

**Information Collection Request for the Proposed Lead and Copper Rule Revisions**

TABLE OF CONTENTS

[1 IDENTIFICATION OF THE INFORMATION COLLECTION 1](#_Toc23139105)

[1(a) Title and Number of the Information Collection 1](#_Toc23139106)

[1(b) Short Characterization/Abstract 1](#_Toc23139107)

[2 NEED FOR AND USE OF THE COLLECTION 3](#_Toc23139108)

[2(a) Need/Authority for the Collection 3](#_Toc23139109)

[2(b) Uses/Users of the Data 4](#_Toc23139110)

[2(b)(i) Uses of the Data 4](#_Toc23139111)

[2(b)(ii) Users of the Data 7](#_Toc23139112)

[3 NON-DUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA 7](#_Toc23139113)

[3(a) Non-duplication 7](#_Toc23139114)

[3(b) Public Notice Required Prior to ICR Submission to OMB 8](#_Toc23139115)

[3(c) Consultations 8](#_Toc23139116)

[3(d) Effects of Less Frequent Collection 11](#_Toc23139117)

[3(e) General Guidelines 12](#_Toc23139118)

[3(f) Confidentiality 12](#_Toc23139119)

[3(g) Sensitive Questions 12](#_Toc23139120)

[4 THE RESPONDENTS AND THE INFORMATION REQUESTED 12](#_Toc23139121)

[4(a) Respondents/North American Industry Classification System Codes 13](#_Toc23139122)

[4(b) Information Requested 13](#_Toc23139123)

[4(b)(i) Data items 13](#_Toc23139124)

[4(b)(ii) Respondent Activities 14](#_Toc23139125)

[5 THE INFORMATION COLLECTED—AGENCY ACTIVITIES, COLLECTION METHODOLOGY, AND INFORMATION MANAGEMENT 15](#_Toc23139126)

[5(a) Agency Activities 15](#_Toc23139127)

[5(b) Collection Methodology and Management 16](#_Toc23139128)

[5(c) Small Entity Flexibility 16](#_Toc23139129)

[5(d) Collection Schedule 17](#_Toc23139130)

[6. ESTIMATING THE BURDEN AND COST OF THE COLLECTION 17](#_Toc23139131)

[6(a) Estimating Respondent Burden 17](#_Toc23139132)

[6(a)(i) Burden to Public Water Systems 20](#_Toc23139133)

[6(a)(ii) Burden to Primacy Agencies 21](#_Toc23139134)

[6(b) Estimating Respondent Costs 22](#_Toc23139135)

[6(b)(i) Cost to Public Water Systems 22](#_Toc23139136)

[6(b)(ii) Cost to Primacy Agencies 25](#_Toc23139137)

[6(c) Estimating Agency Burden and Cost 27](#_Toc23139138)

[6(d) Estimating the Respondent Universe and Total Burden and Cost 27](#_Toc23139139)

[6(e) Bottom Line Burden Hours and Costs Tables 28](#_Toc23139140)

[6(e)(i) Respondent Tally 28](#_Toc23139141)

[6(e)(ii) The Agency Tally 29](#_Toc23139142)

[6(e)(iii) Variations in the Annual Bottom Line 29](#_Toc23139143)

[6(f) Reasons for Change in Burden 30](#_Toc23139144)

[6(g) Burden Statement 31](#_Toc23139145)

[APPENDIX A: SDWA Sections that Provide Authority for the Collection 33](#_Toc23139146)

[APPENDIX B: Burden and Labor Rate Derivations 35](#_Toc23139147)

LIST OF Exhibits

[Exhibit 1. Summary of Additional Activities Required by LCRR 3](#_Toc23139290)

[Exhibit 2. Changes in PWSs Reporting Data Items 13](#_Toc23139291)

[Exhibit 3. State/Primacy Agency Reporting Data Items 14](#_Toc23139292)

[Exhibit 4. Respondents and Burden for the Proposed LCRR, 3-Year Total 19](#_Toc23139293)

[Exhibit 5. Burden and Costs for Public Water Systems for Start-up Activities, 3-Year Total (Reading Rule, Assigning Personnel, Attending Training) 23](#_Toc23139294)

[Exhibit 6. Burden and Costs for Public Water Systems Preparing a Lead Service Line Inventory, 3-Year Total 23](#_Toc23139295)

[Exhibit 7. Burden and Costs for Public Water Systems Preparing Demonstrations of no Lead Service Lines, 3-Year Total 24](#_Toc23139296)

[Exhibit 8. Burden and Costs for Public Water Systems for Preparing and Submitting a Lead Service Line Replacement Plan, 3-Year Total 25](#_Toc23139297)

[Exhibit 9. Burden and Costs for Primacy Agencies Assisting with LSL Inventories and Reviewing Inventories, 3-Year Total 26](#_Toc23139298)

[Exhibit 10. Burden and Costs for Primacy Agencies Reviewing Demonstrations of no Lead Service Lines, 3-Year Total 27](#_Toc23139299)

[Exhibit 11. Bottom Line Burden and Costs, 3-Year Total 28](#_Toc23139300)

[Exhibit 12. Annual Distribution of Burden over the ICR Period 29](#_Toc23139301)

[Exhibit 13. Annual Distribution of Cost over the ICR Period 30](#_Toc23139302)

ACRONYMS

|  |  |
| --- | --- |
| AL | action level |
| ALE | action level exceedance |
| ASDWA | Association of State Drinking Water Administrators |
| BLS | Bureau of Labor Statistics |
| CFR | Code of Federal Regulations |
| CCT | corrosion control treatment |
| CWS | community water system |
| EA | Economic Analysis |
| EPA | Environmental Protection Agency |
| FOIA | Freedom of Information Act |
| FR | Federal Register |
| GWR | Ground Water Rule |
| ICR | Information Collection Request |
| LCR | Lead and Copper Rule |
| LCRR | Lead and Copper Rule Revisions |
| LGAC | Local Government Advisory Committee |
| LSL | lead service line |
| LSLR | lead service line replacement |
| MCLG | Maximum Contaminant Level Goal |
| μg/L | micrograms per liter |
| NAICS | North American Industry Classification System |
| NDWAC | National Drinking Water Advisory Council |
| NGO | non-government organization |
| NPDWRs | National Primary Drinking Water Regulations |
| NRWA | National Rural Water Association |
| NTNCWS | non-transient non-community water system |
| OGWDW | Office of Ground Water and Drinking Water |
| O&M | operation and maintenance |
| OMB | Office of Management and Budget |
| PE | public education |
| POU | point-of-use |
| PRA | Paperwork Reduction Act |
| PWS | public water system |
| PWSS | Public Water System Supervision |
| SAB | Science Advisory Board |
| SBAR | Small Business Advocacy Review |
| SBREFA | Small Business Regulatory Enforcement Fairness Act |
| SDWA | Safe Drinking Water Act |
| SDWIS | Safe Drinking Water Information System |
| SOC | Standard Occupational Classification |
| TL | trigger level |
| TLE | trigger level exceedance |
| WIIN | Water Infrastructure Improvements for the Nation |

SUPPORTING STATEMENT

Information Collection Request (ICR) for the Proposed Lead and Copper Rule Revisions

# 1 IDENTIFICATION OF THE INFORMATION COLLECTION

## 1(a) Title and Number of the Information Collection

**TITLE**: Information Collection Request for the Proposed Lead and Copper Rule Revisions

**EPA ICR Number:** 2606.01

**OMB Control Number:** 2040-NEW

## 1(b) Short Characterization/Abstract

The National Primary Drinking Water Regulations (NPDWRs) for Lead and Copper (The Lead and Copper Rule or LCR), promulgated by the U.S. Environmental Protection Agency (EPA) in 1991, is a regulation promulgated under the Safe Drinking Water Act (SDWA). The LCR’s goal is to reduce the levels of lead and copper in drinking water. The proposed Lead and Copper Rule Revisions (LCRR) require community and non-transient non-community water systems[[1]](#footnote-2) to optimize corrosion control and, under specified conditions, install source water treatment, conduct public education, and/or replace lead service lines (LSLs) in the distribution system. The proposed LCRR also expands public education requirements for lead, requires greater public access to information on lead, and further targets sensitive subpopulations by requiring additional lead in drinking water testing at schools and child care facilities.

The proposed LCRR is designed to identify and reduce lead exposure at systems with elevated lead concentrations in their drinking water by establishing a new lead trigger level (TL) of 10 micrograms per liter (μg/L) in addition to the action level (AL) of 15 μg/L under the current rule. The proposed LCRR would retain the AL, revise requirements for systems with a lead action level exceedance[[2]](#footnote-3) (ALE) and set additional requirements for systems with a trigger level exceedance[[3]](#footnote-4) (TLE).

Water systems include federal, state, tribal, and local governmental entities as well as private entities. States (and tribes) that have been granted primary enforcement authority (*i.e*., primacy) for the LCR are responsible for overseeing rule implementation by systems within their jurisdiction. In instances where a state or tribe does not have primacy, the EPA Region is the primacy agency.[[4]](#footnote-5) Systems demonstrate compliance through reporting the analytical results of collected samples and other information to the state. Systems use these data to demonstrate compliance, assess treatment options, operate and maintain installed treatment, and communicate water quality information to consumers served by the system. Primacy agencies utilize the data to determine compliance and designate treatment to be installed and enforceable operating parameters. Primacy agencies also are required to report a subset of the data to the EPA which utilizes this information to protect public health by ensuring compliance with the LCR, measuring progress toward meeting the LCR’s goals, and evaluating the appropriateness of state implementation activities. The information reported by primacy agencies to the EPA can be found in the Safe Drinking Water Information System (SDWIS).

Under the proposed LCRR, sampling, public education, and other requirements are dependent on the 90th percentile concentration of lead in household samples of tap water collected by a system. In addition to requirements that apply to all systems, the rule would set specific requirements based on whether a system’s lead 90th percentile is above the action level of 15 µg/L (ALE), above the trigger level of 10 µg/L(TLE)**,** or at or below 10 µg/L**.** The proposed LCRR begins by determining the system’s lead 90th percentile using sampling data, and a system can use grandfathered data that meets the sampling protocol under the proposed LCRR.

Requirements affected by 90th percentile levels are related to lead and copper tap samples including sampling frequency and number of samples, corrosion control treatment (CCT), lead service line replacements (LSLR), source water monitoring/treatment, and public education. Rule requirements for systems that are at or below the trigger level are similar to the current Rule for systems at or below the action level.

