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REQUEST FOR PROPOSALS (RFP)

Analysis of Corrosion Control Treatment for Lead and Copper Control (RFP 5032)

Due Date: Proposals must be received by 2:00 pm MT on
Thursday, September 12, 2019

WRF Project Contact: Jonathan Cuppett, jcuppett@waterrf.org

Project Sponsors

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

Project Objectives

To evaluate analysis tools for, and risks from, implementing and/or changing corrosion control treatment (CCT), and to explore the potential impact of various source water or treatment changes to CCT. To develop a framework for how to assess current CCT and under what circumstances CCT should be re-evaluated. Impacts to both lead and copper should be explored.

Budget

Applicants may request up to \$250,000 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

CCT is designed to reduce lead and copper release to the tap by limiting the corrosivity of finished water. Some common water quality characteristics that can impact lead and copper corrosion are pH, dissolved inorganic carbon, oxidation reduction potential, corrosion inhibitors, chloride to sulfate ratio, microbiological activity, and hardness. Currently, CCT assessments are required under the Lead and Copper Rule (LCR) for systems serving >50,000 people, any size system that has a lead or copper action level exceedance, and systems that make changes to source water or water treatment. Systems not required to formally implement CCT are currently employing water quality strategies that maintain compliance with the LCR. Evaluations of CCT are used to confirm that current treatment strategies are optimized to minimize lead and/or copper release, or to better understand the impacts of anticipated source water or treatment changes. The National Primary Drinking Water Regulations (CFR 2011) define optimal CCT as "the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while insuring that the treatment does not cause the water system to violate any national primary drinking water regulations." Furthermore, they state that "the water system shall evaluate the

effect of the chemicals used for corrosion control treatment on other water quality treatment processes.”

There is renewed interest from regulatory agencies and utilities in evaluating current CCT practices. Proposed revisions to the Lead and Copper Rule are expected in the near future. Potential CCT options that are being considered for the updated LCR include (EPA 2016a):

- Requiring large water systems (serving >50,000 people) to evaluate and re-optimize CCT when EPA publishes updated CCT guidance
- Requiring all systems in the U.S. to implement CCT, regardless of system size, tap sampling results, or the presence of lead service lines

Many questions arise when water systems are faced with evaluating their CCT:

- How can CCT be evaluated, and how does one choose what method to use?
- What triggers a need to re-evaluate CCT?
- How are the CCT study results interpreted – is one treatment demonstrably better given variability in data?
- What are the unintended consequences to consider?
- If a change is to be made, how is the transition and evaluation of the success of the new CCT strategy made?

In the future, water utilities will continue to need resources to help them navigate uncertainty related to CCT. This project will provide utilities with information to help them better understand when to re-evaluate CCT, appropriate methods to assess/re-evaluate CCT, and potential risks from making changes to CCT.

Research Approach

There are a variety of different approaches that can be pursued to achieve the project objectives. Research plans should present a strategy for providing CCT-related solutions for a diverse range of circumstances. The following list contains research plan suggestions. However, alternative ideas that are not included in this list are acceptable.

- Compile a literature review that documents previous work on CCT. The research for this project should build on existing guidance, and the approach should advance the science of CCT knowledge.
- Compile case studies of lessons learned from utilities that have implemented or changed CCT in response to regulatory requirements or planned source water and/or treatment changes. The case studies should cover a variety of different scenarios, including novel circumstances where limited data is available.
- Identify the importance of the role that comprehensive distribution system water quality data can play in CCT assessments.
- Discuss the impact that use of phosphorus-based corrosion inhibitors, or other CCT changes, can have on other downstream water stakeholders, and how other utilities have navigated this challenge.
- Perform lab studies and/or full-scale data collection to support CCT decision making. There are a variety of different options for this research component. The proposer should develop their own

approach for how this component can best assist with development of CCT guidance. Overarching themes should include:

- Illustration of the strengths and weaknesses that inform the applicability of available tools.
- Collection and presentation of data to improve our understanding of how to apply available tools and evaluate variability in data collected through those tools.
- Description of how to integrate historical data, special studies, and ongoing monitoring to both guide CCT changes and evaluate implementation.
- Develop a decision tree that can be used by utilities to better understand how to effectively assess current CCT and when and how to re-evaluate CCT.

The final resources for this project are expected to be useful to utilities with various levels of financial resources and expertise. The approach should reflect a recognition of this issue, and the final project resources should provide information that is actionable by all utilities.

Expected Deliverables

- A final report that incorporates the various components of the research approach and provides guidance related to the assessment of current CCT practices and when/how to make CCT changes.
- A decision tree that can be used by utilities to better understand how to effectively assess current CCT and when and how to re-evaluate CCT.
- Conference presentations or other appropriate outreach should be prioritized to share interim results of interest.
- A WRF-sponsored webcast following project completion.

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 24-36 months from the contract start date.

References and Resources

- CFR (Code of Federal Regulations). 2011. "40 CFR Part 141. National Primary Drinking Water Regulations. §141.2 and 141.82." <https://www.govinfo.gov/content/pkg/CFR-2011-title40-vol23/pdf/CFR-2011-title40-vol23-part141.pdf>.
 - EPA (U.S. Environmental Protection Agency). 2016a. *Lead and Copper Rule Revisions White Paper*. https://www.epa.gov/sites/production/files/2016-10/documents/508_lcr_revisions_white_paper_final_10.26.16.pdf.
 - EPA (U.S. Environmental Protection Agency). 2016b. *Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems*. <https://www.epa.gov/sites/production/files/2016-03/documents/occtmarch2016.pdf>.
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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 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 must 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 \$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

<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 Thursday, September 12, 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, Jonathan Cuppett at (303) 347-6122 or jcuppett@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.)**

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