

From: Crawford, Susan
Sent: Tue, 14 Aug 2012 20:45:56 +0000
To: 'Daniel Nix'
Cc: 'Russell Schreiber'
Subject: FW: Participating Utilities for WaterRF 4461 - Nitrosamine Occurrence Survey
Attachments: letter of utility support for WaterRF 4461.docx, RFP_4461.pdf

Daniel,

CDM Smith is proposing on this WRF research project on nitrosamine occurrence and we think Wichita Falls would be a great data set to add since we are looking at reuse. This would allow you to get some free nitrosamine data on your plants. I've drafted a letter for your review and use if you think this is something that would be of interest to the city. We are suggesting an "in kind" contribution of \$5000 in your labor, as noted in the attached letter. If you do want to participate, would it be possible to send me a commitment letter by COB tomorrow? The proposal must be sent out on Thursday, so we are trying to wrap this up tomorrow.

Thank you for considering (and I apologize for the short notice),
Susan

From: Atassi, Amrou
Sent: Tuesday, August 07, 2012 12:34 AM
To: dsc-DW
Cc: Isabel, Robert; Dowbiggin, William; Schulz, Christopher; Crawford, Susan; Wetterau, Greg; Skadsen, Janice; da Silva, Allegra K.; Singer, Philip C; White, Mark; Taylor, Michael A; Thompson, Donald M.; Hobbs, Colin; Zafer, Michael; Irby, Kevin; Bell, Kati; Osgood, Jennifer
Subject: Participating Utilities for WaterRF 4461 - Nitrosamine Occurrence Survey

We're working on a WaterRF proposal related to NDMA sampling and evaluation – please see attached RFP. We've identified several case study types and need participating utilities that fit each type. The case study types are:

1. Groundwater utilities with ammonia in source water.
2. Utilities using chloramines and PolyDADMAC as a polymer.
3. Utilities using chloramines with source water impacted by wastewater effluent.
4. Utilities using anion exchange for nitrate or perchlorate removal.
5. Utilities interested in evaluating the impact/contribution of distribution system materials, such as gaskets, in NDMA release.
6. Utilities that have a consecutive system fed by a system using chloramines

We're looking for participating utilities interested in NDMA and fit one of the above categories. A draft/sample in-kind utility letter is attached. The utility in-kind portion is limited to providing

data/information on their system as well as two sampling events in 2013. There is an additional/optional phase where a utility can conduct bench scale or full scale testing to replace a polymer or ion exchange resin, etc.

If you know of a utility that meets one of above categories and interested in this project, please email me the utility contact information or feel free to contact the utility directly to gauge their interest. The proposal is due August 17th and we would like to get the letters by next Wednesday August 15th.

Thanks in advance,
Amrou

Letterhead

August 15, 2012

Mr. Amrou Atassi, P.E., BCEE
Project Manager
CDM Smith
125 South Wacker Drive, Suite 600
Chicago, IL 60606

Re: Letter of Support for Proposed WaterRF Project RFP 4461 – Nitrosamine Occurrence Survey

Dear Amrou,

The City of Wichita Falls is interested in participating with and contributing to WRF Project 4461 “Nitrosamine Occurrence Survey.” This project is of interest to our utility because we are interested in better understanding the occurrence and fate of nitrosamines and believe in the value of supporting research focused on understanding and improving our drinking water quality.

As a utility participant, we will participate as an in-kind contributor to your work. This support will include providing the following data or services:

- Description of water treatment process and distribution system
- Collection and shipment of water samples (two sampling events – each involving samples from source/raw water to distribution)
- Basic water quality data at sampling points (NDMA testing will be done by an outside lab)
- Results of past monitoring for nitrosamines (2010 - 2012)

Our in-kind contribution to this effort is estimated at 150 hours in personnel time with an approximate value of \$5,000.

We understand that this information will likely be used as a part of the final WaterRF report publication or other project deliverables, and at our option, we can choose to be identified anonymously.

In summary, please consider this letter as a commitment that the City of Wichita Falls will support the proposed research project with a total in-kind contribution of up to \$5,000 for the specific level of participation indicated in the paragraphs above.

