

## Request for Proposal (RFP)

### Safe Drinking Water Act Compliance: POU/POE Case Studies

RFP Issued: October 14<sup>th</sup>, 2020

Submission Deadline: November 30<sup>th</sup>, 2020 by 11:00 am Central

Budget: Total budget shall not exceed \$50,000\*

\*Maximum funding available. Researchers should attempt to submit proposals for the lowest dollar amount that is practical. Preference may be given to a lower cost proposal that still meets all the requirements/deliverables.

#### Introduction

The purpose of this research study is to:

- Determine which States currently allow the use of Point-Of-Entry (POE) and Point-Of-Use (POU) solutions for compliance to the Safe Drinking Water Act (SDWA)
- For States which allow POE/POU:
  - Compile a national database and summary reports for existing case studies on the use of POU/POE for compliance to the SDWA
  - Compile a list of communities which are currently using POU/POE treatment for compliance to the SDWA
- For States which do not allow POE/POU:
  - Compile data on reasons why
  - Develop database pertaining to responses to small system compliance matters
- Identify future research needs to support the use of POU/POE treatment for SDWA compliance

The intended impact of this research is to:

- Bring to light on a national level where POU/POE devices are utilized for compliance
- Highlight the benefits and challenges associated with the use of a POU/POE treatment program
- Reinforce the need for certified industry professionals to become more involved with compliance initiatives for public water systems (PWSs)

#### Who is WQRF?

The [Water Quality Research Foundation \(WQRF\)](http://www.wqrf.org), formerly the Water Quality Research Council, was formed in 1952 to serve with the guidance and assistance of the Water Quality Association (WQA) and its members as a universally recognized, independent research and education sponsorship organization. The mission of WQRF is advancing knowledge and the science of high quality, sustainable water. WQRF's vision is water quality improvement through relevant research.

Since inception, WQRF has sponsored numerous research studies which have examined a broad range of water chemistry, technology and environmental impact issues, generated essential water technology use, effectiveness and consumer information, positively impacted legislative change, and helped advance efficiencies and methodologies in product certification, evaluation and testing.

## Background on this RFP

According to the United States Environmental Protection Agency (US EPA), a public water system (PWS) “provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year.”<sup>1</sup>

The US EPA has divided PWSs covered by the Safe Drinking Water Act (SDWA) requirements into the following categories<sup>1</sup>:

1. Community Water System (CWS): A PWS that supplies water to the same population year-round.
2. Non-Transient Non-Community Water System (NTNCWS): A PWS that regularly supplies water to at least 25 of the same people who do not live at the location, but who use the water at least six months per year. Some examples are schools, factories, office buildings, and hospitals which have their own water systems.
3. Transient Non-Community Water System (TNCWS): A PWS that provides water in a place where an average of at least 25 different people per day visit and use the water for only short periods, such as a gas station or campground where people do not remain for long periods of time.

As of late 2019, 97% of PWSs that are active in the United States are considered small PWSs under the Safe Drinking Water Act (SDWA), meaning that the system serves 10,000 or fewer people.<sup>2</sup> Small PWSs may face a number of challenges in complying with the SDWA, such as aging infrastructure, lack of financial resources, state primacy agencies with limited resources to support the large number of small systems, etc.<sup>2</sup> These challenges were addressed in the 1996 Amendments to the SDWA where congress explicitly allowed PWSs to install point-of-use (POU) and point-of-entry (POE) treatment devices to achieve compliance with some of the maximum contaminant levels established in the National Primary Drinking Water Regulations (Section 1412(b)(4)(E)(ii) of SDWA). Although POU/POE treatment for PWS compliance is allowed at the federal level, State and local regulations may affect the ability of a small system to utilize this treatment strategy.<sup>3</sup> While some states may permit POU/POE treatment for compliance, they might not have an established approval process to accept applications for this treatment strategy. In reality, only a select number of States have actually implemented POU/POE for compliance.

Quantifying the number of PWSs that have used/ are currently using POU/POE for SDWA compliance will be one of the main focuses for this research request. Additional information on the research request can be found in the “Detailed Information on the Project Concept” section of this RFP, below.

## Detailed information on the project concept

Data on the rules, regulations, and use of POU/POE devices for PWS compliance should be solicited state by state. The project should gather data in the U.S. for all PWS types - including CWS, NTNCWS, and TNCWS. Ideally, data will be solicited through a phone survey with the appropriate contact to interview. This will permit the data collection effort to be conversational and may allow for sharing of information that was not originally solicited for.