This ICR supporting statement estimates the incremental burden impacts of revisions to the LCR in terms of the burden and costs for the first three years after the final rule is published (estimated as 2020). It modifies the existing collection entitled *Disinfectants/Disinfection Byproducts, Chemical, and Radionuclides* (OMB control number 2040-0204), which includes estimates of the burden and costs associated with the current LCR, as well as other rules. The proposed revisions are intended to strengthen the implementation of the LCR in the areas of CCT, customer awareness, and LSLR. The changes are expected to ensure and enhance the protection of public health through the reduction in lead exposure in drinking water. The AL and maximum contaminant level goals (MCLGs) have not changed in the proposed LCRR. A new lead TL, however, has been added.

The burden and cost estimates represent those activities that the EPA expects would occur in the initial three-year period. During this period, systems and primacy agencies would perform the initial, one-time activities related to rule review and primacy requirements and conduct initial compliance activities related to lead service line inventories. Because several implementation activities do not begin during the initial three-year period, this ICR does not include burden and costs for activities that are required during full rule implementation. Exhibit 1 provides a list of additional activities that might occur at full implementation of the proposed regulation that could impose burden and/or cost on respondents after the initial three years.

Exhibit 1. Summary of Additional Activities Required by LCRR

| **Regulatory**  **Change** | **System Costs** | | | | **Primacy Agency Costs** |
| --- | --- | --- | --- | --- | --- |
| **System Reporting** | **Tap Water Monitoring** | **Water Quality Parameter Monitoring** | **Public Education** | **Primacy Agency Review** |
| Lead and Copper Tap Monitoring | x | x |  | x | x |
| Corrosion Control Treatment and Water Quality Parameter Monitoring | x | x | x |  | x |
| Lead Service Line Testing and Replacement | x | x |  | x | x |
| Alternative to Corrosion Control Treatment and Lead Service Line Replacement | x | x |  | x | x |
| Lead Public Education and Outreach | x |  |  | x | x |
| Change in Source or Treatment | x |  |  |  | x |
| Source Water Monitoring and Treatment | x |  | x |  | x |
| Lead in Drinking Water Testing Program at Schools and Child Care Facilities | x | x |  | x | x |

# 2 NEED FOR AND USE OF THE COLLECTION

## 2(a) Need/Authority for the Collection

The EPA needs comprehensive and current information on lead and copper exposure and associated enforcement activities to implement its program oversight and enforcement responsibilities mandated by the Safe Drinking Water Act (SDWA). The EPA identified rule changes that clarify the intent of the LCR and ensure and enhance protection of public health through reduction in lead exposure. The EPA will use the information collected to support the responsibilities outlined in the SDWA. The EPA will be able to strengthen the implementation of the LCR in the areas of monitoring, customer awareness, CCT, and LSLR. The proposed revisions to the LCR are intended to improve the implementation of the LCR, and do not alter the current MCLGs or the use of a treatment technique approach to controlling lead and copper in drinking water.

Section 1401(1)(D) of the SDWA requires that “criteria and procedures to assure a supply of drinking water which dependably complies with such maximum contaminant levels [or treatment techniques promulgated in lieu of a maximum contaminant level]; including accepted methods for quality control and testing procedures to insure compliance with such levels and to insure proper operation and maintenance of the system...” Furthermore, Section 1445(a)(1)(A) of the SDWA requires that “[e]very person who is subject to any requirement of this subchapter or who is a grantee, shall establish and maintain such records, make such reports, conduct such monitoring, and provide such information as the Administrator may reasonably require by regulation to assist the Administrator in establishing regulations under this subchapter, in determining whether such person has acted or is acting in compliance with this subchapter...” In addition, Section 1413(a)(3) of the SDWA requires primacy agencies to “keep such records and make such reports...as the Administrator may require by regulation.”

The sections from the SDWA 1996 Amendments, discussed above, are included as Appendix A to this document.

## 2(b) Uses/Users of the Data

### 2(b)(i) Uses of the Data

Primary users of the data collected under this ICR are EPA Headquarters, water system managers, consumers, and primacy agencies, which include state, territorial, and tribal regulators. This section provides information about how the lead and copper data generated by the regulatory changes will be used throughout the compliance period.

The proposed LCRR requires that systems complete and annually update an LSL inventory, a comprehensive service line materials inventory that identifies LSLs and galvanized pipes that are currently or have been upstream of an LSL. Systems that do not have LSLs will need to provide sufficient documentation to demonstrate that no LSLs are present. Systems will develop and submit an initial LSL inventory or no LSL demonstration during the initial three years following promulgation. Accurate LSL inventory information will inform system and primacy agency decision making for all of the other proposed revisions that occur beginning in year four. Consumers will also benefit from better information about whether their residence or commercial service providers have LSLs, as well as better informed decision making by systems and primacy agencies.

The proposed LCRR makes several changes to lead and copper tap sampling, which become effective after the initial three years. It requires all systems to re-evaluate their tap sampling locations based on their LSL inventory to ensure they are collecting tap samples from sites with an LSL (i.e., highest risk sites) and LSL inventories must be updated annually. The proposed LCRR would codify the tap sampling protocol guidance issued by the EPA in February 2016. In addition, the proposed LCRR modifies how systems calculate the 90th percentile lead level. For example, water systems with LSLs and non-LSLs would use samples with the highest lead results from non-LSL sites when more than the minimum number of tap samples are collected. A system’s lead 90th percentile will be used as a criterion to determine additional requirements. The EPA is not proposing any revisions to the minimum number of required samples (see §141.86 for specific requirements) or the requirements to analyze a tap sample for both lead and copper. The burden for these revisions begins to accrue in year four. The tap monitoring will also be used to:

* Evaluate the quality of water delivered to customers;
* Evaluate system-specific needs, including examining treatment effectiveness;
* Inform educational material provided to the public, including tap sample results;
* Assess compliance and determine when it is necessary to alert the public of possible health risks resulting from non-compliance with federal or State regulations; and
* Modify monitoring frequencies to address potential health risks.

The proposed LCRR includes revisions to CCT and WQP monitoring including the removal of calcium carbonate stabilization as a treatment technique and calcium as a regulated WQP. For water systems with CCT, exceedance of the lead TL or AL requires re-optimization; a water system without CCT would conduct a CCT study if it exceeds the lead TL and would implement CCT if it subsequently exceeded the lead AL. Another CCT-related change includes the revision of sanitary survey requirements to include CCT review and WQP assessment and consideration of potential CCT changes based on updated guidance that has been issued by the EPA. The LCRR will add a new find-and-fix provision requiring water systems to collect a follow-up sample for each lead tap sample that exceeds 15 μg/L. Systems with CCT are also required to collect a WQP sample and evaluate if localized or system wide CCT adjustment is needed. As with tap sampling, WQP monitoring will be used to:

* Evaluate the quality of water delivered to customers;
* Evaluate system-specific needs, including examining treatment effectiveness;
* Assess compliance and determine when it is necessary to alert the public of possible health risks resulting from non-compliance with federal or State regulations; and
* Modify monitoring frequencies to address potential health risks.

The revisions to the LCR requirements for LSL testing and replacement include requiring mandatory full LSLR at a minimum of three percent per year in response to a lead ALE and full LSLR based on a goal rate negotiated by the system and the primacy agency in response to a lead TLE. The proposed LCRR prohibits systems from counting partial LSLRs toward their mandatory rate or replacement goal and eliminates the “test out” provision.[[5]](#footnote-6) Systems are required to replace their portion of the LSL if they are made aware that the customer is replacing their portion.

The revisions also require that systems provide a pitcher filter certified to remove lead and replacement cartridges to last a minimum of three months and collect one follow-up lead tap sample at the end of the three months period for each affected residence after any LSLR. Systems must also develop a LSLR plan that help define operations that disturb LSLs and practices to minimize disturbance and consumer exposure to lead. Also, systems are to conduct targeted public education (PE) to customers with LSLs to encourage them to participate in the LSLR program. The data collected as the result of this revision will primarily be used to demonstrate compliance and determine when it is necessary to alert the public of possible health risks.

The Proposed LCRR would provide three compliance alternatives for a lead action level exceedance to allow increased flexibility for small CWS that serve 10,000 or fewer people and four compliance alternatives for NTNCWS. The proposed rule would allow these water systems to choose among options, which would allow them to select the most financially and technologically viable strategy that is effective in reducing lead in drinking water. The EPA is proposing the following compliance alternatives for small community water systems: 1) full lead service line replacement, 2) installation and maintenance of optimized corrosion control treatment, and 3) installation and maintenance of point-of-use (POU) devices. The EPA is proposing the above three flexibilities for NTNCWS and an additional option of replacement of all lead-bearing plumbing fixtures at every tap where water could be used for human consumption. The NTNCWS must have control of all plumbing materials to select this option. The data collected as the result of this revision will primarily be used to determine compliance and determine when it is necessary to alert the public of possible health risks resulting from non-compliance with federal or State regulations.

The Proposed LCRR adds additional lead public education and outreach requirements to those already required of systems responding to a lead ALE. The Proposed LCRR also codifies the Water Infrastructure Improvements for the Nation Act (WIIN Act), which requires water systems to provide public notice of a lead ALE within 24 hours. Most of the new public education requirements apply to systems regardless of their lead 90th percentile levels. The revisions include additional outreach to those potentially impacted by water-related work, new customers, and individual households with high lead results. Revisions would also increase information available to health care providers and the public and require updated lead language in the Consumer Confidence Report. CWSs that are conducting goal based or mandatory 3 percent LSLR would also be required to perform targeted outreach to customers with LSLs and CWSs that are providing and maintaining POU devices to provide educational materials to customers. The data collection required for these programs will be used to inform the public of possible health risks and asses compliance.

Under the revisions for a change in source or treatment, all CWSs and NTNCWSs regardless of lead 90th percentile levels are required to obtain primacy agency approval prior to making any long-term treatment changes or adding a new source and to sample source water in response to a significant change in source. The data collected under this revision will be used to:

* Evaluate the quality of water delivered to customers;
* Evaluate system-specific needs, including examining treatment effectiveness; and
* Modify monitoring frequencies to address potential health risks.

Source Water Monitoring and Treatment has one revision under the Proposed LCRR. The source water monitoring requirements would only apply to the first time in which a water system exceeds the lead or copper AL. This is a reduction in burden.

The Proposed LCRR creates a new requirement for CWSs to conduct lead in drinking water testing and public education at schools and child care facilities. Systems would be required to provide public education to each sampled school or child care facility and provide testing results to the facility, primacy agency, and state and local health departments.