Regards,

{Your name}
{address}

CC: Susan Crawford, CDM Smith



REQUEST FOR PROPOSALS

Nitrosamine Occurrence Survey (RFP 4461)

Focus Area

The Focus Area Program enables Water Research Foundation to solve broadly relevant subscriber issues and challenges with a targeted, sustained research effort. The program is developed around research Focus Areas: a topic area that is of high interest and priority to Foundation subscribers because of a challenge or opportunity that is present, emerging, or anticipated, and for which research will help subscribers manage and address the challenge or optimize the opportunity. A focus area includes a discrete challenge or opportunity statement, measurable objectives, and one or more projects that will lead to applied solutions and benefits for Foundation subscribers within a specified, relevant time frame.

This project is funded in the Focus Area: **NDMA and Nitrosamines: Precursor Control, Treatment Practices, and Distribution System Operations to Achieve Regulatory Compliance** By 2016, provide resources to inform rulemakers and assist utility compliance with pending regulations by understanding the occurrence, precursor formation, treatment and control, and fate of nitrosamines in distribution systems.

This project is intended to support the following Focus Area objective(s): Inform the regulatory process and prepare utilities for upcoming regulations, by investigating occurrence, precursors, formation, treatment, control, and fate of nitrosamines in distribution systems.

Project Objective

The objective of this project is to perform a focused occurrence study to identify the specific factors that affect the formation and occurrence of nitrosamines in drinking water systems.

Background

Chloramines have been shown to minimize the formation of trihalomethanes (THMs) and haloacetic acids (HAAs), thereby offering a cost-effective means for the new Stage 2 Disinfectants and Disinfection Byproduct Rule (D/DBPR) compliance. However, chloramines have been implicated in the formation of nitrosamines such as *N*-nitrosodimethylamine (NDMA). With the potential for future state and federal regulation of nitrosamines, drinking

water utilities using chloramines face the challenge of minimizing nitrosamine formation in their systems while maintaining compliance with Stage 2 D/DBPR. Towards this challenge, it is important to understand the various potential sources of nitrosamines, from source to tap.

Several potential sources of nitrosamines or nitrosamine precursors are well known (effluent organic matter, polyDADMAC). However, other sources have only recently been identified or tentatively implicated (e.g. nitrosamines present in the influent water source, or leaching from rubber gaskets used in the distribution system). The contribution of these and other sources to the overall nitrosamine load at the tap likely varies from utility to utility. Moreover, at a given utility, there is potential for significant temporal variability in nitrosamine loads. Such temporal fluctuations could occur over seasonal time periods, for example, due to seasonal low-flow conditions or due to differences in average water temperature (summer versus winter). Alternatively, fluctuations could occur on short time-scales due to, for example, meteorological events (e.g., high-turbidity events requiring additional polymer addition or changes in the influent precursor material that are a result of meteorological events).

The Unregulated Contaminant Monitoring Rule 2 (UCMR2) is the most comprehensive set of data on nitrosamine occurrence in US water systems. However, the database is subject to several limitations. UCMR2 only required one year of sampling for each participating community water system with four samples for surface water systems and 2 samples for ground water systems during that 1-year period. Sampling was limited to finished water and distribution system samples only, thereby not taking into account the possibility of nitrosamines in the influent water. In addition, consecutive systems were not included in the survey. Moreover, only a very limited amount of plant operation and water quality data were collected with the UCMR2 samples. Hence, the data do not allow for the determination of factors that affect temporal variability in occurrence.

Because of the possible contribution of nitrosamines and their precursors from various sources, and because these patterns can vary temporally and from utility to utility, the limited ancillary data collected in the UCMR2 do not allow one to determine how, when, and why nitrosamines are formed. Therefore, further information is needed to supplement the UCMR2 data to provide a clear understanding on the occurrence and formation of nitrosamines from source water to tap.

Research Approach

Despite the potential for high inter- and intra-utility variability in terms of nitrosamine occurrence, it is expected that consistencies with regard to water sources, treatment trains, and the impacts of temporal forces will be identified. The objective of this project is to perform a focused occurrence survey of nitrosamines that would consider a variety of water sources, treatment processes, and the potential impact of temporal changes in water quality. This focused study should include

- 1) Representative plants. Characteristics should include
 - a. A range of possible nitrosamine precursors (e.g., wastewater influence, polyDADMAC, anion exchange resins);

- b. A range of treatment and disinfection processes that are utilized (e.g., pre-oxidation with chlorine, pre-oxidation with ozone), with a focus on plants that use chloramines as the secondary disinfectant;
 - c. A range of influent quality, including highly effluent-impacted watersheds.
- 2) Periodic monitoring (e.g., in a cold/wet season and in a warm/dry season). Event monitoring that can impact nitrosamine formation should be considered (e.g., low river flow, where wastewater impact is higher; high-turbidity event during which more polymer may be used).
- 3) Relevant information from source to tap. The survey would obtain information on sources of impacts, as well as relevant operational and water quality data.