WQRF envisions a two-phased approach for the data collection. Phase 1 consists of interviewing an appropriate contact at the state primacy agency. [Click here](#) for a useful link in identifying the primacy agencies for each state. It is recommended to work with the Association of State Drinking Water Administrators (ASDWA) to find contacts when needed. Phase 2 involves interviewing representatives from PWSs that have used, or are currently using, POU/POE treatment for SDWA compliance. These contacts would be provided by the state primacy agencies that have experience implementing POU/POE for compliance.

WQRF has provided a draft of possible questions for Phase 1 and Phase 2 interviews in Appendix B and

Appendix C, respectively. These questions are intended to serve as a starting place for the data collection. Additional questions for the study should be included in the proposal, along with the number of years that historical data can be collected for. It is requested that, after funding is awarded, WQRF will be permitted to review the complete list of proposed interview questions for feedback and input prior to any interviews being conducted. WQRF is mindful that interviewees will likely have limited time to answer the researcher's questions, therefore proposals should address the maximum number of interview questions that are appropriate to utilize.

The goal for Phase 1 is to acquire a response from all 50 states. Please note that data should also be collected from states that do not allow POU/POE for compliance. If the research team anticipates not being able to conduct the study with a national scope, that should be presented in the proposal. In the event that data cannot be collected from all 50 states, WQRF requests that States fitting into the below listed criteria are prioritized for outreach efforts:

- Large populations (e.g., TX)
- A large number of small PWSs (e.g., CA)
- Known regulatory barriers to POU/POE for compliance (e.g., PA)
- Experience in using POU/POE for compliance (e.g., AZ)

Proposals should indicate a feasible number of interviews for Phase 2. Please include any criteria you would use to prioritize these outreach efforts.

Data gathered through the interviews should be compiled and entered into a database that can be delivered to WQRF. From this database, summary reports should be created to identify:

- Where POU/POE are currently being used for PWS compliance
- The benefits and challenges associated with the use of a POU/POE treatment program
- Trends in the use of POU/POE for compliance over time
- Future research needs to support the use of POU/POE treatment for compliance

Proposals should also address any additional analyses to be conducted for this research project, along with how the information will be summarized in the report (graphs, tables, infographics, charts, etc.).

## Requirements for Researchers

Researchers must be well-qualified and have expertise in point-of-use/point-of-entry (POU/POE) drinking water treatment technologies. The names, qualifications and detailed curricula vitae of primary investigators involved in this project must be provided.

The researchers must have the facilities and capabilities to accomplish this project or must provide a list of the proposed partner organizations and their qualifications required to accomplish this project. Again, a list of the names, qualifications and detailed curricula vitae of primary investigators from those partner organizations should be provided.

The researchers must complete work on this project within nine (9) to twelve (12) months of the approved start date.

## Restrictions

Please read this section carefully. Researchers are encouraged to consult with WQRF if you believe your proposal encompasses one or more of these restrictions. Proposals whose scope fall within any of these restrictions will not be funded by WQRF:

- The proposal will be scoped to prevent use of the study to promote or disparage a specific product model, company/organization or brand name. It is WQRF's policy that brands, models, and manufacturers are confidential, only the specifications of the products tested can be included in the report(s).
- The research will not be of a type ordinarily expected to be carried on by private enterprises in the ordinary course of research and development, the testing and inspection of materials or products, particularized market or consumer research or the design and construction of water treatment equipment, products or parts.
- While WQRF supports the many benefits of product validation evaluation and testing, WQRF does not fund product development-related activities, such as validation testing of new products or emerging technologies.
  - Projects that involve general validation or study broadly the benefits of certain categories of technologies relative to other categories of technologies have been funded (e.g., the benefits of softening study, the evaluation of emerging scale prevention technologies) only when they were scoped to benefit the entire industry and not to promote a specific product, benefit a specific manufacturer or develop intellectual property.
  - Consistent with this policy, WQRF bylaws require that any patents or trademarks owned by WQRF resulting from research they fund shall be made available to the public-at-large on a non-discriminatory basis.
- Researchers are prohibited from having a commercial interest in any products or technologies proposed for inclusion in the research study.

### Information on the Proposal Selection Process

All proposals submitted in response to this RFP will be reviewed by the WQRF Scientific Consultant and designated WQRF Research Task Force. The proposal review process is overseen and facilitated by WQRF staff. The Task Force is comprised of subject matter experts who volunteer their time to WQRF.

