

New Jersey Department of Environmental Protection
Lead and Copper Corrosion Control Consultant Solicitation

March 2021

SCOPE OF WORK

The Contractor shall provide technical support services to New Jersey Department of Environmental Protection (NJDEP) related to the Federal Safe Drinking Water Act Lead and Copper Rule (LCR) and the latest state and federal statutes, rules, policies, and guidance for lead and copper corrosion control under the supervision of the NJDEP Project Manager. This support service will primarily involve the technical review and evaluation of documents submitted by public community and non-transient non-community water systems regarding corrosion control treatment for lead and copper. These documents include Corrosion Control Treatment Recommendations (CCTR), optimal water quality parameter recommendations, temporary treatment, and pilot study proposals. Support services will also include the review and editing of existing NJDEP corrosion control guidance documents and forms to reflect current federal and state LCR compliance. In addition, prepare curriculum and conduct LCR specific training of NJDEP water supply staff. Services may also include the development of new corrosion control guidance documents and forms for NJDEP use.

DEFINITIONS

Corrosion Control studies – A study conducted by a public water system to identify optimal corrosion control treatment for the system as required by 40 CFR 141.82(c).

Corrosion Control Treatment (CCT) - Water treatment generally in the form of chemical addition meant to reduce the corrosivity of the water.

Corrosion Control Treatment recommendations (CCTR) - A plan submitted by a public water system which identifies the type of treatment to be installed to provide optimal lead and copper corrosion control based on the results of lead and copper tap monitoring and water quality parameter monitoring.

Lead and Copper rule (LCR) - Federal Safe Drinking Water Rule 40 CFR 141.80 et seq.

NJDEP – The New Jersey Department of Environmental Protection.

NJDEP Project Manager – An individual charged with the overall primary responsibility for all Contractor interaction with designated NJDEP staff familiar with the facility being investigated.

Optimal Corrosion Control Treatment- 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 primary drinking water regulations.

Optimal Water Quality Parameters - Set ranges or minimums that indicate a water system's CCT is operating at a level to minimize lead and copper concentrations most effectively at user's taps.

Pipe Scale Analysis - The analysis of the surface of lead service lines undertaken to determine the corrosion scale and metal composition of the pipe to ascertain the reason for metal release and to predict the effectiveness/ineffectiveness of proposed Corrosion Control Treatment or the need for lead service line replacement.

Public community water system - A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Public non-transient non-community water system - A public water system that is not a public community water system and that regularly serves at least 25 of the same persons for more than six months in any given calendar year.

Public water system - A system for the provision to the public of water for human consumption through pipes or other constructed conveyances if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily for at least 60 days out of the year. Such term includes any collection, treatment, storage and distribution facilities under control of the operator of such system and used primarily in connection with such system, and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

Sequential Sampling for Water Quality Parameters to Determine CCTR – The continuous collection of tap water samples by public water systems to determine a distribution of lead results that predict the residential exposure levels. This sampling is undertaken in customer’s homes for lead, copper, pH, chlorine residual, alkalinity, iron, manganese, and corrosion inhibitor (if any) and includes other water quality parameters (WQPs) that are inputs into the EPA corrosion control model.

Source Water - The aquifer, river, reservoir, or other water feature that is utilized by a water system for drinking water supplies.

State Safe Drinking Water Act - The New Jersey Safe Drinking Water Act, N.J.S.A. 58:12A-1 et seq.

Water Quality Parameters (WQPs) - A set of water qualities or characteristics used to help identify what levels of CCT work best and whether this treatment is being properly operated and maintained over time. WQPs including pH, alkalinity, calcium, conductivity, and temperature. Other input parameters necessary for predictive recommendation modelling such as orthophosphate and silicate dose may also be included depending on the treatment type.

Water System - A system for providing potable water to any person.

ESSENTIAL REQUIREMENTS

The primary responsibility of the Contractor is to review, evaluate and comment on proposed plans for lead and copper corrosion control and technical documents detailing the effectiveness of corrosion control treatment submitted by public water systems for conformance with the latest state and federal statutes, rules, policies, and guidance for lead and copper corrosion control as provided in, but not limited to, the following:

- Federal Lead and Copper Rule, 40 CFR 141.80-91

- State Safe Drinking Water Act and implementing regulations, N.J.A.C. 7:10 et seq.
- Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems (EPA 816-B-16-003, dated March 2016)
<https://www.epa.gov/sites/production/files/2019-07/documents/occtmarch2016updated.pdf>
- Microbial and Disinfection Byproduct Rules Simultaneous Compliance Guidance Manual (EPA 815-R-99-015, dated August 1999)
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=200022IP.txt>
- Lead and Copper Rule Requirements for Optimal Corrosion Control Treatment for Large Drinking Water Systems (WSG196 EPA memo dated November 3, 2015)
https://www.epa.gov/sites/production/files/2015-11/documents/occt_req_memo_signed_pg_2015-11-03-155158_508.pdf
- A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (EPA 816-F-05-030, dated October 2005)
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P10058C5.txt>
- EPA Lead and Copper Rule: A Quick Reference Guide (EPA 816-F-08-018, dated June 2008)
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=60001N8P.txt>
- NJDEP Source Water and Treatment Modifications guidance
<https://www.state.nj.us/dep/watersupply/pdf/change-source-treatment-guidance.pdf>
- NJDEP Water Quality Parameter Monitoring Factsheets
<https://www.state.nj.us/dep/watersupply/dwc-lead-public.html>

