



Drinking Water Capacity Development Program

Lead Reduction Strategies

Grant Opportunity - January 2017

Grant Overview

The Drinking Water Capacity Development Program is offering grants to help public community water systems reduce the risks of exposure to lead in drinking water. We will provide about \$100,000 in grants, with a minimum grant award of \$20,000 per system and a maximum of \$80,000. We expect grantees to develop and implement risk reduction strategies that other communities can use as a model, with an emphasis on finding and removing lead service lines. Grant funding may be used to:

- ◆ Find, map, and inventory water distribution and customer service lines;
- ◆ Establish a proactive, full lead service line replacement program;
- ◆ Educate the public about the risks of exposure to lead in drinking water and how to reduce risks; and
- ◆ Develop a Capital Needs Study, Capital Improvement Plan, and Funding Strategies to replace publicly and privately owned lead lines.

Grants will be awarded to the systems that demonstrate in their application the greatest potential to reduce exposure to lead in drinking water. Factors that will be considered include the corrosivity of the source and finished water, lead use in the drinking water infrastructure (e.g., lead joints), estimated number and length of lead service lines (publicly and privately owned), history of elevated lead in drinking water and customers' blood levels, and the proposed risk reduction strategies. ***Grant applications are due by March 24th, 2017.***



Photo courtesy of Irina Zhorov/WESA



Background

Lead has become widespread in our environment through its use in paints, gasoline, consumer goods, and industrial processes. It can enter our bodies through the food we eat, the air we breathe, and the water we drink. And lead is so toxic that even small amounts in the body can cause serious, irreversible health problems for infants, children, and pregnant women (see Figure 1).

Our risk of exposure to lead has been greatly reduced through education; lead-based paint abatement efforts; standards limiting lead emissions from industrial facilities; and bans prohibiting the use of lead in paints, gasoline, plumbing fixtures, and many consumer goods. Still, in 2015, about 5% of the children in Vermont less than 6 years old that were tested had elevated lead blood levels (i.e., at least 5 micrograms per deciliter)¹. And almost 10% of the 4 and 5 year olds tested had elevated lead blood levels. People with elevated lead blood levels are more likely to have health problems. The best ways to prevent health problems related to lead are to continue to restrict its use, and remove existing sources from the environment before exposure occurs.

According to the Center for Disease Control and Prevention, lead-based paint is the most widespread and dangerous high-dose source of lead exposure for young children. But lead in drinking water can pose serious risks too. The U.S. Environmental Protection Agency (EPA) estimates that drinking water can account for 20% or more of a person's exposure to lead - up to 60% or more for infants that consume mixed-baby formula.

To comply with the Lead and Copper Rule, many drinking water systems in Vermont have taken measures to reduce the risks of lead exposure - measures that have led to major public health benefits. In most cases, however, the rule only requires protective measures after public health threats are discovered. Even then the rule allows discretions (e.g., regarding compliance sampling and optimizing corrosion control treatment) that do not always adequately protect people from lead exposure². In light of the lead related tragedies in Washington, D.C. and Flint, MI, EPA can no longer ignore the rule's shortcomings. So they are drafting rule revisions to strengthen public health protection and clarify implementation and enforcement requirements. The rule revisions will focus on removing sources of lead, and will likely include enhanced sampling and reporting requirements, and provisions to make sure that customers have timely access to sample results and education materials.

Figure 1. Exposure to lead can cause:

- ◆ **Hearing damage;**
- ◆ **Digestive problems;**
- ◆ **High blood pressure;**
- ◆ **Memory and concentration problems;**
- ◆ **Muscle and joint pain;**
- ◆ **Damage to the kidneys and nervous system;**
- ◆ **Poor muscle coordination and decreased muscle and bone growth;**
- ◆ **Speech, language, and behavior problems; and**
- ◆ **Learning disabilities, attention deficit disorder, and decreased intelligence.**

1-Lead Poisoning Prevention: Report on 2015 Program Outcomes and Activities, Vermont Department of Health, April 2016.

2-Lead and Copper Rule Revisions White Paper, U.S. EPA, Office of Water, October 2016.

Background - Continued

Lead is not usually found in the water sources (e.g., wells and springs) used by Vermont's public drinking water systems. Historically, however, lead was used in some drinking water infrastructure and premise plumbing (see Figure 2). Through corrosion and physical disturbance, lead from these sources can get into drinking water and reach consumers' taps as small particles or dissolved in the water.