Researchers may be contacted for further information regarding their proposal throughout the selection process. It is not uncommon for the Task Force to request written responses to questions, or to request that the research team present its proposal and hold a Q&A session via a webinar. The length of the proposal selection process will vary depending on the number of proposals received, their complexity and the Task Force's availability to engage in discussions. Historically, the proposal selection process has taken 3-5 months. In instances where the proposals received are exceptionally detailed in the methodology section, the duration of the proposal selection process may be shortened.

After the Task Force has selected a proposal for its funding recommendation, the proposal is presented to the WQRF Board of Directors for review, due diligence, a decision on acceptance and approval of funding.

### Business Requirements and Responsibilities

In support of an accepted research project, WQRF ordinarily would proceed as follows:

- WQRF will provide the researcher with any background information needed, such as a list of industry and other interested parties and stakeholders.
- The WQRF Research Task Force and WQRF technical staff ordinarily will take an active role in the technical review of progress/interim reports and acceptance of the final report. They may seek input from the WQA Water Sciences Committee, particularly with respect to industry specific knowledge or operations to aid the researcher.

- WQRF will track progress and provide any necessary coordination with industry stakeholders throughout the course of the research, will supply technical input and will facilitate any support and input requested from the WQA Water Sciences Committee.
- WQRF will provide public access to an executive summary and the full report. Ordinarily, upon release or publication, the researcher will be permitted to make the report available as best determined.

The researcher will enter into a research sponsorship agreement with WQRF, the terms of which broadly will include the following commitments from the researcher:

- Undertake, manage and perform all aspects of the contracted research and any necessary support activities.
- Provide an invoicing schedule for completing the research, including a schedule of progress/interim reports and a draft final report for review by the WQRF Research Task Force, and complete the study in a timely manner according to the schedule. After completion of the final report, a 1 to 3-page executive summary document/report will be submitted to WQRF.
  - All invoices must be linked to a deliverable or scientific milestone. Typically, it is WQRF's preference that invoices and progress reports are submitted quarterly throughout the duration of the project. However, WQRF encourages more frequent touchpoints should that prove to be beneficial for the project.
  - Historically, WQRF has been able to provide 10% to 25% of the budget at the start of the project. Ten percent (10%) of the project cost must be associated with the delivery of the final report.
- Engage with WQRF, its Research Task Force and its technical staff and provide responses to WQRF questions relating to progress and coordination, as well as comments on progress/interim reports.
- Agree that all intellectual property will be owned by WQRF or perpetually licensed to it without royalty or charge:
  - Generally, WQRF will own the entire right, title, and interests, including all copyrights and other intellectual property rights, in and to all Project Intellectual Property developed by WQRF personnel. Project Intellectual Property that is jointly developed by the researcher and WQRF personnel will be jointly owned by the researcher and WQRF.
  - Generally, WQRF will reserve the intellectual property associated with the final report submitted to WQRF, including the copyright thereof, and all rights to distribute the final report. WQRF will make publicly available the research funded and knowledge gained through research, and the researcher ordinarily will be permitted to make available and publish sponsored research and use the knowledge gained to further its own research. However, no research results can be published by the researcher without prior review by WQRF.
- Publish the study in a peer-reviewed publication:
  - It is WQRF's preference that after review and acceptance of the final report, the researcher will seek to publish the study in a peer-reviewed publication. Whenever referencing or publishing the study, or information and/or data derived from the study, researchers must cite as its source to the report delivered to WQRF. The study should be submitted for peer-review publication within 6 months from the date that WQRF accepted the final report. WQRF does not commit that the research will be withheld from the public during the 6-month period.

## Confidentiality

All proposals submitted to WQRF will be treated as confidential and will not be shared beyond WQRF, its Research Task Force and its technical staff, except that WQRF may grant access to members of the WQA Water Sciences Committee and members of identified WQA committee and task forces as well as WQA staff members all of whom would act on behalf of WQRF under specific confidentiality restrictions.

## Proposal Format

Proposals shall follow the format provided in [Appendix A](#).

## Selection Criteria

Proposals will be evaluated by assessing the potential impact of the research compared to the cost. The special nature and requirements of the proposed research will also be taken into consideration along with the researcher's credibility, previous experience, qualifications and prior publications. A strong proposal will include a dissemination plan detailing how the research team will share the results of the study with the appropriate audience(s). Additional factors will be considered where applicable.

## Informative References

Click on the following links for informative references. These references are neither all inclusive, nor mandatory for this research. Please note that researchers are in no way limited to the use of the links below and are encouraged to use other appropriate references.