### 2(b)(ii) Users of the Data

Primary users of the data collected under this ICR are water systems and their customers, primacy agencies, and the EPA. The information collected by the EPA is available to the public, via the EPA’s website (<https://www3.epa.gov/enviro/facts/sdwis/search.html>) or by requesting the data under the Freedom of Information Act (FOIA; 40 CFR, Chapter 1, Part 2). Other organizations and individuals that may utilize the data include the following:

* Individual consumers, realtors, potential homebuyers, homeowners, households, and other members of the public
* News organizations
* Staff from other EPA programs (such as Superfund, the Resource Conservation and Recovery Act, and the Office of Enforcement and Compliance Assurance)
* The Federal Emergency Management Administration
* Centers for Disease Control and Prevention
* Military bases
* Farmers Home Administration
* Department of Interior
* Department of Housing and Urban Development
* U.S. Army Corps of Engineers
* White House Task Forces
* American Water Works Association
* Association of Metropolitan Water Agencies
* National Rural Water Association
* National Association of Water Companies
* Association of State Drinking Water Administrators
* Environmental Council of the States
* Natural Resources Defense Council
* Consumers Federation of America.

# 3 NON-DUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA

## 3(a) Non-duplication

The EPA has consulted with other federal agencies, state agencies, industry organizations, water systems, and tribal organizations to ensure non-duplication of this information collection. To the best of the Agency's knowledge, data required by the revisions to the LCR are not available from any other source.

## 3(b) Public Notice Required Prior to ICR Submission to OMB

To comply with the 1995 Amendments to the Paperwork Reduction Act, the Agency will solicit public comment on this draft ICR during a 30-day public comment period coinciding with the comment period for the proposed rule. In the *Federal Register* notice for the proposed rule, the EPA will request comment on the estimated respondent burden and other aspects of this information collection. Comments received will be considered by the Agency and used to adjust the burden and costs estimates presented in the final ICR prior to submission to the OMB.

## 3(c) Consultations

To help shape the revised LCR, the EPA engaged with multiple stakeholders representing a wide range of expertise. The sections below describe these activities. Summaries from meetings and consultations are available in the docket for the proposed rule under EPA-HQ-OW-2017-0300 at <https://www.regulations.gov>.

#### Consultation with State and Local Government and Stakeholder Organizations

In October 2008, the EPA held a two-day stakeholder meeting at the Carnegie Institution for Science. The purpose of this meeting was to gather stakeholder input on actions that could be taken on revisions to the LCR. Discussion topics included changes to the tap sample site selection tiering criteria for lead and copper, LSLR requirements, particulate lead in tap water samples, optimal water quality parameters, tap sample collection issues, and CCT technologies. The EPA presented summaries of the scientific data that the Agency had compiled on these issues. The EPA also requested stakeholder input and feedback on other issues the EPA could consider for potential future action on the LCR. The EPA also held a public meeting on November 4, 2010 to discuss potential Long-Term Revisions to the LCR. The meeting was held to obtain stakeholder feedback about key issues and options to address the issues.

The EPA held a Federalism consultation on November 15, 2011 with representatives from state and local government organizations to solicit feedback on potential regulatory revisions to the LCR. In its capacity as an advisory committee to the EPA, the Local Government Advisory Committee (LGAC) periodically makes recommendations and comments to the Agency on issues impacting local governments. The EPA received comments that addressed tap sample site selection criteria and lead sampling protocol at LSL sites.

In May and June of 2016, the Administrator and other high-ranking EPA officials conducted meetings with state officials, water system officials, and non-government organizations (NGOs). Sixteen state officials and 16 PWS officials met with the EPA on May 26 and June 1, 2016, respectively. The EPA met with 15 NGOs on June 2, 2016. During each meeting, the EPA and stakeholder officials discussed critical needs and key opportunities for addressing drinking water challenges and four priority issues including the LCR with the goal of strengthening implementation of the current LCR and improving public health protection through updates to the rule.

In 2017, the EPA sent a questionnaire to nine states regarding the burden and cost associated with the National Drinking Water Advisory Council’s (NDWAC) recommendation to require all systems to develop a comprehensive LSL inventory and to expand the definition of an LSL to include lead connectors even if the service line is not made of lead. The questionnaire asked states how they would manage the LSL inventory requirement and their estimates for costs associated with reviewing PWS inventory documentation. The nine states were selected based on geographic diversity, high incidence of LSLs, and knowledge of existing LSLR programs. Seven states (Illinois, Michigan, Washington, Wisconsin, New Jersey, Rhode Island, and Ohio) out of the nine states responded to the questionnaire.

The EPA held another Federalism meeting on January 8, 2018, in Washington D.C., with 17 intergovernmental associations and several associations representing state and local governments.[[6]](#footnote-7) The EPA also held five follow-up briefings between January 8 and March 8, 2018. A total of 82 state and local governments and related associations provided input during the meetings and within 60 days after the initial meeting. Common issues discussed included LSLR, CCT, transparency and PE, tap sampling, and copper. The EPA considered Federalism comments received in 2011 and 2018 when developing the Proposed LCRR. The Association of State Drinking Water Administrators (ASDWA) provided Federalism input on March 8, 2018 that informed the framework of the Proposed LCRR. To address ASDWA’s concerns, the EPA is proposing: a new TL of 10 μg/L in addition to retaining the current AL of 15 μg/L, a new set of requirements for systems with a TLE, and a revised set of requirements for systems with an ALE.

Summaries from meetings and consultations are available in the docket for the proposed rule under EPA-HQ-OW-2017-0300 at <https://www.regulations.gov>.

#### National Drinking Water Advisory Council Lead and Copper Rule Working Group

The NDWAC Lead and Copper Rule Working Group held seven in-person meetings from March 2014 through June 2015, participated in multiple conference calls, and spent time outside these meetings to provide input to the NDWAC on key issues. The Working Group focused their time to provide advice to the EPA in addressing the five issues listed below:

* Tap sample site selection criteria
* Lead sampling protocols
* Public education for copper
* Measures to ensure optimal CCT
* LSL replacement.

The NDWAC Recommendations to the Administrator and meeting summaries are available in the docket for the Proposed Rule under EPA-HQ-OW-2017-0300 at <https://www.regulations.gov>.[[7]](#footnote-8)

#### Science Advisory Board Evaluation of the Effectiveness of Partial Lead Service Line Replacements

The EPA’s Office of Water requested the Science Advisory Board (SAB) evaluate the current scientific data to determine the effectiveness of partial LSLRs in reducing drinking water lead levels. The SAB convened the Drinking Water Committee Augmented for the Review of the Effectiveness of Partial Lead Service Line Replacements to study the issue and report their findings and conclusions. The charge to the SAB included five issues:

* Associations between partial LSLR and blood lead levels in children
* Water sampling data at the tap before and after partial LSLR
* Comparisons between partial and full LSLR
* Partial LSLR techniques
* The impact of galvanic corrosion.

The SAB's September 2011 report and recommendations are available in the docket for the Proposed Rule under EPA-HQ-OW-2017-0300 at <https://www.regulations.gov>.

#### Input from Public Water Systems and Small Business Stakeholders

The EPA sought input from PWSs regarding the cost and burden of potential provisions in the Proposed LCRR. For example, the EPA issued questionnaires to nine systems regarding their LSL inventories. The questionnaire was designed to obtain information about the activities and costs needed to develop a comprehensive LSL inventory, how systems have achieved successful LSLR programs, and the cost associated with LSLR. Fort Worth was the only PWS to respond to the questionnaire.

On August 14, 2012, the EPA convened a Small Business Advocacy Review (SBAR) Panel. The SBAR Panel submitted its report to the EPA in October 2012, which provided recommendation regarding the tap sample site selection criteria, PE for copper, the process for re-evaluating and revising CCT, copper monitoring waivers for systems that can demonstrate their water is non-aggressive toward copper, POU treatment units in lieu of CCT for NTNCWSs serving 10,000 or fewer people; the sampling protocol at sites served by LSLs; and mandatory LSLR requirements. To minimize impacts on small systems serving 3,300 and fewer people, under the proposed rule these systems with LSLs would not be required to have a LSLR plan unless LSLR was the selected compliance option. See Section 8 of the SBREFA Panel Report.

#### Tribal Consultations

The EPA consulted with tribal officials in developing the Proposed LCRR through the EPA American Indian Environmental Office. The EPA held consultations with federally-recognized Indian tribes in 2011 and 2018. The 2018 consultations with federally-recognized Indian tribes began on January 16, 2018 and ended March 16, 2018. The first national webinar was held January 31, 2018, while the second national webinar was held February 15, 2018. A total of 48 tribal representatives participated in the two webinars. Updates on the consultation process were provided to the National Tribal Water Council upon request at regularly scheduled monthly meetings during the consultation process. Also, upon request, informational webinars were provided to the National Tribal Toxics Council’s Lead Subcommittee on January 30, 2018, and the EPA Region 9’s Regional Tribal Operations Committee on February 8, 2018. Additionally, the EPA received written comments from the following tribes and tribal organizations: Navajo Tribal Utility Authority, National Tribal Water Council, United South and Eastern Tribes Sovereignty Protection Fund, and Yukon River Inter-Tribal Watershed Council. A summary report of the views expressed during tribal consultations is available in the docket (EPA-HQ-OW-2017-0300).[[8]](#footnote-9)

#### Environmental Justice

Because LCR revisions may have environmental justice impacts, in March 2011 the EPA held a public meeting to discuss environmental justice considerations. The EPA published public notice of the meeting in the *Federal Register* on February 15, 2011 (76 FR 8674).

## 3(d) Effects of Less Frequent Collection

The EPA has considered a wide range of alternatives for frequency of data collection. The EPA has chosen to require the least frequent collection that remains consistent with the overall goal of protecting public health. If data are collected less frequently, primacy agencies may not identify in a timely fashion significant contaminant concentration that might threaten the health and safety of drinking water consumers. Monitoring frequencies have been carefully devised based on the following factors:

* Data quality needed for a representative sample
* Precision and accuracy needed from the representative sample
* Number of people served by the system
* Source of the supply (e.g., surface water or ground water)
* Contaminants likely to be found
* Temporal variability in occurrence.

