
**WRF Unsolicited Research Program
Full Proposal Instructions**

Full proposal packages must be submitted electronically to The Water Research Foundation (WRF) by
5:00 p.m. U.S. Eastern Time on Thursday, July 25, 2024.

These instructions apply to researchers competing for funding through the Unsolicited Research Program under the following condition:

- *A researcher previously submitted a pre-proposal under Stage 1 and has been invited to submit a full proposal.*

I. OVERVIEW

The Unsolicited Research Program (URP) funds innovative research projects that will significantly advance knowledge and scientific understanding and that could provide fundamentally transformative results. Projects funded are determined every other year (biennial) through a two-stage competitive process:

Stage 1: WRF issues a call for pre-proposals, which are evaluated by WRF's Research Advisory Council. Those that are approved will advance to Stage 2.

Stage 2: Candidates whose pre-proposals were approved in Stage 1 will be instructed to submit a full proposal for funding. The full proposals will then be evaluated using the evaluation criteria described in Attachment 1. Full proposals selected for funding will proceed to contracting.

II. INSTRUCTIONS FOR CREATING AND SUBMITTING FULL URP PROPOSALS

Full proposals must be submitted online through this link: <https://forms.waterrf.org/232886118684872> by **5:00 p.m. U.S. Eastern Time on Thursday, July 25, 2024**. You will assemble your proposal components into two proposal packets. Please ensure your two proposal packets contain the required documents and are uploaded before the deadline. The following section outlines the general instructions for preparing an Unsolicited Research Program full proposal.

The WRF funding level (dollar amount) specified in the pre-proposal is the maximum amount that WRF will provide toward achieving the objectives set forth in the pre-proposal. Proposals requesting funds from WRF greater than those indicated in the pre-proposal will not be considered.

All of the forms and components of the full proposal are provided with this correspondence.

- Proposals must fit on standard U.S. letter-sized paper (8 ½ × 11 inches), with minimum margins of one inch on each side of the paper.
- Text font size must be a minimum of 12 point (12 characters per inch).
- Proposers may include logos; however, WRF's logo is copyrighted and should not be displayed on proposals.

Proposals must include the components listed below. **Proposals that are missing any of these required components will be considered incomplete and ineligible for consideration.** Please note the enforceable page limits for certain components of the proposal as identified below. **Proposals exceeding these page limits will not be considered.**

All files must be compiled into two PDF proposal packets and should not be locked/secured with a password. Do not digitally sign the PDF files.

Packet/Component	Required	Page Limit
<i>PACKET ONE – Technical Review and Evaluation</i>		
1. Proposal Cover Sheet	Yes	
2. Co-Funding Support Form	Yes*	
3. Project Abstract	Yes	1
4. Project Description	Yes	10
5. Application Potential	Yes	1
6. Quality Assurance/Quality Control	Yes	2
7. Management Plan	Yes	1
8. Communication Plan	Yes	1
9. References	Yes*	
10. Licenses and Inventions	Yes*	1
11. Budget Narrative	Yes	
12. Schedule	Yes	
13. Third-Party Contribution Letters of Commitment	Yes*	
14. Curriculum Vitae or Resumes for Key Team Members	Yes	2 pages/person
<i>PACKET TWO – Cost Analysis</i>		
15. Budget Form	Yes	
16. IRS W-9 Form	Yes	

*As required.

PROPOSAL PACKET ONE (Technical Review and Evaluation)

1. Proposal Cover Sheet

Provide the project title, personnel, project period, budget, etc. Use the Unsolicited Full Proposal Cover Sheet provided with your full proposal invitation e-mail/letter. For the ID #, please use the UP # from your full proposal invitation e-mail/letter. If you need additional space for Co-PIs, please use the [Additional Co-PIs form](#).

2. Co-funding Support Form (as required)

Any participant in the project who is contributing cash payable to WRF should complete the [Co-Funding Support Form](#). The Co-funding Support Form provides information pertinent to the agreement. Each co-funder will receive a Letter of Agreement outlining their contribution and expectations.