In addition, the Contractor must have an understanding of, and be able to utilize, the New Jersey Drinking Water Watch program (https://www9.state.nj.us/DEP_WaterWatch_public/) to obtain water monitoring results and be familiar with NJDEP forms found at <https://www.state.nj.us/dep/watersupply> including, but not limited to:

- Optimal Water Quality Parameter Recommendation Form (BWSE LC03)
- Source Water Treatment Recommendation Form (BWSE-SOWTR-01)
- CCTR Excel form - Corrosion Control Treatment Evaluation Technical Recommendations
- Temporary Treatment/Pilot Study Application Form (BWSE PA-04)

The Contractor should utilize these completed forms to justify and document decisions and recommendations in their summary reports to the Department. The Contractor must have an in-depth understanding of lead and copper release and corrosion that may be experienced by public water systems, considering the physical and hydraulic characteristics of these water systems, including:

- Sources of lead and copper, with consideration of seasonal changes in water quality due to purchased water, or aquifer storage issues that may cause significant changes in water quality parameters that effect corrosion control
- Water quality characteristics that impact corrosion of lead and copper and the release of these metals into the source water and/or drinking water

- The impact of water quality and its chemical characteristics on different forms of water treatment and distribution piping
- Interactions of metals within water system distribution piping
- The effect of past water treatment on distribution system piping of various materials and its impact on the efficacy of proposed water treatment
- Effective methods for corrosion control treatment
- Impact of changes to source water and/or water treatment on lead and copper corrosion

The Contractor must have in-depth knowledge of treatment utilized by public water systems to comply with primary and secondary drinking water standards.

The Contractor's expert(s) must possess Bachelor of Science or higher degrees (preferred) in chemistry, engineering, environmental science or a closely related field with experience in drinking water treatment and corrosion control unit operation and design.

The Contractor shall not subcontract any of the tasks/services identified in this Scope of Work to a third-party without prior permission from NJDEP.

The Contractor shall maintain confidentiality of all materials reviewed under this Scope of Work.

The Contractor may not be currently employed by/or have ownership interest in a New Jersey public water system, or a company engaged in providing treatment to public water systems (i.e., no conflict of interest) unless otherwise approved by NJDEP. The contractor shall declare any conflict of interest in their proposal, and subsequently when identified. No work shall be conducted by the contractor without prior permission from NJDEP when a conflict of interest is identified.

DELIVERABLES

The Contractor's deliverables shall consist of:

- a) Written reviews of technical documents with relevant department recommendation forms and other LCR compliance interactions between NJDEP and public water systems. Reviews shall be submitted as a memorandum to the NJDEP Project Manager within thirty (30) business days of receipt of a document. If the Contractor's review requires modification, the revised deliverable shall be re-submitted to the NJDEP Project Manager within fifteen (15) business days.
 - It is estimated that approximately 6-10 documents per year will need to be reviewed.
- b) Written reviews, including suggested modifications, of existing NJDEP forms and guidance related to lead and copper corrosion control. Review shall be completed within three (3) months of the award of the contract. Further suggested modifications to existing guidance/forms or the development of new guidance/ forms shall be on-going throughout the term of this project as identified by the NJDEP Project Manager or the Contractor and provided in writing as a memorandum to the NJDEP Project Manager.
 - It is estimated that 10-20 forms will need to be reviewed in total.

- c) Training of NJDEP staff through in-person or remote sessions. The first training session shall be held within three (3) months of the award of the contract with an additional training session conducted every six (6) months. Candidates for mandatory training will be identified by the NJDEP Project Manager and curriculum developed by the Contractor in consultation with the NJDEP Project Manager.
- d) Quarterly status reports will be submitted within 30 days of the end of each quarter.

SCOPE OF SERVICES

The Contractor or the selected expert subcontractor shall perform the following tasks as requested by the NJDEP Project Manager:

- a) Review, evaluate and provide recommendations for approval, denial, or designation of corrosion control treatment, in compliance with policies, guidance, and directives as noted above, related to the following types of submissions by public water systems:
 - o Corrosion Control Treatment Recommendations
 - o Corrosion Control Studies conducted per 40 CFR 141.82(c) and which may also include Sequential Sampling and Pipe Scale Analyses
 - o Optimal Water Quality Parameter recommendations
 - o Source Water Treatment recommendations
 - o Applications for a Safe Drinking Water permit, pilot study or temporary treatment approval to change or modify source water or water treatment

The Contractor shall provide these comments in Word (.docx) or .pdf electronic format.

- b) The Contractor shall be available for consultation on LCR action level exceedances including the review of water quality data and to provide technical recommendations on treatment alternatives and to identify possible limitations of treatment options.
- c) Provide support to the NJDEP in meetings held with public water systems to discuss issues related to lead and copper corrosion control.
- d) Participate in technical meetings and teleconferences to address comments on scheduled deliverables and provide documentation of these activities.
- e) Review existing NJDEP internal and external guidance and forms used for LCR compliance and provide recommendations on needed changes or develop new guidance and forms as appropriate.
- f) Provide in-person or remote training to NJDEP personnel on lead and copper corrosion control. Training shall include topics related to LCR compliance and CCT technology.
- g) Duration: this professional services contract's term will be for 24 months from the start date.