The Proposed LCRR puts in place a framework with a new lead TL in addition to an AL. Systems are required to perform more frequent monitoring and reporting if they exceed the TL. Under the Proposed LCRR, a system may be on a different monitoring schedule for lead and copper. For lead, the frequency of tap sampling and number of required samples would depend solely on a system’s lead 90th percentile level as follows:

* Systems with an ALE would monitor every six months at the standard number of sampling locations in the current rule. These systems are not eligible for reduced monitoring.
* Systems with a TLE would monitor annually at the standard number of sampling locations in the current rule and would not be eligible to collect samples at the reduced number of sites or to qualify for triennial or nine-year monitoring.
* Systems without a TLE or ALE would conduct monitoring annually, triennially, or every nine years at the reduced number of sites.

The copper monitoring requirements are similar to those under the current rule, which are based on the system’s copper 90th percentile level and compliance with a system’s optimal WQP specifications. One difference is that a system’s lead 90th percentile level is not a factor in determining the system’s copper monitoring requirements.

## 3(e) General Guidelines

With the exception of two instances noted below, this collection will not violate the guidelines codified under 5 CFR 1320.5(d)(2).

Records are required to be retained for a period greater than three years. In particular, the 1991 LCR requires all PWSs to retain on their premise original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules and any other information required by the state for no fewer than 12 years. Primacy agencies are subject to the same record retention period, except that primacy agencies are required to retain information relating to the decisions in §142.14(d)(8) until a new decision, determination, or designation has been issued, if no change is made to the state decision during the 12-year retention period. The Agency justified these record retention periods and received approval for them under the original 1991 LCR ICR.

In addition, the Proposed LCRR codifies §2106 of the WIIN Act which amended §1414 of SDWA to require PWSs to notify customers, the primacy agency, and the EPA of a lead ALE within 24 hours of learning of the ALE.

## 3(f) Confidentiality

No confidential information will be collected as a result of this ICR.

## 3(g) Sensitive Questions

This information collection does not ask any questions concerning sexual behavior or attitudes, religious beliefs, or other matters usually considered private.

# 4 THE RESPONDENTS AND THE INFORMATION REQUESTED

The following sections contain information on the respondents and the information they are requested to provide.

## 4(a) Respondents/North American Industry Classification System Codes

Data associated with this ICR are collected and maintained at the PWS, state, and Federal levels. Respondents include:

* Owners/operators of PWSs, who must report to their primacy agency.
* Primacy agencies, and the EPA Regions that act as primacy agencies for states, territories, and tribal lands that do not have primacy.

The North American Industry Classification System (NAICS) code for privately owned PWSs is 22131. The NAICS codes for state agencies that include drinking water programs are 92411 (Administration of Air and Water Resources and Solid Waste Management Programs) or 92312 (Administration of Public Health Programs). Ancillary systems (systems where providing water is ancillary to a primary business, e.g., mobile home parks) cannot be categorized in a single NAICS code. For ancillary systems, the NAICS code is that of the primary establishment or industry.

## 4(b) Information Requested

### 4(b)(i) Data items

For activities occurring in the first three years of implementation, Exhibit 2 and Exhibit 3 list the data items required from PWSs and primacy agencies, respectively.

Exhibit 2. Changes in PWSs Reporting Data Items

| **Requirement** | **Change in Requirement** | **Frequency** |
| --- | --- | --- |
| System reads and understands the LCRR | Implementation activity | Once |
| System assigns personnel and resources for rule implementation | Implementation activity | Once |
| System attends training and receives technical assistance from the primacy agency during implementation of the LCRR | Implementation activity | Once |
| System develops lead service line inventory or submits a demonstration to the primacy agency that they do not have lead service lines | Lead Service Line Inventory | Once |
| System develops a lead service replacement plan | Lead Service Line Replacement | Once |

Exhibit 3. State/Primacy Agency Reporting Data Items

| **Requirement** | **Change in Requirement** | **Frequency** |
| --- | --- | --- |
| Primacy agency reads and understands the LCRR | Implementation activity | Once |
| Primacy agency adopts the rule and develops program to implement the LCRR | Implementation activity | Once |
| Primacy agency modifies their data system while implementing the LCRR | Implementation activity | Once |
| Primacy agency provides internal primacy agency staff with training and technical assistance during implementation of the LCRR | Implementation activity | Once |
| Primacy agency provides system staff with training for implementation of the LCRR | Implementation activity | Once |
| Primacy agency assists systems with creation of LSL inventory and reviews submission of inventory | Lead Service Line Inventory | Once |
| Primacy agency reviews demonstration of no lead service lines from systems | Lead Service Line Inventory | Once |
| Primacy agency reviews lead service line replacement plan | Lead Service Line Replacement | Once |

### 4(b)(ii) Respondent Activities

#### Reading and Understanding the LCRR

##### Activities for Systems

Systems are required to read and understand the rule as part of the implementation of the LCRR.

##### Activities for Primacy Agencies

Primacy agencies are required to read and understand the rule as part of the implementation of the LCRR.

#### Adopting and Implementing the LCRR

##### Activities for Systems

Systems must conduct planning and mobilization for the implementation of the LCRR, including 1) assigning personnel and resources, and 2) dedicating staff to attend training and receive technical assistance from the primacy agency.

##### Activities for Primacy Agencies

Primacy agencies must 1) adopt the rule and develop a program to implement the LCRR, 2) modify their data management systems, 3) train internal staff for implementation of the LCRR, and 4) provide system staff with training and technical assistance.

#### Developing and reporting the lead service line inventory

##### Activities for Systems

Systems with LSLs must prepare a service line material inventory that identifies LSLs within the first three years. The inventory does not need to be developed if the system has an existing inventory that meets the standards of the LCRR or if the system does not have lead service lines and can demonstrate that to the primacy agency.

##### Activities for Primacy Agencies

Primacy agencies must provide assistance to systems with the creation of LSL inventories. Primacy agencies must also review the submissions from systems for completeness of LSL inventory and submissions that demonstrate the system does not have any within the first three years.

#### Developing and reporting the lead service line replacement plan

##### Activities for Systems

Systems with LSLs must create a lead service line replacement plan. The plan would include:

* A communication plan to alert consumers before LSLR. The plan must include customer notification within 24 hours of emergency repairs and within 45 days of planned full or partial LSLR
* Procedures for coordinating the full LSLR where the ownership is shared between the system and the homeowner
* A funding strategy for conducting LSLR
* A pitcher filter tracking and maintenance plan.

##### Activities for Primacy Agencies

Primacy agencies must confer with systems and review the lead service line replacement plans submitted by systems.

#### Additional Activities Required by LCRR

Exhibit 1 in Section 1 summarizes additional activities required by the proposed LCRR that will take place after the initial three years.

# 5 THE INFORMATION COLLECTED—AGENCY ACTIVITIES, COLLECTION METHODOLOGY, AND INFORMATION MANAGEMENT

## 5(a) Agency Activities

The Agency is responsible for promulgating and overseeing the implementation of the revisions to the LCR. The Agency is involved in the following activities that assist primacy agencies in implementing the modifications:

* Develop the revised regulations
* Respond to questions on the revised regulations.

The Agency will also conduct primacy activities in states, tribes, and territories that do not have primacy. Specifically, EPA Regions will be involved in the following activities:

* Reviewing LSL inventories.
* Reviewing demonstrations of no lead service lines from systems
* Reviewing lead service line replacement plans.

However, burden and costs for these activities are accounted for under the primacy agency burden (see section 6).

## 5(b) Collection Methodology and Management

The data generated as a result of the regulatory changes will be integrated in the existing quarterly SDWIS reporting process. The collection methodology and management of SDWIS is described in the ICR entitled *Public Water System Supervision Program (*OMB control number 2040-0090; EPA ID 0270.46).

## 5(c) Small Entity Flexibility

In developing the revisions to the LCR ICR, the EPA considered the requirement of the Small Business Regulatory Enforcement Fairness Act (SBREFA) to minimize the burden of information collections on small entities. Small entities include “small businesses,” “small organizations” and “small government jurisdictions,” and are defined as follows:

* A small business is any business that is independently owned and operated and not dominant in its field, as defined by the Small Business Administration regulations under section 3 of the Small Business Act.
* A small organization is any non-profit enterprise that is independently owned and operated and not dominant in its field.
* A small governmental jurisdiction is the government of a city, county, town, township, village, school district, or special district that has a population of fewer than 50,000. This definition may also include tribal governments.

The major requirement under SBREFA is a regulatory flexibility analysis of all rules that have a “significant economic impact on a substantial number of small entities.”

The EPA considered the particular needs of small businesses, small governments, and small organizations when proposing rule changes in the LCRR. For example, the EPA has prepared a Regulatory Flexibility Act analysis for the Proposed Rule, which can be found in the Economic Analysis. The EPA recognizes that many water systems are small entities; therefore, the LCRR reduces to the extent practicable and appropriate the burden on PWSs, especially smaller systems. The regulations include the following examples of reduced burden for small systems, most of which occur outside of the three years discussed in this ICR:

* Different monitoring, compliance, or reporting requirements or schedules that take into account the resources available to smaller water systems.
* Consolidated or simplified compliance and reporting requirements.
* No unnecessary or redundant requirements.

## 5(d) Collection Schedule

For both the LCR and Proposed LCRR the Agency considered a wide range of alternatives for frequency of data collection and chose the option that requires the least frequent collection possible while still protecting public health. When possible, primacy agency discretion in adjusting these frequencies has been allowed. Monitoring frequencies for PWSs have been carefully devised based on the following factors: system size, source water type, system type (e.g., CWS and NTNCWS), and contaminant monitoring history. The collection schedule for the first three years assumes that systems and primacy agencies will conduct all rule implementation activities in the first year.

Some of the regulatory changes associated with the Proposed LCRR in subsequent years increase the frequency of data collection and reporting. The EPA has deemed this change necessary to continue to protect public health and ensure the quality of drinking water.

# 6. ESTIMATING THE BURDEN AND COST OF THE COLLECTION

This section describes the estimates of burden and direct costs to water systems and primacy agencies associated with the proposed regulatory changes.[[9]](#footnote-10) This ICR only focuses on the incremental changes to burden and costs that will result from the LCRR based on the proposed revisions. The burden and costs associated the other elements of the LCR will continue to be described and accounted for in the ICR entitled *Disinfectants/Disinfection Byproducts, Chemical, and Radionuclides* (OMB control number 2040-0204; EPA ID 1896.10 for approved collection and EPA ID 1896.11 renewal submitted August 2019).

The burden and cost estimates in this ICR are based on the calculations documented in the Economic Analysis and Supporting Analyses for the Regulatory Revisions to the Lead and Copper Rule. Major underlying assumptions, data sources, and calculations are detailed in in the Economic Analysis.