3. Project Abstract (1 page)

The abstract should be a concise summary of the background, research objectives, technical approach, originality, and anticipated results and benefits. It must include the names of the Principal Investigator (PI) and any Co-PIs, the applicant (submitting organization), and participating water utilities and/or organizations, as well as the funding amount requested from WRF and the total of cost share and third-party in-kind contributions.

4. Project Description (10 pages)

- a. Research Objective – Clearly identify the objective in one or two sentences.
- b. Background/Understanding of the Problem – Provide brief background on the topic and articulate why this research is important and needed.
- c. Technical Approach – Provide a well-developed experimental plan (including details such as replicates, frequency, etc.) that includes the objectives of the research, the methods that will be followed, and the nature and extent of the anticipated results.
- d. Originality and Innovation of the Research – Briefly identify how the proposed work is unique and innovative. How is the proposed work different from other related research and how will it impact future research?

5. Application Potential (1 page)

- a. Define the practical benefits of the proposed project to the broader water communities. What will be the products of the research (e.g., knowledge, protocol, instrument, software package, etc.)? How can they be used, who will use them, and what level of sophistication will be required?
- b. Define the steps to be taken in the project to ensure practical application (e.g., utility involvement). Where possible, identify additional efforts following project completion that will be needed prior to application of the research results.

6. Quality Assurance/Quality Control (2 pages)

Provide a detailed description of the procedures that will be used to ensure the quality of project data (e.g., statistical basis for number of analyses, statistical methods to be used in data evaluations, sample duplicates, blanks, and blind samples). If the project involves laboratory analyses, this description should indicate whether the laboratory performing the analyses is accredited or state certified for the analyses of concern. If the laboratory is not certified, and/or if nonstandard methods are used, detailed quality assurance/quality control procedures must be submitted with the proposal. If the QA/QC procedures can't be described in 2 pages, a more detailed plan for a funded project may be submitted with the Project Information Summary to the assigned WRF Research Program Manager.

7. Management Plan (1 page)

Identify the individuals and organizations participating in the project, their specific roles and responsibilities, and their time commitment to the project. Describe how the PI will maintain accountability for the individuals and organizations involved in the project. Include a concise organizational chart showing the relationships and the lines of communication among the research team and all project participants.

8. Communication Plan (1 page)

Provide a draft plan for how the project results and key outcomes will be communicated effectively and in a timely manner to WRF subscribers and other end users who will apply the results for the benefit of the water community. WRF will work with the selected researcher to refine the draft Communication Plan prior to the start of the project. The draft Communication Plan should address the following questions:

- Who are the target audiences for the final deliverable(s)?
- Who are the end users of the project results, and what other WRF stakeholders might benefit from knowing the results?
- What deliverables and communication activities are necessary to effectively reach the target audiences? What format, content, focus and level of detail are appropriate?
- When during the project should communication occur? Should there be interim deliverables and communication activities prior to project completion?
- Are there opportunities for joint or combined communication activities with other ongoing,

related projects?

The proposed budget should include the costs and resources associated with implementing the draft Communication Plan. Applicants are encouraged to review WRF's [Guidelines for Preparing Research Reports and Products](#) for information and considerations about various project communication tools and activities.

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

9. References (as required)

Include an alphabetical list of references for works cited. References should conform to journal format.

10. Licenses and Inventions (as required)

If the research is likely to produce inventions, new products, or processes (or improvements thereof), include a statement defining the relationship between the proposed research and any pre-existing patents or patent applications owned or controlled by the applicant, subcontractor, or any participants. Identify the patents or patent applications and attach copies. WRF does not exercise any claims on patent rights for new inventions, products, or processes developed through our research; however, if a patent application could result from the proposed project, include a statement as to the proposed ownership of any resultant patent. **NOTE: WRF does not endorse or product-test commercial products or processes.**

If a patented product or process is being used in the research and is not owned by the applicant, then a license to use the patent must be submitted with the proposal.

