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REQUEST FOR PROPOSALS (RFP)

Potable Reuse Demonstration Design & Reuse Communication Toolbox (RFP 4979)

Due Date: Proposals must be received by 2:00 pm Mountain Time on
Tuesday, September 24, 2019

WRF Project Contact: Katie Henderson, khenderson@waterrf.org

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

Project Objective
This project has two major research objectives:
- To identify the most effective strategies for integrating public education and engagement elements at demonstration facilities for potable reuse
- To develop outreach materials that present science and research on potable reuse in general

Budget
Applicants may request up to $130,000 in WRF funds for this project. WRF funds requested and total project value are evaluation criteria considered in the proposal selection process.

Background and Project Rationale
Across North America and the world, more utilities are considering potable reuse as a critical strategy for water supply diversification and improved supply reliability. The technology to reliably produce safe advanced treated water that meets or exceeds drinking water standards exists today, and will likely improve over the coming years. While technical and engineering challenges are always important considerations when developing alternative water supplies, public acceptance of potable reuse has proven to be especially critical to the success of these projects.

A 2015 report, *Model Communication Plans for Increasing Awareness and Fostering Acceptance of DPR* (Millan et al. 2015), conducted surveys, interviews, and focus groups to determine effective messaging to help the public understand water reuse. This study identified high-level strategies for utilities to build strong relationships with their customers by keeping them informed about issues that apply to them. Some of these strategies include:
- Developing trust (building relationships, offering plant tours)
- Being consistent with outreach (starting early, continuing throughout project)
- Providing information about potable reuse and where it is in use to increase familiarity
- Being consistent with messaging and terminology

- Instilling confidence in the quality of water (talking about the treatment process)
- Being transparent (discussing costs, water quality, safety, environmental impacts)
- Being prepared (for tough questions and misinformation*)*

The focus groups and telephone survey showed that after receiving additional information about potable reuse and the multi-stage treatment process used to make the water safe to drink most participants became more comfortable with the idea of potable reuse. These and similar research findings (e.g., Dolnicar et al. 2010) indicate that public engagement is an effective tool for increasing acceptance of potable reuse facilities, and further work should be completed to ensure efficient and successful outreach programs.

This project will build on these findings by focusing on **two** major research needs: 1) public engagement at reuse demonstration facilities and 2) communication about potable reuse in general. As a result, this project has two parts:

Part 1 of this project will test and recommend the most effective strategies for integrating public engagement into the design of demonstration facilities. The following are key questions to be explored:
- How and to what extent can demonstration facilities increase public awareness of, and support for, potable reuse?
- How does the design of these facilities impact their effectiveness, and what are the most effective design elements?
- How can traffic flow be optimized for group tours?
- How can interactive educational stations and water tasting stations be designed to maximize positive visitor impact?

Part 1 will require proposing teams to have expertise in communication, environmental education, interpretation, and/or psychology. Teams also need to demonstrate a firm understanding of previous and ongoing work, including from fields outside the water and natural resources sectors, such as museum science, visitors studies, and tourism, as well as a solid understanding of water reuse and advanced treatment.

Part 2 of this project will focus on transforming the recommendations from previous work in reuse communication research into content that can be customized and used in visitor centers, on websites, and in printed materials for the general public; and into content for decision-makers. The toolbox can include new materials, as well as links to existing materials.

This part of the project will require proposing teams to have expertise in science communication and graphic design, and to have a strong awareness of existing resources and materials in reuse communication (including work done outside the U.S.).

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.

Task 1: Test and summarize best practices and design considerations for integrating public engagement at potable reuse demonstration facilities. Using field work, case studies, or other methods, identify the most effective approaches and develop a summary of best practices.

Task 2: Based on the communication needs identified in Millan et al. (2015) or other published materials, develop a toolbox with new and existing communication materials that can be tailored for specific audiences (general public, decision-makers, etc.). The toolbox should be able to help utilities identify the resources that are the most relevant to their needs, and ways in which those resources can be customized and deployed. Toolbox content could include graphics, template language, or animations that can be used for posters, booklets, brochures, websites, *reference documents, white papers, or other outreach materials for non-expert groups who need technical information.*

Proposals should demonstrate awareness of current and ongoing research and innovation in this space. Proposal teams should include expertise in both potable reuse technology and treatment, and in effective communication and public engagement and relevant fields of study. It is highly recommended that proposers partner with other individuals or organizations that can provide the necessary expertise to the project team.

Expected Deliverables
- Final Report
- Communication Toolbox
- Other deliverables: (Research teams are encouraged to propose other deliverables if they will meet or exceed project objectives)
  - Fact sheets
  - Webcasts

Communications Plan
Please review WRF's *Project Deliverable Guidelines* for information on preparing a communications plan. The guidelines are available at http://www.waterrf.org/funding/Pages/proposal-guidelines.aspx. 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 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.

Bitgood, S.C. 2006. "An Analysis of Visitor Circulation: Movement Patterns and the General Value Principle." *Curator: The Museum Journal*, 49: 463-475. doi: 10.1111/j.2151-6952.2006.tb00237.x.

Dolnicar, S., A. Hurlimann, and L. Nghiem. 2010. "The Effect of Information on Public Acceptance: The Case of Water from Alternative Sources." *Journal of Environmental Management*, 91 (6): 1288-1293.