## 6(a) Estimating Respondent Burden

The following sections discuss the burden faced by PWSs and primacy agencies. The EPA developed a low-cost scenario and a high-cost scenario to estimate the costs and benefits of the proposed rule. The ranges presented in this ICR represent those scenarios, which include low and high national estimates of the number of LSLs. The EPA used data from Cornwell et al. (2016)[[10]](#footnote-11) to generate the LSL estimate used in the low-cost scenario and the 1991 RIA (USEPA, 1991)[[11]](#footnote-12) to generate the high-cost LSL estimate. Exhibit 4 presents a summary of estimated responses and burden for the three-year window of the ICR. There is one response per respondent per requirement.

Exhibit 4. Respondents and Burden for the Proposed LCRR, 3-Year Total

| **Requirement** | **Respondentsa** | **Responsesa** | **Average Burden Hours per Responseb** |
| --- | --- | --- | --- |
| System reads and understands the LCRR | 67,656 | 67,656 | 4 |
| System assigns personnel and resources for rule implementation | 67,656 | 67,656 | 8 |
| System attends training and receives technical assistance from the state during implementation of the LCRR | 67,656 | 67,656 | 8 |
| System develops lead service line inventoryc | 9,448 to 11,692 | 9,448 to 11,692 | 5.25 to 300 |
| System submits a demonstration to the primacy agency that they do not have lead service linesc | 44,037 to 41,806 | 44,037 to 41,806 | 5 to 40 |
| System conducts planning and identifies financial options for initial planning of LSLR Program | 11,782 to 14,574 | 11,782 to 14,574 | 1.75 to 100 |
| **System Subtotal** | **67,656** | **268,235** to **271,040** | **varies** |
| Primacy agency reads and understand the LCRR | 56 | 56 | 15 |
| Primacy agency adopts the rule and develops program to implement the LCRR | 56 | 56 | 260 |
| Primacy agency modifies their data system while implementing the LCRR | 56 | 56 | 520 |
| Primacy agency provides system staff with training and technical assistance during implementation of the LCRR | 56 | 56 | 520 |
| Primacy agency provides internal primacy agency staff with training for implementation of the LCRR | 56 | 56 | 130 |
| Primacy agency assists systems to develop lead service line inventory and reviews submission of the inventory | 56 | 9,448 to 11,692 | 5 to 20 |
| Primacy agency reviews demonstration of no lead service lines from systems | 56 | 44,037 to 41,806 | 5 to 20 |
| Primacy agency confers on and reviews initial LSLR plan | 56 | 11,782 to 14,574 | 8 |
| **Primacy Agency Subtotal** | **56** | **65,547** to **68,352** | **varies** |
| **Combined System and Primacy Agency Total** | **67,712** | **333,782** to **339,392** | **varies** |

Notes: Detail may not add exactly to total due to independent rounding.

(a) Ranges reflect the low-cost scenario to the high-cost scenario.

(b) Ranges reflect variation across system sizes. Values in this column without a range are average estimates per response across all respondents; larger PWS or primacy agencies may incur more hours and smaller PWS and primacy agencies may incur fewer hours.

(c) Every system falls into one of the following four categories: (i) system has LSLs and incurs burden to develop an inventory; (ii) system already has an LSL inventory and does not incur burden; (iii) system does not have LSLs and incurs burden to prepare a demonstration; and (iv) system does not have LSLs and has already demonstrated it, and thus does not incur burden. Under the low-cost scenario, the system distribution of 67,656 systems across the categories is: (i) 9,448; (ii) 2,334; (iii) 44,037; and (iv) 11,837. Under the low-cost scenario, the system distribution of 67,656 systems across the categories is: (i) 11,692; (ii) 2,882; (iii) 41,806; and (iv) 11,276. Note that the number of systems submitting a demonstration of no LSLs is lower in the high-cost scenario because more systems are estimated to have LSLs in that scenario, resulting in higher total burden and cost.

### 6(a)(i) Burden to Public Water Systems

During the initial three-year period, public water systems will conduct one-time startup activities that include the following:

* Reading and understanding the LCRR
* Assigning personnel and resources for rule implementation
* Attending training and receiving technical assistance from the primacy agency
* Developing LSL inventories or submitting demonstrations that they do not have LSLs
* Planning and identifying financial options for initial plan for LSLR Program.

The one-time burden associated with reading and understanding the rule, assigning personnel and resources, and attending training is estimated to average 20 hours per system. These activities will be undertaken by all 67,656 CWSs and NTNCWSs that must comply with the LCR. The total burden for these activities, for the three-year period, for all systems is estimated to be 1,353,120 hours (67,656 systems x 20 hours/system), or an average of 451,040 hours per year.

The EPA’s estimates of burden for systems to submit demonstrations of no LSLs incorporate the likelihood that systems have existing documentation of no LSLs. The likelihood used to estimate this burden range from 5% to 33% depending on system size and type (i.e., CWSs versus NTNCWSs). The EPA estimates that 44,037 to 41,806 systems will submit demonstrations of no LSLs.[[12]](#footnote-13) The burden for this activity is estimated to range from 5 to 40 hours per system depending on system size and type. The total burden for this activity is estimated to be 434,455 to 401,995 hours, or an average of 144,818 to 133,998 hours per year. See Appendix B for a more detailed presentation of the data used in generating this estimate.

The remaining systems will have to develop an inventory if they do not already have an existing inventory that meets the requirements of the proposed LCRR. The EPA’s estimates of burden for this provision incorporate the likelihood that systems have an existing inventory. The likelihood used to estimate burden range from 5% to 32% depending on system size and type (i.e., CWSs versus NTNCWSs). The EPA estimates that 9,448 to 11,692 systems will develop an LSL inventory. The per-system burden is estimated to range from 5.25 to 300 hours depending on system size and type. The total burden estimate for this activity is 312,558 to 414,153 hours, or an average of 104,186 to 138,051 hours per year. See Appendix B for a more detailed presentation of the data used in generating this estimate.

In addition, systems with LSLs will develop an LSLR plan that describes how the system would implement and fund an LSLR program and develop an LSLR replacement goal rate in coordination with the primacy agency should the system exceed the TL. The burden for this activity is estimated to range from 1.75 to 100 hours per system depending on system size and type. The total burden for this activity is estimated to be 135,002 to 177,692 hours, an average of 45,001 to 59,231 hours per year. See Appendix B for a more detailed presentation of the data used in generating this estimate.

Adding the burden for all of the activities for the three-year period, the total burden for all systems is estimated to be 2,235,135 to 2,346,960 hours, or an average of 745,045 to 782,320 hours per year, and an average burden total over three years of 33.04 to 34.69 hours per system.

All recurring activities begin after the first three years and are qualitatively described in Section 2.

### 6(a)(ii) Burden to Primacy Agencies

During the initial three-year period, primacy agencies will incur burden associated with one-time startup activities that include the following:

* Reading and understanding the LCRR
* Adopting the rule and developing a program to implement it
* Modifying their data system
* Providing internal primacy agency staff with training for implementation
* Providing system staff with training and technical assistance
* Providing assistance with the creation of LSL inventories and reviewing inventories
* Reviewing demonstrations of no LSLs from systems
* Conferring on and reviewing initial LSLR plan.

The one-time burden associated with reading and understanding the rule, adopting the rule, modifying data systems, and providing training is estimated at an average of 1,445 hours per primacy agency. The total burden for these activities, for the three-year period, for the 56 primacy agencies is estimated to be 80,920 hours (56 agencies x 1,445 hours/agency), an average of 26,973 hours per year.

The burden for primacy agencies to provide assistance with the creation of the LSL inventories and review the submitted inventories is estimated to range from 5 to 20 per system depending on the size of the system creating and submitting the inventory. The total burden for this activity is estimated to be 61,390 to 77,670 hours, an average of 20,463 to 25,890 hours per year. See Appendix B for a more detailed presentation of the data used in generating this estimate.

The burden for primacy agencies to review demonstrations of no LSLs is estimated to range from 5 to 20 hours per system depending on the size of the system submitting the demonstration. The total burden for this activity is estimated to be 249,255 to 233,025 hours, an average of 83,085 to 77,675 hours per year.[[13]](#footnote-14) See Appendix B for a more detailed presentation of the data used in generating this estimate.

The burden for primacy agencies to confer on and review LSL replacement plans is estimated be 8 hours per system submitting the plan. The total burden for this activity is estimated to be 94,256 to 116,592 hours, an average of 31,419 to 38,864 hours per year.

Adding the burden for all of the activities for the three-year period, the total burden for primacy agencies is estimated to be 485,821 to 508,207 hours, an average of 161,940 to 169,402 hours per year, and an average burden total over three years per agency of 8,675 to 9,075 hours (485,821 hours/56 agencies to 508,207 hours/56 agencies).

All recurring activities begin after the first three years and are qualitatively described in Section 2.

## 6(b) Estimating Respondent Costs

The following sections provide the estimate the costs to PWSs and primacy agencies.

### 6(b)(i) Cost to Public Water Systems

The labor rates associated with the initial, one-time costs included in the first three years of implementation apply to all 67,656 CWSs and NTNCWSs that must comply with the LCR. The fully loaded labor rate estimates range from $28.64 to $44.38 per hour depending on system size. See Appendix B for more information on the development of the labor rate estimates. Based on these labor rates, **Exhibit 5** through **Exhibit 8** present the costs to systems for each of the activities conducted in the first three years. The total labor cost to systems for all activities in the first three years is $68,392,317 to $72,098,606, an average of $22,797,439 to $24,032,869 per year. There are no capital or operation and maintenance (O&M) costs associated with this period.

All recurring activities begin after the first three years and are qualitatively described in Section 2.

Exhibit 5. Burden and Costs for Public Water Systems for Start-up Activities, 3-Year Total (Reading Rule, Assigning Personnel, Attending Training)

| **Respondent Type (service population size category)** | **Respondents** | **Burden per Response (hours)** | **Burden (hours)** | **Labor Rate ($/hour)** | **Cost (2016 dollars)** |
| --- | --- | --- | --- | --- | --- |
| <=100 | 20,475 | 20 | 409,500 | $28.64 | $11,728,080 |
| 101-500 | 21,821 | 20 | 436,420 | $28.64 | $12,499,069 |
| 501-1,000 | 7,004 | 20 | 140,080 | $28.64 | $4,011,891 |
| 1,001-3,300 | 8,902 | 20 | 178,040 | $28.64 | $5,099,066 |
| 3,301-10,000 | 5,122 | 20 | 102,440 | $33.74 | $3,456,326 |
| 10,001-50,000 | 3,351 | 20 | 67,020 | $36.15 | $2,422,773 |
| 50,001-100,000 | 552 | 20 | 11,040 | $39.01 | $430,670 |
| 100,001-1,000,000 | 408 | 20 | 8,160 | $44.38 | $362,141 |
| >1,000,000 | 21 | 20 | 420 | $44.38 | $18,640 |
| **System 3-year Total** | **67,656** | **not applicable** | **1,353,120** | **not applicable** | **$40,028,655** |
| **Annual Average** | **not applicable** | **not applicable** | **451,040** | **not applicable** | **$13,342,885** |

Notes: Detail may not add exactly to total due to independent rounding.