11. Budget Narrative

Itemize, explain, and justify each cost included in the project budget, and identify when (Year 1, Year 2, etc.) during the period of performance the cost is expected to be incurred. Budget tables are often the best way to represent costs on a yearly basis. Note: **Do NOT include individual salary and wage rates in the Budget Narrative.**

The Budget Narrative is separate from the Budget Form and must provide sufficient detail to enable each itemized cost to be evaluated for allowability and appropriateness for the project. Refer to the [Instructions for Budget Preparation](#) for additional information on specific items that must be addressed in the Budget Narrative.

NOTE: WRF does not pay for the purchase of major equipment for research tasks. Researchers submitting proposals should already possess, be willing to purchase or lease, or have access to the appropriate equipment and instruments to complete the proposed research tasks.

12. Schedule

Proposers should include a detailed timeline of the project, including start and end dates for each task (including deliverables such as the Draft Final Product and Final Product) and responsible party (e.g., a Gantt chart or schedule table). The contractual period of performance should include additional time for review and required revisions to draft final deliverables.

In general, the project start date will be approximately 3–6 months after submission of the proposal, which allows time for proposal selection and contract negotiations. The proposal may also set forth

project-specific schedule requirements.

Important: The Water Research Foundation expects projects to be completed within the timeframe specified in the proposal. Details on WRF's [timeliness policy](#) can be found on WRF's website.

13. Third-Party Contribution Letters of Commitment (as required)

If the applicant's budget includes third-party contributions, letters of commitment from all participants must confirm these contributions. The letter of commitment must identify the type (e.g., cash, labor, materials, services, etc.) and estimated dollar value of the contribution, and must be signed by an authorized representative of the organization. Email communication will be accepted as a letter of commitment if the email originates from an authorized representative and adheres to the requirements set forth above. **Third-party contributions will not be considered in the proposal selection process unless a letter of commitment—with the dollar amount of contributions listed—is included with the proposal.**

14. Curriculum Vitae or Resumes for Key Team Members (2 pager/person)

Upload curriculum vitae or abbreviated resumes as a single file for the PI, Co-PI, and any other key members of the research team.

PROPOSAL PACKET TWO (Cost Analysis)

The following items are for internal WRF evaluation purposes and will not be provided to the Review Committee.

15. Budget Form

Complete the WRF Research Project [Budget Form](#) included with your full proposal invitation e-mail/letter to provide a realistic, cumulative budget for the project. The budget requested at the full proposal stage of the Unsolicited Research Program must remain the same as the request in the pre-proposal unless prior authorization from the WRF Chief Research Officer is obtained. Consult the [Instructions for Budget Preparation](#) for details on preparing the budget. Costs will be evaluated for allowability under the applicant's relevant U.S. federal cost principles. The budget should include sufficient funding to prepare the project deliverables described in the proposal. A detailed Budget Narrative in the main body of the proposal must accompany the Budget Form (See **11. Budget Narrative**).

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. **Proposals that do not meet the minimum 33 percent of the project award will not be accepted.** Consult the [Instructions for Budget Preparation](#) for more information and definitions of terms.

16. IRS Form W-9

For all U.S. entities, a certified (signed) W-9 form is required. Obtain the latest version from www.irs.gov, complete the information, and upload the signed first page (only) as the file with your proposal. Outdated revisions of the form may not be acceptable. For non-U.S. entities, include the W-8BEN form.

III. PROPOSAL EVALUATION

The Research Advisory Council (RAC), with support from internal staff and additional experts as needed, reviews full proposals, and approves projects for funding under the program. Notification of selection or non-selection will be made by email. Verbal feedback on non-selected proposals will be provided if

requested within 60 days of the notification date. Criteria for the review can be found in the **Unsolicited Proposal Evaluation Criteria in Attachment 1**.

IV. AWARD ADMINISTRATION FOR APPROVED PROJECTS

For a project selected for funding, a Project Funding Agreement (PFA) must be established between WRF and the PI's organization. The PI and their sub-contractors will be expected to comply with the terms and conditions of the PFA. Co-funding organization(s) (if any) will execute a simple co-funding Letter of Agreement (LOA). It is recommended that the PI and any co-funders review the [standard PFA](#) on the WRF website in advance to verify that the PFA is acceptable. Any funding partners in the research project should ensure that all of the co-funding contributions will be available prior to the final execution of the PFA, and that the funding is in U.S. dollars unless prior approval has been received. The PFA must be signed within 45 days of receipt of the draft agreement.