Figure 2. Historically, lead was used in some:

- ◆ **Pipes and service lines;**
- ◆ **Pipe connectors (i.e., "goose necks" or pigtails);**
- ◆ **Soldered pipe joints;**
- ◆ **Water fountains and coolers;**
- ◆ **Brass faucets and other fixtures.**



Lead pipes, where present, are the most significant source of lead in drinking water. Although rarely used as water mains, lead pipes were used in some communities as customer service lines that extend from the water main to buildings, including schools, businesses, and residences. Lead was used in pipes because it was widely available, durable, inexpensive, easy to work, and resistant to pinhole leaks common in copper pipes. By the mid-1950s, most communities had stopped installing lead pipes. But the American Water Works Association estimates that nationwide 6.1 million lead service lines are still in use today. These lines serve about 22.6 million people - 7% of the population.

To adequately protect public health, all lead services lines must be replaced. Replacing lead service lines will be challenging because:

- ◆ Most systems do not have accurate records showing the number of lead service lines in their communities, or where the lines are;
- ◆ Without exposing and visually inspecting buried lines, determining whether they are made of lead can be difficult;
- ◆ Service lines from property boundaries into buildings are usually privately owned, and the owners are often reluctant to pay to replace their part of the line;
- ◆ Replacing lead lines may temporarily increase lead levels in drinking water; and
- ◆ Many utilities do not have enough money to address all of their needs.

This grant opportunity is designed to help systems overcome these challenges and implement a plan to remove lead service lines in their communities.

Grant Time Line

Important Dates

Release date: January 18th, 2017

Application deadline: March 24^h, 2017 at 4PM

Award decisions: end of March, 2017

Executed agreements: end of April, 2017

Project progress report due date: December 29th, 2017

Final deliverables due date: October 26th, 2018

If you have questions regarding this grant opportunity, please contact Kimberley McKee by 4PM, March 17th, 2017 (kimberley.mckee@vermont.gov or 802-477-3349).

Eligibility Requirements and Award Information

- ◆ Owners of public community drinking water system are eligible to receive a grant.
- ◆ The maximum grant award will be \$80,000 per system (minimum of \$20,000). We plan to award about \$100,000.
- ◆ Grant monies are from the Environmental Protection Agency's Drinking Water State Revolving Fund's Local Assistance Set-Aside.

Federal Award Information:

CFDA Title - Safe Drinking Water State Revolving Fund

CFDA Number - 66-468

Award Name - DWSRF

Award Year - 2016

Federal Granting Agency - U.S. Environmental Protection Agency

Research and Development Grant - No

- ◆ ***Applications must be emailed to Kimberley McKee (kimberley.mckee@vermont.gov) by 4 PM on March 24th, 2017.***
- ◆ Grants will be awarded on a competitive basis (see ranking criteria on page 6). Depending on the applications received, some projects may be partially funded.
- ◆ Eligible grant activities are described on pages 7-8.
- ◆ The use of water system staff and outside services (e.g. consultants to help with mapping) are eligible for funding with this grant. However, software and equipment purchases are not eligible. Eligible services must be procured after the grant has been issued and completed by October 26th, 2018.
- ◆ Grants will be performance based. Grantees may submit a request for payment of a fixed fee amount included in the grant agreement after each deliverable is submitted and approved by the Department.
- ◆ ***Grantees must submit a project progress report by December 29th, 2017 and final deliverables by October 26th, 2018.***

Grant Application Submittal Instructions , Confidentiality Notice, and DBE Objectives

The grant application (page 9) must be **submitted via email to Kimberley McKee (kimberley.mckee@vermont.gov) by 4 PM on March 24th, 2017**. Please be sure that your submittal:

- ◆ Clearly outlines the potential for elevated lead levels in drinking water at the system (e.g., estimated number and length of lead service lines) and the outcomes you expect to achieve if awarded a grant;
- ◆ Has a realistic and cost-effective work plan and budget; and
- ◆ **Includes a certificate of insurance indicating that the entity/entities have met the insurance requirements in Attachment C, and a completed Risk Assessment Questionnaire (see attachments).**

Also, please review the following Attachments, which will be included in the final grant agreement:

Attachment C: State Standard Provisions for Contracts and Grants

Attachment D: Standard Terms and Conditions for Federal Sub-recipients

Attachment E: Disadvantaged Business Enterprises indicating interest in Subcontracting Opportunities

If you have questions regarding the grant application, please contact Kimberley McKee by email or phone (802) 477-3349 by **4 PM on March 17th, 2017**.

Confidentiality Notice:

After conclusion of the Request for Proposal process, responses are a matter of public record. If an application includes material considered by the applicant to be proprietary and confidential under 1 V.S.A., Chapter 5, the application shall clearly designate the material as such and explain why such material should be considered confidential. The Vendor must identify each page or section of the response that it believes is proprietary and confidential with sufficient grounds to justify each exemption from release, including the prospective harm to the competitive position of the applicant if the identified material were to be released.