Exhibit 6. Burden and Costs for Public Water Systems Preparing a Lead Service Line Inventory, 3-Year Total

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Respondent service population size category and type** | **Respondents** | **Burden per Response (hours)** | **Burden (hours)** | **Labor Rate ($/hour)** | **Cost (2016 dollars)** |
| <=100, CWS | 1,993 to 1,439 | 15 | 29,895 to 21,585 | $28.64 | $856,193 to $618,194 |
| 101-500, CWS | 2,610 to 2,547 | 15 | 39,150 to 38,205 | $28.64 | $1,121,256 to $1,094,191 |
| 501-1,000, CWS | 967 to 1,693 | 15 | 14,505 to 25,395 | $28.64 | $415,423 to $727,313 |
| 1,001-3,300, CWS | 1,418 to 2,557 | 30 | 42,540 to 76,710 | $28.64 | $1,218,346 to $2,196,974 |
| 3,301-10,000, CWS | 833 to 1,672 | 60 | 49,980 to 100,320 | $33.74 | $1,686,325 to $3,384,797 |
| 10,001-50,000, CWS | 951 to 1,100 | 75 | 71,325 to 82,500 | $36.15 | $2,578,399 to $2,982,375 |
| 50,001-100,000, CWS | 199 to 167 | 150 | 29,850 to 25,050 | $39.01 | $1,164,449 to $977,201 |
| 100,001-1,000,000, CWS | 137 to 176 | 225 | 30,825 to 39,600 | $44.38 | $1,368,014 to $1,757,448 |
| >1,000,000, CWS | 9 to 10 | 300 | 2,700 to 3,000 | $44.38 | $119,826 to $133,140 |
| <=100, NTNCWS | 155 | 5.25 | 814 | $28.64 | $23,306 |
| 101-500, NTNCWS | 121 | 5.25 | 635 | $28.64 | $18,194 |
| 501-1,000, NTNCWS | 30 | 5.25 | 158 | $28.64 | $4,511 |
| 1,001-3,300, NTNCWS | 18 | 5.25 | 95 | $28.64 | $2,706 |
| 3,301-10,000, NTNCWS | 4 | 9 | 36 | $33.74 | $1,215 |
| 10,001-50,000, NTNCWS | 1 | 9 | 9 | $36.15 | $325 |
| 50,001-100,000, NTNCWS | 1 | 21 | 21 | $39.01 | $819 |
| 100,001-1,000,000, NTNCWS | 1 | 21 | 21 | $44.38 | $932 |
| >1,000,000, NTNCWS | 0 | not applicable | 0 | $44.38 | $0 |
| **System 3-year Total** | **9,448 to 11,692** | **not applicable** | **312,558 to 414,153** | **not applicable** | **$10,580,237 to $13,923,641** |
| **Annual Average** | **not applicable** | **not applicable** | **104,186 to 138,051** | **not applicable** | **$3,526,746 to $4,641,214** |

Notes: Detail may not add exactly to total due to independent rounding. Ranges shown reflect the low-cost scenario to the high cost scenario. For some individual respondent categories, the number of respondents, burden, and cost are lower in the high cost scenario. However, the total burden and cost across all systems is higher in the high cost scenario.

Exhibit 7. Burden and Costs for Public Water Systems Preparing Demonstrations of no Lead Service Lines, 3-Year Total

| **Respondent service population size category and type** | **Respondents** | **Burden per Response (hours)** | **Burden (hours)** | **Labor Rate ($/hour)** | **Cost (2016 dollars)** |
| --- | --- | --- | --- | --- | --- |
| <=100, CWS | 7,886 to 8,440 | 10 | 78,860 to 84,400 | $28.64 | $2,258,550 to $2,417,216 |
| 101-500, CWS | 9,943 to 10,006 | 10 | 99,430 to 100,060 | $28.64 | $2,847,675 to $2,865,718 |
| 501-1,000, CWS | 3,405 to 2,679 | 10 | 34,050 to 26,790 | $28.64 | $975,192 to $767,266 |
| 1,001-3,300, CWS | 5,108 to 3,983 | 10 | 51,080 to 39,830 | $28.64 | $1,462,931 to $1,140,731 |
| 3,301-10,000, CWS | 3,147 to 2,308 | 20 | 62,940 to 46,160 | $33.74 | $2,123,596 to $1,557,438 |
| 10,001-50,000, CWS | 1,548 to 1,399 | 20 | 30,960 to 27,980 | $36.15 | $1,119,204 to $1,011,477 |
| 50,001-100,000, CWS | 179 to 210 | 40 | 7,160 to 8,400 | $39.01 | $279,312 to $327,684 |
| 100,001-1,000,000, CWS | 141 to 103 | 40 | 5,640 to 4,120 | $44.38 | $250,303 to $182,846 |
| >1,000,000, CWS | 7 to 5 | 40 | 280 to 200 | $44.38 | $12,426 to $8,876 |
| <=100, NTNCWS | 6,000 | 5 | 30,000 | $28.64 | $859,200 |
| 101-500, NTNCWS | 4,700 | 5 | 23,500 | $28.64 | $673,040 |
| 501-1,000, NTNCWS | 1,161 | 5 | 5,805 | $28.64 | $166,255 |
| 1,001-3,300, NTNCWS | 676 | 5 | 3,380 | $28.64 | $96,803 |
| 3,301-10,000, NTNCWS | 119 | 10 | 1,190 | $33.74 | $40,151 |
| 10,001-50,000, NTNCWS | 16 | 10 | 160 | $36.15 | $5,784 |
| 50,001-100,000, NTNCWS | 1 | 20 | 20 | $39.01 | $780 |
| 100,001-1,000,000, NTNCWS | 0 | 20 | 0 | $44.38 | $0 |
| >1,000,000, NTNCWS | 0 | not applicable | 0 | $44.38 | $0 |
| **System 3-year Total** | **44,037 to 41,806** | **not applicable** | **434,455 to 401,995** | **not applicable** | **13,171,203 to 12,121,265** |
| **Annual Average** | **not applicable** | **not applicable** | **144,818 to 133,998** | **not applicable** | **$4,390,401 to $4,040,422** |

Notes: Detail may not add exactly to total due to independent rounding. Ranges shown reflect the low-cost scenario to the high cost scenario. The number of systems submitting demonstrations of no LSLs is lower in the high cost scenario because more systems are estimated to have LSLs in that scenario. Thus, the total burden and associated with this activity in the high cost scenario is lower, because these systems would instead undertake the higher burden and cost activities of an LSL inventory and LSLR planning.

Exhibit 8. Burden and Costs for Public Water Systems for Preparing and Submitting a Lead Service Line Replacement Plan, 3-Year Total

| **Respondent service population size category and type** | **Respondents** | **Burden per Response (hours)** | **Burden (hours)** | **Labor Rate ($/hour)** | **Cost (2016 dollars)** |
| --- | --- | --- | --- | --- | --- |
| <=100, CWS | 2,430 to 1,754 | 5 | 12,150 to 8,770 | $28.64 | $347,976 to $251,173 |
| 101-500, CWS | 3,182 to 3,105 | 5 | 15,910 to 15,525 | $28.64 | $455,662 to $444,636 |
| 501-1,000, CWS | 1,193 to 2,089 | 5 | 5,965 to 10,445 | $28.64 | $170,838 to $299,145 |
| 1,001-3,300, CWS | 1,729 to 3,118 | 10 | 17,290 to 31,180 | $28.64 | $495,186 to $892,995 |
| 3,301-10,000, CWS | 1,041 to 2,089 | 20 | 20,820 to 41,780 | $33.74 | $702,467 to $1,409,657 |
| 10,001-50,000, CWS | 1,267 to 1,466 | 25 | 31,675 to 36,650 | $36.15 | $1,145,051 to $1,324,898 |
| 50,001-100,000, CWS | 287 to 242 | 50 | 14,350 to 12,100 | $39.01 | $559,794 to $472,021 |
| 100,001-1,000,000, CWS | 198 to 254 | 75 | 14,850 to 19,050 | $44.38 | $659,043 to $845,439 |
| >1,000,000, CWS | 12 to 14 | 100 | 1,200 to 1,400 | $44.38 | $53,256 to $62,132 |
| <=100, NTNCWS | 211 | 1.75 | 369 | $28.64 | $10,575 |
| 101-500, NTNCWS | 163 | 1.75 | 285 | $28.64 | $8,170 |
| 501-1,000, NTNCWS | 40 | 1.75 | 70 | $28.64 | $2,005 |
| 1,001-3,300, NTNCWS | 22 | 1.75 | 39 | $28.64 | $1,103 |
| 3,301-10,000, NTNCWS | 4 | 3 | 12 | $33.74 | $405 |
| 10,001-50,000, NTNCWS | 1 | 3 | 3 | $36.15 | $108 |
| 50,001-100,000, NTNCWS | 1 | 7 | 7 | $39.01 | $273 |
| 100,001-1,000,000, NTNCWS | 1 | 7 | 7 | $44.38 | $311 |
| >1,000,000, NTNCWS | 0 | not applicable | 0 | $44.38 | $0 |
| **System 3-year Total** | **11,782** **to** **14,574** | **not applicable** | **135,002** **to** **177,692** | **not applicable** | **4,612,222** **to** **6,025,045** |
| **Annual Average** | **not applicable** | **not applicable** | **45,001** **to** **59,231** | **not applicable** | **$1,537,407** **to** **$2,008,348** |

Notes: Detail may not add exactly to total due to independent rounding. Ranges shown reflect the low-cost scenario to the high cost scenario. For some individual respondent categories, the number of respondents, burden, and cost are lower in the high cost scenario. However, the total burden and cost across all systems is higher in the high cost scenario. Also, number of respondents preparing LSLR plans can exceed the number of systems developing LSL inventories if there are systems that already have inventories that prepare and submit a LSLR plan.