V. PROJECT ADMINISTRATION AND COMMUNICATIONS

Project Management

WRF will provide overall management of the project, including contract administration and technical oversight of the project through the research program manager (RPM) and project coordinator (PC). The RPM is responsible for reviewing all project deliverables, as well as managing the Project Advisory Committee (PAC). This process is meant to provide for a continuous, independent review that ensures the scientific validity of the research. The PC supports the RPM in facilitating deliverables, and they both work in concert to ensure that contractual obligations are met (i.e., deliverable schedule).

Communications

The researcher is required to provide quarterly updates to the RPM, PAC, and co-funders (if any). The RPM is responsible for ensuring that project updates and reports are made available to all project participants, as well as the PAC, throughout the life of the project.

The research team should include both the RPM and the PC in emails regarding administrative items, such as transmittal of invoices and project deliverables. For issues concerning technical details of the scope of work, the PC need not be included.

Technology Transfer

WRF's mission is not complete until research results are put to work in the water community. To this end, the research team is expected to produce a final report or other final deliverable that can be published by WRF. Researchers should allocate adequate resources and personnel to develop a final report that is technically sound and adheres to WRF's [Guidelines for Preparing Research Reports and Products](#). The guidelines establish formats and other publishing requirements. Researchers should be prepared to review the edited report; answer editors' questions; and make changes to text, tables, and figures, as necessary. In addition to the final report, WRF often communicates research findings to water professionals worldwide via periodicals, conferences, and webcasts. Utilities providing data for Unsolicited Research Program projects must be willing to have the data published and distributed to the water community; the utility name and location may be anonymous.

ATTACHMENT 1
WRF UNSOLICITED RESEARCH PROGRAM
FULL PROPOSAL EVALUATION CRITERIA

Score

A. Technical and Scientific Merit (maximum 15 points)

Is the research technically achievable? Does the proposal include relevant research by the proposer and/or others to date? Will the proposal research findings have near-term or long-term applicability in the field?

B. Project Originality (maximum 15 points)

Is the proposed project original or innovative? Does the proposed project complement, rather than duplicate, WRF's ongoing research? Does the proposal provide adequate justification of originality and not duplication? Is it building on or applying previous work? Is the proposal compelling and relevant? Does it demonstrate how the project would solve the problem or benefit the water sector?

C. Technical Approach (maximum 30 points)

Is the proposal likely to advance relevant knowledge and understanding, and provide useful and usable information needed for subsequent field deployment? What is the likelihood of filling important research gaps, moving new innovative sustainable technologies into practice? Can the project objectives successfully be achieved as described in the proposal? Does the proposal outline the critical tasks to be conducted, and are the expected outcomes clear? Is the proposal clearly understandable, technically defensible, and compelling?

D. Budget (maximum 15 points)

Are the costs justified and commensurate with the proposed scope of work? This also includes the leverage obtained by verifiable in-kind support (e.g., cash, labor, equipment, analysis, reduction in overhead, etc.). Is the budget reasonable and representative of the scope of work proposed? Is matching cash accounted for? Is the level of effort allocated to each task logical? Is the Indirect Cost Rate reasonable, and has it been detailed in the proposal?

E. Management Plans (maximum 15 points)

Is there likelihood of success given the proposed schedule, level of funding, expertise, and anticipated challenges? Are the roles, responsibilities, and assignments clear? Does the lead organization have adequate resources, capacity, and capability to provide the appropriate level of management, oversight, and project implementation? Is the Quality Assurance/Quality Control Program acceptable? Is the proposed schedule realistic and manageable? Are the deliverables clear in terms of what will be developed and how it will benefit WRF subscribers? Is there a plan to share project findings and deliverables?

F. Qualifications of Key Personnel (maximum 10 points)

Do the key personnel have experience and expertise in the issues and objectives discussed in the proposal? Have key personnel committed an appropriate amount of time to the project?

Total Score: _____