Under no circumstances shall the entire response be designated as proprietary or confidential. If the Vendor marks portions of the response confidential, the Vendor shall provide a redacted version of the response for release to the public. Notwithstanding the above, the Secretary has an independent obligation under Vermont law to determine whether any proposal material is subject to public inspection and copying upon request, which may include material that has otherwise been designated as proprietary and confidential by the Vendor. The Vendor's designation of material as proprietary and confidential, and submission of a redacted response, are provided to the Secretary for informational purposes in the event the Agency receives a public records request and will not result in withholding of materials by the Secretary unless expressly supported by Vermont law.

Minority Business Enterprises/Womens' Business Enterprises Objectives:

The Department of Environmental Conservation has the following "fair share" procurement objectives for Minority Business Enterprise (MBE)/Womens' Business Enterprise (WBE), and requires all grantees to try and meet these objectives for any subcontractor procurement under this award.

	MBE	WBE
Services	1.85%	3.52%

More information on Good Faith Efforts that any grantee will agree to in executing a grant agreement is in Section 12 of Attachment D. A list of MBE/WBE firms that expressed interest in work awarded under this grant are available in Attachment E. Selected awardees will be required to submit a DBE Subcontractor Effort and Utilization Form documenting DBE firms contacted and anticipated DBE subcontractor use after notification of award and prior to executing an agreement.

Grant Selection Process

A team of staff members from the Drinking Water and Groundwater Protection Division will review and score applications using the criteria below. Grants will be awarded on a competitive basis using the scores, so systems with an application that receives a high score will be more likely to get a grant. ***Applicants are encouraged to include in their project scope all of the components listed below, but are not required to do so.***

Proposal Scoring Criteria

Proposal Component	Maximum Points
Project Scope - Statement of Problem and Desired Outcome	25
Project Team Qualifications and Implementation Plan	5
Map and Inventory of Water Distribution and Customer Service Lines	20
Public Outreach Program	15
Lead Service Line Replacement Program, including Goals and Tool to Track Performance	15
Capital Needs Study and Improvement Plan for Replacing Lead Service Lines	10
Funding Strategies for Replacing Lead Service Lines (Public and Private) and Other Risk Reduction Strategies	5
Project Budget	5



Eligible Grant Activities

Eligible activities under the grant include:

Finding, mapping, and creating an inventory of water distribution and customer service lines.

Grant funding may be used to map and create an inventory of water distribution and customer service lines. For each line segment, the inventory must include a unique identification number, location, date installed, pipe diameter and length, and material (e.g., lead, lead alloy, galvanized, copper, or ductile iron), if known. The inventory must include the material for both the publicly and privately owned parts of customer service lines, and indicate whether the connector (i.e., "goose neck" or "pigtail") is lead. To start, systems should use existing records and staff knowledge to create the map and inventory.

Grant funding may also be used to develop and implement a protocol to identify which lines of unknown materials are likely to be lead. Initially, systems should screen lines based on the age of buildings/neighborhoods in relation to the time lead service lines were last installed in the community. They can then use more active methods (e.g., visual inspections during meter replacements or when repairing line leaks) to improve information.

Establishing a proactive full lead service line replacement program.

Grant funding may be used to create a lead service line replacement program that includes:

- ◆ Goals for replacing lead service lines;
- ◆ A tool such as a dashboard to track program efforts and report results to elected officials and the public;
- ◆ Policies and procedures addressing replacement techniques, full versus partial line replacement, circumstances when lead service lines will be replaced (e.g., when leaks are found and during main replacement), and ways to manage risks during and after lead service line replacements (e.g., sampling, flushing, customer outreach, and the use of filters); and
- ◆ A risk assessment to prioritize lead service line replacement based on factors such as customer requests, services with elevated lead results, buildings with sensitive populations (e.g., schools and daycares), areas with several lead service lines in close proximity to each other, and lines that are likely to be physically disturbed because of leak repairs, street or water main improvement projects, etc.



Eligible Grant Activities

Developing and implementing a public outreach program.

Grant funding may be used to develop and implement a public outreach program that:

- ◆ Informs customers about the risks of lead in drinking water and how to reduce the risks, with an emphasis on high-risk populations (e.g., infants, children, pregnant women, and people with elevated lead blood levels);
- ◆ Allows customers to use a map or search-able database to find out if a building is served by a lead line;
- ◆ On a routine basis, notifies owners and tenants of buildings with lead services lines of risks, ways to reduce risks, and incentives to replace lead lines; and
- ◆ Encourages other entities (e.g., Highway Department) that may disturb water lines during maintenance and capital improvement projects to work with the water system to reduce risks.

Creating a Capital Needs Study and Capital Improvement Plan for replacing all lead service lines.

Grant funding may be used to create a Capital Needs Study for replacing all lead service lines. Funding may also be used to create a Capital Improvement Plan based on the needs study and risk assessment used to set priorities.

