Water Works Association). 2015. 2015 Establishing the Level of Progress in Utility Asset Management Survey Results. Accessed September 1, 2024.
<https://www.awwa.org/Portals/0/AWWA/ETS/Resources/Technical%20Reports/Level%20of%20Progress%20in%20Utility%20Asset%20Management%20v4.0.pdf?ver=2021-05-21-124023-250>.
- Asefa, T., A. Adams, and N. Wanakule. 2015. "A Level-of-Service Concept for Planning Future Water Supply Projects under Probabilistic Demand and Supply Frameworks." *Journal of the American Water Resources Association* 51(5): 1272-1285. DOI: 10.1111/1752-1688.12309.
- Paulson, E. G., M. Badruzzaman, E. Triana, C. Cherchi, N. Stewart, Y. H. Sun, and J. G. Jacangelo. 2018. *Framework for Evaluating Alternative Water Supplies: Balancing Cost with Reliability, Resilience and Sustainability*. Project 4615. Denver, CO: The Water Research Foundation.
- Raucher, R., K. Vause, M. Lorie, T. Helgeson, and J. Cassin. 2020. *Asset Management Framework for Forested and Natural Assets*. Project 4727. Denver, CO: The 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 WRF's [Guidelines for Research Priority Program Proposals](#) and [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. (If there is any funding from non-WRF sources, staff should check with WRF Grants Management regarding possible eligibility restrictions that need to be included).

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 \$175,000. 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 \$175,000. 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-5306>.

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Lyndsey Bloxom at lbloxom@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.

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.)**

N/A