Falk, J.H., C. Scott, L. Dierking, L. Rennie, and M.K. Jones. 2004. "Interactives and Visitor Learning." *Curator: The Museum Journal*, 47: 171-198. doi:10.1111/j.2151-6952.2004.tb00116.x.

Furlong, C., J. Jegatheesan, M. Currell, U. Iyer-Raniga, T. Khan, and A.S. Ball. 2019. "Is the Global Public Willing to Drink Recycled Water? A Review for Researchers and Practitioners." *Utilities Policy*, 56: 53-61. doi:10.1016/j.jup.2018.11.003.

Kenney, S. 2019. "Purifying Water: Responding to Public Opposition to the Implementation of Direct Potable Reuse in California." *UCLA Journal of Environmental Law and Policy*, 37 (1): 85-122.

Khan, S.J., and L.E. Gerrard. 2005. "Stakeholder Communications for Successful Water Reuse Operations." In S. Khan, M.H. Muston, and A. Schaefer (Eds), *Proceedings of the International Conference: Integrated Concepts in Water Recycling 2005* (pp.335-367). University of Wollongong.

Millan, M., P.A. Tennyson, and S. Snyder. 2015. *Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse*. Project 13-02. Alexandria, Va.: WateReuse Research Foundation.

Moscardo, G.M. 1988. "Toward a Cognitive Model of Visitor Responses in Interpretive Centers." *The Journal of Environmental Education*, 20 (1): 29-38. DOI: 10.1080/00958964.1988.9942778.

Nancarrow, B.E., Z. Leviston, and D.I. Tucker. 2009. "Measuring the Predictors of Communities' Behavioral Decisions for Potable Reuse of Wastewater." *Water Science and Technology*, 60 (12).

Ormerod, K.J., and C.A. Scott. 2013. "Drinking Wastewater: Public Trust in Potable Reuse." *Science, Technology, & Human Values*, 38 (3): 351-373. DOI: 10.1177/0162243912444736.

Redman, S., K.J. Ormerod, and S. Kelly. 2018. "Reclaiming Suburbia: Differences in Local Identity and Public Perceptions of Potable Water Reuse." *Sustainability*, 11 (564). doi:10.3390/su11030564.

Rock, C., F.I. Solop, and D. Gerrity. 2012. "Survey of Statewide Public Perceptions Regarding Water Reuse in Arizona." *Journal of Water Supply: Research and Technology-Aqua*, 61 (8): 506-517. doi:10.2166/aqua.2012.070.

Ross, V.L., K.S. Fielding, and W.R. Louis. 2014. "Social Trust, Risk Perceptions, and Public Acceptance of Recycled Water: Testing a Social-Psychological Model." *Journal of Environmental Management*, 137: 61-68. https://doi.org/10.1016/j.jenvman.2014.01.039.

Smith, H.M, S. Brouwer, P. Jeffrey, and J. Frijns. 2018. "Public Responses to Water Reuse – Understanding the Evidence." *Journal of Environmental Management*, 207: 43-50. https://doi.org/10.1016/j.jenvman.2017.11.021.

Tortajada, C., and S. Nambiar. 2019. "Communications on Technological Innovations: Potable Water Reuse." *Water*, 11 (251). doi:10.3390/w11020251.

Water360. 2019. Water 360 Database. Sydney: Water Services Association of Australia. https://www.water360.com.au/. *(This contains a rich database of resources, tools, case studies and video materials, and it is highly recommended that teams be familiar with the materials here).*

World Health Organization. 2017. *Potable Reuse: Guidance for Producing Safe Drinking-Water*. http://www.who.int/iris/handle/10665/258715.

Yalowitz, S.S., and K. Bronnenkant. 2009. "Timing and Tracking: Unlocking Visitor Behavior." *Visitor Studies*, 12 (1): 47-64. DOI: 10.1080/10645570902769134.

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 20 points)
- Communication Plan, Deliverables, and Applicability (maximum 15 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 http://www.waterrf.org/funding/Pages/proposal-guidelines.aspx, along with *Instructions for Budget Preparation*. The guidelines contain instructions for the technical aspects, financial statements, indirect costs, and administrative requirements that the applicant <u>must</u> follow when preparing a proposal.

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 http://www.waterrf.org/funding/Pages/policies.aspx. 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 http://www.waterrf.org/funding/Pages/proposal-guidelines.aspx.

Budget and Funding Information

The maximum funding available from WRF for this project is **$130,000**. The applicant must contribute additional resources equivalent to at least 33 percent <u>of the project award</u>. 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 **$130,000**. **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 http://www.waterrf.org/funding/Pages/proposal-guidelines.aspx 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 http://www.waterrf.org/funding/Pages/policies.aspx.

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 2:00 pm Mountain Time on Tuesday, September 24, 2019. All proposal documents must be compiled into two (2) PDF files consisting of your technical review documents and your financial review documents. All forms and components of the proposal are available in the *Proposal Component Packet* zip file on the proposal website at https://proposals.waterrf.org/Pages/RFPs.aspx. An FAQ and a tutorial are also available. A login is required to access the proposal website and download the packet. Proposers are encouraged to create logins and verify the validity and compatibility of the system well in advance in order to avoid last-minute errors or delays.

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.

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Katie Henderson at (303) 347-6108 or khenderson@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 upon your settings, you may need to click refresh on your browser to load the latest file.)**

N/A