### 6(b)(ii) Cost to Primacy Agencies

Fifty-six primacy agencies will review and implement the final LCRR. The fully loaded labor rate applied to primacy agency costs for the initial three years of the LCRR is $57.24 per hour. See Appendix B for more information on the development of the estimated labor rate. Based on this labor rate, the total cost to primacy agencies for start-up activities (reading and understanding the rule, adopting the rule, modifying data systems, and providing training) is $4,631,861 (56 agencies x 1,445 hours/agency x $57.24/hour), an average of $1,543,954 per year. **Exhibit 9** presents the labor costs to primacy agencies for assisting with the LSL inventories and reviewing the submission of the inventories. **Exhibit 10** presents the labor costs to primacy agencies for reviewing demonstrations from systems of no LSLs. The total cost to primacy agencies for conferring on and reviewing the replacement plan is $5,395,213 to $6,673,726 (94,256 hours x $57.24/hour to 116,592 hours x $57.24/hour), an average of $1,798,404 to $2,224,575 per year. The total cost to primacy agencies for all activities in the first three years is $27,808,394 to $29,089,769, or an average of $9,269,465 to $9,696,590 per year. There are no capital or O&M costs associated with this period.

All recurring activities begin after the first three years and are qualitatively described in Section 2.

Exhibit 9. Burden and Costs for Primacy Agencies Assisting with LSL Inventories and Reviewing Inventories, 3-Year Total

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **System Type (service population size category)** | **Responses (Reviews)** | **Burden per Response (hours)** | **Burden (hours)** | **Labor Rate ($/hour)** | **Cost (2016 dollars)** |
| <=100 | 2,148 to 1,594 | 5 | 10,740 to 7,970 | $57.24 | $614,758 to $456,203 |
| 101-500 | 2,731 to 2,668 | 5 | 13,655 to 13,340 | $57.24 | $781,612 to $763,582 |
| 501-1,000 | 997 to 1,723 | 5 | 4,985 to 8,615 | $57.24 | $285,341 to $493,123 |
| 1,001-3,300 | 1,436 to 2,575 | 5 | 7,180 to 12,875 | $57.24 | $410,983 to $736,965 |
| 3,301-10,000 | 837 to 1,676 | 10 | 8,370 to 16,760 | $57.24 | $479,099 to $959,342 |
| 10,001-50,000 | 952 to 1,101 | 10 | 9,520 to 11,010 | $57.24 | $544,925 to $630,212 |
| 50,001-100,000 | 200 to 168 | 20 | 4,000 to 3,360 | $57.24 | $228,960 to $192,326 |
| 100,001-1,000,000 | 138 to 177 | 20 | 2,760 to 3,540 | $57.24 | $157,982 to $202,630 |
| >1,000,000 | 9 to 10 | 20 | 180 to 200 | $57.24 | $10,303 to $11,448 |
| **Primacy agency 3-year Total** | **9,448 to 11,692** | **not applicable** | **61,390 to 77,670** | **not applicable** | **$3,513,964 to $4,445,831** |
| **Annual Average** | **not applicable** | **not applicable** | **20,463 to 25,890** | **not applicable** | **$1,171,321 to $1,481,944** |

Notes: Detail may not add exactly to total due to independent rounding. Ranges shown reflect the low-cost scenario to the high cost scenario. For some individual system categories, the number of responses, burden, and cost are lower in the high cost scenario. However, the total burden and cost across all system types is higher in the high cost scenario.

Exhibit 10. Burden and Costs for Primacy Agencies Reviewing Demonstrations of no Lead Service Lines, 3-Year Total

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **System Type (service population size category)** | **Responses (Reviews)** | **Burden per Response (hours)** | **Burden (hours)** | **Labor Rate ($/hour)** | **Cost (2016 dollars)** |
| <=100 | 13,886 to 14,440 | 5 | 69,430 to 72,200 | $57.24 | $3,974,173 to $4,132,728 |
| 101-500 | 14,643 to 14,706 | 5 | 73,215 to 73,530 | $57.24 | $4,190,827 to $4,208,857 |
| 501-1,000 | 4,566 to 3,840 | 5 | 22,830 to 19,200 | $57.24 | $1,306,789 to $1,099,008 |
| 1,001-3,300 | 5,784 to 4,659 | 5 | 28,920 to 23,295 | $57.24 | $1,655,381 to $1,333,406 |
| 3,301-10,000 | 3,266 to 2,427 | 10 | 32,660 to 24,270 | $57.24 | $1,869,458 to $1,389,215 |
| 10,001-50,000 | 1,564 to 1,415 | 10 | 15,640 to 14,150 | $57.24 | $895,234 to $809,946 |
| 50,001-100,000 | 180 to 211 | 20 | 3,600 to 4,220 | $57.24 | $206,064 to $241,553 |
| 100,001-1,000,000 | 141 to 103 | 20 | 2,820 to 2,060 | $57.24 | $161,417 to $117,914 |
| >1,000,000 | 7 to 5 | 20 | 140 to 100 | $57.24 | $8,014 to $5,724 |
| **Primacy agency 3-year Total** | **44,037 to 41,806** | **not applicable** | **249,255 to 233,025** | **not applicable** | **$14,267,356 to $13,338,351** |
| **Annual Average** | **not applicable** | **not applicable** | **83,085 to 77,675** | **not applicable** | **$4,755,785 to $4,446,117** |

Notes: Detail may not add exactly to total due to independent rounding. Ranges shown reflect the low-cost scenario to the high cost scenario. The total burden and cost for primacy agencies to review demonstrations of no LSLs is lower in the high-cost scenario because more systems are estimated to have LSLs in that scenario. For these systems, primacy agencies would instead undertake the higher burden and cost activities of reviewing LSL inventories and assisting with LSLR planning.

## 6(c) Estimating Agency Burden and Cost

Information-related activities that may be undertaken by both EPA headquarters and regional offices include reviewing, interpreting and explaining the new regulations to primacy agencies that ask for guidance. For example, during the implementation process, EPA headquarters or regions might be asked for explanations or interpretations of the intent of the new regulations. The EPA believes that these regulatory changes are relatively straightforward and limited in scope and expects that the preamble language will generally be sufficient for the purpose of explaining the EPA’s intent. Therefore, the additional burden incurred by headquarters and regional offices is expected to be minimal.

Further, the additional burden and costs incurred by the EPA’s drinking water program at headquarters and regional offices to assist primacy agencies in implementing drinking water regulations are already included in existing ICRs. The EPA burden and costs for on-going regulatory development and support activities for all EPA drinking water regulations are accounted for under the PWS Supervision Program ICR (OMB control number 2040-0090, EPA ID 1895.10). This proposed rule does not create any additional Agency burden beyond that which is already described in the PWS Supervision Program ICR.

## 6(d) Estimating the Respondent Universe and Total Burden and Cost

Respondents for this ICR include both PWSs and primacy agencies. This ICR estimates that the total number of PWS respondents is 67,656, although some provisions affect fewer PWS. Section 6(a)(i) identifies the numbers and types of PWSs that are subject to each particular provision. In addition to the PWS respondents, this ICR assumes 56 primacy agencies (50 states plus U.S. Territories and the Navajo Nation).[[14]](#footnote-15) Therefore, the total number of respondents is 67,712.

## 6(e) Bottom Line Burden Hours and Costs Tables

This section provides a description of bottom line estimates for implementation of the LCRR. The bottom-line burden hours and costs for systems and primacy agencies are the summaries of the hours and costs collectively incurred for all activities. The first part of this section describes the estimated costs and hourly burdens for respondents to the rule revisions

. The second part discusses the potential cost and burden to the EPA. **Exhibit 11** presents a summary of the respondent burden over three years for PWSs and primacy agencies.

Exhibit 11. Bottom Line Burden and Costs, 3-Year Total

(2016 dollars)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Low Cost Scenario** | **High Cost Scenario** |  |
| **Number of Respondents** | **67,712** =  67,656  +56 | **67,712** =  67,656  +56 | Public water systems  Primacy agencies |
| **Number of Responses** | **333,782** =  268,235  +65,547 | **339,392** =  271,040  +68,352 | Public water systems  Primacy agencies |
| **Total Respondent Burden Hours** | **2,720,956** =  2,235,135  +485,821 | **2,855,167** =  2,346,960  +508,207 | Public water system hours  Primacy agency hours |
| **Hours per System**  **for Public Water Systems** | **33.04** =  2,235,135  /67,656 | **34.69** =  2,346,960  /67,656 | Total PWS hours from above  Total PWS from above |
| **Hours per Primacy Agency** | **8,675** =  485,821  /56 | **9,075** =  508,207  /56 | Total primacy agency hours from above  Total primacy agencies from above |
| **Total Respondent Cost** | **$96,200,711** =  $68,392,317  +$27,808,394 | **$101,188,375** =  $72,098,606  +$29,089,769 | Public water system costs  Primacy agency costs |
| **Average Cost per System for Public Water Systems** | **$1,010.88** =  $68,392,317  /67,656 | **$1,065.66** =  $72,098,606  /67,656 | Total PWS costs from above  Total PWS from above |
| **Average Cost per Primacy Agency** | **$496,578** =  27,808,394  /56 | **$519,460** =  29,089,769  /56 | Total primacy agency costs from above  Total primacy agencies from above |

Note: Detail may not add exactly to total due to independent rounding.

### 6(e)(i) Respondent Tally

For the first three years after the final rule is published, the average burden associated with this ICR is estimated to be 906,985 to 951,722 burden hours per year. The corresponding average total respondent costs are estimated to be $32,066,904 to $33,729,458 per year. The ranges reflect estimates for the low cost and high cost scenarios described in Section 1(b).

The EPA estimates the average respondent burden for PWSs to be 745,045 to 782,320 hours per year. Respondent costs for PWSs are estimated to be $22,797,439 to $24,032,869 per year. The Agency estimates that the burden for primacy agencies is 161,940 to 169,402 hours per year. The corresponding costs for primacy agencies are estimated to be $9,269,465 to $9,696,590 per year.

### 6(e)(ii) The Agency Tally

As noted in section 6 (c), the EPA burden and costs for on-going regulatory development and support activities for all EPA drinking water regulations are accounted for under the PWS Supervision Program ICR. Therefore, this proposed rule does not create any additional Agency burden beyond that which is already described in the latest version of the PWS Supervision Program ICR (OMB control number 2040-0090, EPA ID 1895.10).