- [POU/POE Implementation Feasibility Study for Arsenic Treatment](#)
- [Point-of-Use or Point-of-Entry Treatment Options for Small Drinking Water Systems](#)
- [EPA's Small Drinking Water Systems Research](#)
- [EPA's Technologies and Costs for Removal of Arsenic from Drinking Water](#)
  - [This source contains POU/POE case studies starting on page 169](#)
- [Arizona Point of Use Compliance Program Guidance](#)
- [California Code of Regulations: Point-of-Use Treatment](#)
- <https://denr.sd.gov/des/dw/PDF/POUGuidance.pdf>
- [POU and POE Treatment Guide for Small Public Water Systems \(South Dakota\)](#)
- [Guide for POU and POE Treatment Devices Permitting and Approval Process \(Massachusetts\)](#)

## Questions

The contact for this RFP is Kayla Heriaud. Questions can be directed to her at any time.

Contact info:

*Kayla Heriaud*

*Research Project Leader*

*630-929-2599*

*kheriaud@wqrf.org*

## Due Date

Proposals must be submitted to [Kayla Heriaud](#) no later than November 30<sup>th</sup>, 2020 by 11:00 am Central.

## References

1. Information about Public Water Systems. (2020, March 26). Retrieved June 15, 2020, from <https://www.epa.gov/dwreginfo/information-about-public-water-systems>
2. Small Drinking Water Systems Research. (2020, March 27). Retrieved June 15, 2020, from <https://www.epa.gov/water-research/small-drinking-water-systems-research>
3. US EPA, Office of Water. *Point-of-Use or Point-of-Entry Treatment Options for Small Drinking Water Systems*. (April 2006). Retrieved from: [https://www.epa.gov/sites/production/files/2015-09/documents/guide\\_smallsystems\\_pou-poe\\_june6-2006.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/guide_smallsystems_pou-poe_june6-2006.pdf)

## **APPENDIX A – Format**

Proposals must *not* be password protected to restrict editing. Upon receipt, WQRF will add a watermark to the proposal to identify it as confidential and will password protect the document prior to its internal distribution. Proposals should include the following sections, and if necessary, other sections may be added:

**Proposal Summary** – The proposal summary form is available as a downloadable Word document at <http://www.wqrf.org/open-rfps.html>. This form should be completed and included as the first page of your proposal.

**Abstract** – Summarize the research project, plan, timeline and objectives. Explain the potential impact on the industry from the proposed research project.

**Introduction and literature review** – Include an overview of the research, especially focal points which are relevant to the proposed work, objective(s), and a review of related research or publications which define what is already known about the subject matter of the research.

**Detailed research plan and methodology** – Describe proposed experiment(s), including any equipment and methods, which will be used to undertake the research. Address what data will be collected, all methods of data collection and how you intend to analyze, interpret, and present the results. As there is no word/page limit for the proposals, methodology should be written thoroughly. Proposals without a detailed methodology will likely not be considered for funding.

**Deliverables** – Describe the deliverable(s) that you will be providing for this work. Interim research reports (define frequency), a draft of the final report, the final report, an executive summary and a presentation of the findings at a relevant conference must be included. Additional project deliverables might include raw data, hosting a workshop, etc.

**Estimated timeline** – This should be developed based on an as yet unidentified start date (e.g., the first interim report will be issued 3 months from the research start date). The projected start date is subject to adjustment, but estimated to fall between March and May 2021 inclusive. The timeline shall not exceed 1 year from the start date. Include an invoicing schedule along with the timeline that includes the payment amounts due at the start of the project and a payment schedule based up deliverables and milestones. [Click here](#) to reference back to the requirements, per the *Business Requirements and Responsibilities* section.

**Budget** – Total budget shall not exceed \$50,000. Preference may be given to a lower cost proposal that still best meets all the requirements/deliverables. At a minimum, the budget should be segmented by the following categories (as applicable): Salaries, Fringe Benefits, Equipment (including materials & supplies), Travel, Subcontract Fees, and Indirect Costs. Indirect costs need to be included in the budget only if this is something that the bidding organization ordinarily tracks through its financials. Indirect costs shall not exceed 13% of total direct costs. Other categories may be included as required.

**Potential conflict circumstances statement and disclosure of any additional organizations who would potentially contribute to this project** – Include a statement reporting any direct or indirect facts or circumstances which could potentially create a conflict of interest. For example, if the results of proposed study could further the interests of a company with which the researcher or the research organization has a financial interest or relationship (including any contractual agreement or practice to provide testing, certification, consulting or other services (or is negotiating such an agreement), that is to be disclosed as a potential conflict circumstance. WQRF will have final authority in its sole discretion over whether a potential conflict circumstance represents a disqualifying Conflict of Interest. Please also disclose the name(s) of any organizations who you have contacted to potentially contribute to this project (in-kind or monetary contribution).