The examples of nitrosamines and nitrosamine precursors, temporal impacts, and plant operation impacts mentioned above are not inclusive. Teams proposing on this project can identify other potential impacts in addition, or in lieu of, these factors. However, the proposing research teams should clearly justify the approach used, as well as the selection of sampling sites and times, and they should provide a well-defined experimental design and data quality assurance and quality control plan. Furthermore, the proposing teams should evaluate how the data will be used; additional tests, experiments, or sampling locations may be useful or necessary for interpreting data and recommending management strategies for drinking water utilities to prevent or minimize nitrosamines in their systems.

Proposal Preparation Instructions

Proposals submitted in response to this RFP must be prepared in accordance with the Water Research Foundation “Guidelines For Focus Area Program Proposals.” The most current version of these guidelines is on the Website Quicklinks page at <http://www.waterrf.org/funding/pages/quicklinks.aspx>. The guidelines contain instructions that the applicant must follow when preparing a proposal.

Eligibility to Submit Proposals

This RFP solicits proposals from all technically qualified U.S. based or non-U.S. based applicants, including educational institutions, research organizations, federal or state agencies, local municipalities, and consultants or other for-profit entities.

The Foundation’s Board of Trustees has established a Timeliness Policy that addresses researcher adherence to project schedule. The policy can be reviewed at <http://www.waterrf.org/funding/pages/quicklinks.aspx>. Researchers who are late on any ongoing Foundation-sponsored studies without an approved no-cost extension are not eligible to be a named participant in any proposal. If you have any questions about your eligibility for Foundation projects, please contact your current Foundation research manager directly.

Budget and Funding Information

The maximum funding available from the Foundation for this project is \$400,000. A minimum 25 percent of the total project value must be contributed by the applicant (i.e. the applicant's minimum contribution must equal one-third of Foundation funds requested). Therefore, the minimum total value of this project is \$533,333, (\$400,000 in Foundation funds and \$133,333 in applicant contribution). Acceptable forms of applicant contribution include cost-share, applicant in-kind or third-party in-kind that meet Code of Federal Regulation (CFR) requirements in 2 CFR Part 215.23, or the requirements of Office of Management and Budget (OMB) Circular A-102.24. The applicant may elect to contribute more than 25 percent to the project but the maximum Foundation funding available remains fixed at \$400,000. Proposals that request less than \$400,000 from the Foundation need only contribute 25 percent of the total project value.

Administrative, Cost and Audit Standards

The Foundation's standards for administrative, cost and audit compliance are based upon and comply with the proposer's applicable US Federal Administrative Requirements, Cost Principles and Audit Requirements. These standards 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. Prior to preparing the proposal, your financial staff should review the detailed instructions included in the Foundation's annually released "Guidelines For Focus Area Program Proposals."

Period of Performance

The proposed project schedule should be realistic, allowing ample time for the preparation of final reports and for review of project results. It is the Foundation's policy to negotiate a reasonable schedule for each research project. Once this schedule is established, the Foundation and its contractors have a responsibility to adhere to the agreed-upon schedule. Under the Foundation'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/quicklinks.aspx>.

Utility Participation

The Foundation is especially interested in receiving proposals which include both participation and contribution of resources from water utilities in the research effort. Information on utilities that have indicated an interest in participating in this research project is attached. While the Foundation makes utility participation volunteers known to applicants, it is the applicant's responsibility to negotiate utility participation in their particular proposal, and the utilities are under no obligation to participate.

Application Procedure and Deadline

Proposals are now being accepted exclusively online and must be received on or before August 17, 5pm Mountain Time. All the forms and components of the proposal are available online in the “Proposal Component Packet” zip file. A login is required to download this packet and use the proposal website. **This information is available at <https://proposals.waterrf.org/default.aspx>**

Questions to clarify the intent of this Request for Proposals may be addressed to the research manager, Djanette Khiari, at 303-734-3478 or by e-mail at dkhiari@waterrf.org.

UTILITY VOLUNTEERS

The following utilities have indicated an interest in possible participation in this research. This information is updated within 12 business hours when a utility 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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