Developing funding strategies for the Capital Improvement Plan and financing options for replacing privately owned lead service lines.

Grant funding may be used to:

- ◆ Develop a five year budget that accounts for the full costs of providing services, including projects to replace lead service lines;
- ◆ Review the system's existing rate and fee structure to determine whether it is adequate to cover the full costs of providing services for the foreseeable future;
- ◆ Identify and compare financing options to determine the best sources of funding (e.g., system reserves, loan and grants, bonds) for projects in the Capital Improvement Plan; and
- ◆ Develop financial incentives to encourage replacement of privately owned lead lines.



Drinking Water Lead Reduction Strategies Grant Application

Complete the application by filling in the text boxes. **You may submit the requested information in a separate PDF file instead of using this form.**

1) General Information

Water System Name:

WSID #:

Water System Owner:

Organization's fiscal year
(e.g., Jan 1 - Dec 31):

Contact Person:

Contact Person's Title:

Telephone Number:

Email Address:

Grant Amount Requested (*Minimum \$20,000 Maximum \$80,000*)
Must match the total amount requested for all tasks from page 17

Name of the person(s) that prepared the proposal:

Water System Owner - please type your initials and the date in the spaces below indicating that you have read the following statement:

The applicant is aware that in executing a grant agreement they will need to 1) agree to the State of Vermont Customary Contract Provisions, and Environmental Protection Agency Standard Terms and Conditions for Federal Sub-recipients; and 2) fulfill the Good Faith Efforts to ensure that Disadvantaged Business Enterprises have the opportunity to compete for procurements funded by this grant.

Water System Owner Initials

Date

2) Project Scope - Statement of Problem and Desired Outcome

Briefly describe 1) the potential risks of exposure to lead in drinking water for the system's customers (e.g., corrosivity of the raw and finished water, lead use in drinking water infrastructure, estimated number and length of publicly and privately owned lead service lines, lead drinking water quality results, customers' lead blood levels); and 2) the anticipated outcomes from grant activities.

3) Project Team Qualifications and Implementation Plan

Please list **1)** the names of key team members (e.g., staff, board members, and consultants) that will work on activities under the grant, their qualifications (e.g., occupation, education, experience, or training for assigned duties), and the tasks they will work on; and **2)** a proposed schedule for completing tasks under the grant.

4) Activities to be Completed

Provide the required information for each proposed task to be completed under the grant. Applicants will only receive points for tasks that they propose to complete under the grant (see Proposal Scoring Criteria on page 5).

Find, Map, and Create an Inventory of Distribution and Customer Service Lines

Briefly describe:

- *Methods that will be used to identify lines that are likely made of lead.*
- *The mapping protocol (e.g., how data will be collected, map format, who will create and update the maps, etc.), and how staff will have access to the maps.*
- *The format that the inventory will be kept in (e.g., generic spreadsheet or database, Asset Management Software Program), and who will maintain and update the inventory over time.*

4) Activities to be Completed - Continued

Create a Public Outreach Program

Briefly describe the methods that will be used to educate customers about the risks of exposure to lead and drinking water and how to reduce risks.

4) Activities to be Completed - Continued

Develop a Lead Service Line Replacement Program

Briefly describe the components that will be included in the replacement program (e.g., goals, tools to track performance, policies and procedures on partial lead service line replacements, criteria to determine which lead service lines will be replaced first, measures to minimize risks during and after replacements, etc.).

4) Activities to be Completed - Continued

Develop a Capital Needs Study and Capital Improvement Plan for Replacing Lead Service Lines

State whether a Capital Needs Study and/or Capital Improvement Plan for replacing lead service lines will be developed under the grant.

4) Activities to be Completed - Continued

Develop Funding Strategies for Replacing Lead Service Lines (Public and Private) and Other Risk Reduction Strategies

Identify which funding strategies will be completed (i.e., developing a five year budget, reviewing existing rate and fee structures, identifying and comparing financing options for capital improvement projects, and/or developing financial incentives for replacing private lead lines).

5) Budget

Using the table below, provide a budget for each task proposed to be completed under the grant. Include work anticipated to be completed by a third party in the “contractual” line item. **In a separate attachment, please provide budget detail for the "personnel" line items (i.e., staff rates and estimated hours) and the "contractual" line items.** The system will need to submit a deliverable(s) to demonstrate completion of each task, and will receive a fixed fee payment for each task per the final grant agreement after the deliverable is approved by the Department.

Tasks	Grant Funding Requested				
	Personnel, including fringe	Supplies	Contractual	Other	Total for Task
Distribution and Service Line Map and Inventory					
Public Outreach Program					
Lead Service Line Replacement Program					
Capital Needs Study and Improvement Plan					
Funding Strategies					
Total Grant Funding Requested					