**Credentials and qualifications** – Include a statement of qualifications, previous experience, and related publications (including full curricula vitae) of the primary and supporting investigators.



## APPENDIX B– Phase 1 Interview Questions

### *Opening Questions for All Phase 1 Interviews*

1. Who is the State agency with primacy authority for POU/POE rules, policy, & guidance?
2. Does the State currently allow POU/POE for SDWA Compliance?
  - *If no, see questions for “States that do not allow POU/POE”*
  - *If yes, continue on to question 3, below*
3. Does the State have experience in implementing POU/POE for compliance?
  - *If no, see questions for “States that allow POU/POE, but don’t have experience implementing it”*
  - *If yes, see questions for “States that allow POU/POE, and have implemented it”*

### *States that do not allow POU/POE*

1. Was the use of POU/POE ever allowed previously?
  - If yes, what led to a change in decision?
2. What are the reasons for not allowing POU/POE currently?
  - Based on this conversation, researchers would be able to discern what the barriers are (e.g., O&M, replacement of filters, discharge).
    - If discharge is identified as a barrier, what are the local restrictions on how the discharge must be configured?
3. How do the barriers and changing policy affect adoption?
4. What is needed to overcome these barriers? How can that be accomplished?
  - Would smart technology and monitoring resolve issues with compliance?
5. What is being spent by Agencies to meet regulatory limits?
6. What is the recommended plan of action for PWSs to get back into compliance for a primary contaminant?
7. How can industry professionals work with the State to get POU/POE into compliance applications?

### *States that allow POU/POE, but don’t have experience implementing it*

1. Are there any planned or proposed activities for SDWA compliance using POU/POE systems?
2. What are the reasons for not deploying POU/POE for compliance?
  - a. Are there related local or county regulations in State that prohibit POU/POE use?
3. How can these barriers be overcome?
4. Is information provided to encourage/make PWSs aware of POU/POE as a compliance solution?
  - a. If yes, what materials are made available?
  - b. If not, what is the recommended course of action for a PWS to become compliant?
5. What is being spent by Agencies to meet regulatory limits?
6. What training or certifications do water treatment professionals need to install and monitor equipment performance?

### *States that allow POU/POE, and have implemented it*

1. How many systems are currently using POU/POE? How many have used it in the past?
2. What system sizes are currently using POU/POE devices?
3. Can a PWS implement without 100% initial buy in from the community?
4. What are the monitoring requirements?
5. What is being spent by the PWS to meet regulatory limits?
6. What training or certifications do water treatment professionals need to install and monitor equipment performance?
7. Experience implementing POU only, POE only, or both?
8. What were the reasons for deploying POU/POE?
9. Did you have to overcome any barriers to deploy POU/POE?
10. Have the inclusion of POU/POE solutions met the objectives?

11. Would you be interested in a joining potential collaborative group of drinking water officials who are allowing/leveraging POU/POE?
12. Have you expanded your use since it was first implemented (e.g. number of homes, other water quality needs)?
13. Were there funds made available to you or the system for use of POU/POE? Has that been sustained, or initial only?
14. Can you please provide contacts at PWSs that have utilized POU/POE for compliance?

### APPENDIX C – Phase 2 Interview Questions

1. Source water?
2. System type (CWS, NTNCWS, TCWS)?
3. Population served?
4. Contaminant(s) of concern and concentration reported to primacy agency?
5. Applied treatment technology (POU/POE and technology category) and how long has it been in place?
6. POU/POE implemented for long-term compliance strategy or allowed under a variance or exemption?
7. Is pilot testing required even if the POU/POE device is certified to an NSF/ANSI standard?
8. Bidding process to select POU/POE provider? Are you using more than one vendor?
9. How was the community educated on this treatment strategy?
10. Are you using contractors for installation, service or maintenance, or is some/all being managed by your staff?
11. Implementation timeline – how long from start to finish?
12. Monitoring plan used (frequency, variation in # of units per month)?
13. Maintenance schedule?
14. Capacity, specifications, and performance of technology implemented
  - o NOTE: brand/product names should not be solicited for
15. Capital and O&M costs for each unit
  - o Respondent may not be able to answer this question, but still valid to ask
16. Has the POU/POE solution been price neutral or better?
  - o Respondent may not be able to answer this question, but still valid to ask