### 6(e)(iii) Variations in the Annual Bottom Line

The EPA assumes the rule implementation and startup activities will take place in the first year, while the implementation of the LSL inventory and demonstrations requirements and review are distributed uniformly over the first three years. **Exhibit 12** and **Exhibit 13** show the resulting distribution of burden and cost, respectively.

Exhibit 12. Annual Distribution of Burden over the ICR Period

| **Requirement** | **Low Cost Scenario** | | | **High Cost Scenario** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Year 1 Burden (hours)** | **Year 2 Burden (hours)** | **Year 3 Burden (hours)** | **Year 1 Burden (hours)** | **Year 2 Burden (hours)** | **Year 3 Burden (hours)** |
| System start-up activities (read rule, assign staff, attend training) | 1,353,120 | 0 | 0 | 1,353,120 | 0 | 0 |
| System develops lead service line inventory | 104,186 | 104,186 | 104,186 | 138,051 | 138,051 | 138,051 |
| System submits a demonstration of no lead service lines | 144,818 | 144,818 | 144,818 | 133,998 | 133,998 | 133,998 |
| System conducts planning and identifies financial options for initial planning of LSLR Program | 45,001 | 45,001 | 45,001 | 59,231 | 59,231 | 59,231 |
| **System Subtotal** | **1,647,125** | **294,005** | **294,005** | **1,684,400** | **331,280** | **331,280** |
| Primacy agency start-up activities (read rule, adopt rule, modify data systems, provide training) | 80,920 | 0 | 0 | 80,920 | 0 | 0 |
| Primacy Agency assists with and reviews lead service line inventory | 20,463 | 20,463 | 20,463 | 25,890 | 25,890 | 25,890 |
| Primacy agency reviews demonstrations of no lead service lines | 83,085 | 83,085 | 83,085 | 77,675 | 77,675 | 77,675 |
| Primacy agency confers on and reviews initial LSLR plan | 31,419 | 31,419 | 31,419 | 38,864 | 38,864 | 38,864 |
| **Primacy Agency Subtotal** | **215,887** | **134,967** | **134,967** | **223,349** | **142,429** | **142,429** |
| **Combined System and Primacy Agency Total** | **1,863,012** | **428,972** | **428,972** | **1,907,749** | **473,709** | **473,709** |

Exhibit 13. Annual Distribution of Cost over the ICR Period

| **Requirement** | **Low Cost Scenario** | | | **High Cost Scenario** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Year 1 Cost** | **Year 2 Cost** | **Year 3 Cost** | **Year 1 Cost** | **Year 2 Cost** | **Year 3 Cost** |
| System start-up activities (read rule, assign staff, attend training) | $40,028,655 | $0 | $0 | $40,028,655 | $0 | $0 |
| System develops lead service line inventory | $3,526,746 | $3,526,746 | $3,526,746 | $4,641,214 | $4,641,214 | $4,641,214 |
| System submits a demonstration of no lead service lines | $4,390,401 | $4,390,401 | $4,390,401 | $4,040,422 | $4,040,422 | $4,040,422 |
| System conducts planning and identifies financial options for initial planning of LSLR Program | $1,537,407 | $1,537,407 | $1,537,407 | $2,008,348 | $2,008,348 | $2,008,348 |
| **System Subtotal** | **$49,483,209** | **$9,454,554** | **$9,454,554** | **$50,718,639** | **$10,689,984** | **$10,689,984** |
| Primacy agency start-up activities (read rule, adopt rule, modify data systems, provide training) | $4,631,861 | $0 | $0 | $4,631,861 | $0 | $0 |
| Primacy Agency assists with and reviews lead service line inventory | $1,171,321 | $1,171,321 | $1,171,321 | $1,481,944 | $1,481,944 | $1,481,944 |
| Primacy agency reviews demonstrations of no lead service lines | $4,755,785 | $4,755,785 | $4,755,785 | $4,446,117 | $4,446,117 | $4,446,117 |
| confers on and reviews initial LSLR plan | $1,798,404 | $1,798,404 | $1,798,404 | $2,224,575 | $2,224,575 | $2,224,575 |
| **Primacy Agency Subtotal** | **$12,357,372** | **$7,725,511** | **$7,725,511** | **$12,784,497** | **$8,152,636** | **$8,152,636** |
| **Combined System and Primacy Agency Total** | **$61,840,581** | **$17,180,065** | **$17,180,065** | **$63,503,135** | **$18,842,620** | **$18,842,620** |

# 6(f) Reasons for Change in Burden

The LCR Revisions are intended to strengthen the implementation of the LCR in the areas of CCT, customer awareness, and LSL replacement. The changes are expected to ensure and enhance the protection of public health through the reduction in lead exposure in drinking water. The EPA needs comprehensive and current information on lead and copper exposure and associated enforcement activities to implement its program oversight and enforcement responsibilities mandated by the SDWA. Primacy agencies need the information to identify significant contaminant concentrations that might threaten the health and safety of drinking water consumers in a timely fashion.

Over the next three years, the proposed revisions would require respondents to undertake additional one-time actions beyond those in the ICR entitled *Disinfectants/Disinfection Byproducts, Chemical, and Radionuclides Rules* (OMB control number 2040-0204; EPA ID 1896.10). These one-time actions would increase burden by approximately 0.9 to 1.0 million hours and $32.1 to $33.7 million annually over the next three years.

# 6(g) Burden Statement

Exhibit 11 presents the public reporting burden associated with this ICR. For the first three years after the final rule is published, the average burden associated with this ICR is estimated to be 906,985 to 951,722 burden hours per year. The corresponding total respondent costs are estimated to be $32,066,904 to $33,729,458 per year. EPA estimates the respondent burden for PWSs to be 745,045 to 782,320 hours per year. Respondent costs for PWSs are estimated to be $22,797,439 to $24,032,869 per year. The Agency estimates that the respondent burden for primacy agencies is 161,940 to 169,402 hours per year. The corresponding respondent costs for primacy agencies are estimated to be $9,269,465 to $9,696,590 per year. The rule implementation and startup activities are assumed to occur in the first year while the implementation of the lead service line inventory is distributed over the first three years. There is no Agency burden or cost except where the Agency acts as the primacy agency. The ranges reflect estimates for the low cost and high cost scenarios described in Section 1(b).[[15]](#footnote-16)

The total number of respondents for this ICR is 67,712. Fifty-six of these respondents are primacy agencies and the remaining 67,656 respondents are water systems.

The total number of responses for these respondents is 333,782 to 339,392 with 268,235 to 271,040 responses for water systems and 65,547 to 68,352 responses for primacy agencies. The average burden per response is 8.15 to 8.41 hours. The average cost per response is $288 to $298.

These burden and cost estimates represent those activities that the EPA expects would occur in the initial three-year period. During this period, systems and primacy agencies would perform the initial, one-time activities related to rule review and primacy requirements. Because implementation does not begin during the initial three-year period, this ICR does not include burden and costs for activities that are required during full rule implementation (e.g., primacy agencies reporting data to SDWIS and water systems reporting tap sampling, other monitoring results and regulatory milestones).

Burden means the total time, effort, or financial resources expended by people to generate, maintain, retain, disclose, or provide information to or for a federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology, and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a request for information collection unless it displays a currently valid OMB control number. The OMB control numbers for the EPA’s regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID Number EPA-HQ-OW-2017-0300, which is available for online viewing at www.regulations.gov, or in person viewing at the Water Docket in the EPA Docket Center (EPA/DC), WJC West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Water Docket is (202) 566-2426. An electronic version of the public docket is available at [www.regulations.gov](file:///\\betfilesrv02\redirected$\peppingt\Desktop\Task%203%20ICR\www.regulations.gov). This site can be used to submit or view public comments, to access the index listing of the contents of the public docket, and to access those documents in the public docket that are available electronically. When in the system, select “search,” then key in the Docket ID Number identified above. Comments can also be sent to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number (EPA-HQ-OW-2017-0300) and the OMB Control Number 2040-0204 in any correspondence.

# APPENDIX A: SDWA Sections that Provide Authority for the Collection

Section 1401. For purposes of this title:

(1) The term “primary drinking water regulation” means a regulation which-

(D) contains criteria and procedures to assure a supply of drinking water which dependably complies with such maximum contaminant levels; including accepted methods for quality control and testing procedures to insure compliance with such levels and to insure proper operation and maintenance of the system, and requirements as to (i) the minimum quality of water which may be taken into the system and (ii) siting for new facilities for public water systems. At any time after promulgation of a regulation referred to in this paragraph, the Administrator may add equally effective quality control and testing procedures by guidance published in the Federal Register. Such procedures shall be treated as an alternative for public water systems to the quality control and testing procedures listed in the regulation.

Section 1413(a) For purposes of this title, a state has primary enforcement responsibility for public water systems during any period for which the Administration determines (pursuant to regulations under subsection (b)) that such state-

(1) has adopted drinking water regulations that are no less stringent than the national primary drinking water regulations promulgated by the Administrator under subsections (a) and (b) of section 1412 not later than 2 years after the date on which the regulations are promulgated by the Administrator, except that the Administrator may provide for an extension of not more than 2 years if, after submission and review of appropriate, adequate documentation from the state, the Administrator determines that the extension is necessary and justified;

(2) has adopted and is implementing adequate procedures for the enforcement of such state regulations, including conducting such monitoring and making such inspections as the Administrator may require by regulation;

(3) will keep such records and make such reports with respect to its activities under paragraphs (1) and (2) as the Administrator may require by regulation.

Section 1445 (a)(1)(A) Every person who is subject to any requirement of this title or who is a grantee, shall establish and maintain such records, make such reports, conduct such monitoring, and provide such information as the Administrator may reasonably require by regulation to assist the Administrator in establishing regulations under this title, in determining whether such person has acted or is acting in compliance with this title, in administering any program of financial assistance under this title, in evaluating the health risks of unregulated contaminants, or in advising the public of such risks. In requiring a public water system to monitor under this subsection, the Administrator may take into consideration the system size and the contaminants likely to be found in the system's drinking water.

(B) Every person who is subject to a national primary drinking water regulation under section 1412 shall provide such information as the Administrator may reasonably require, after consultation with the state in which such person is located if such state has primary enforcement responsibility for public water systems, on a case-by-case basis, to determine whether such person has acted or is acting in compliance with this title.

(C) Every person who is subject to a national primary drinking water regulation under section

1412 shall provide such information as the Administrator may reasonably require to assist the Administrator in establishing regulations under section 1412 of this title, after consultation with primacy agencies and suppliers of water. The Administrator may not require under this subparagraph the installation of treatment equipment or process changes, the testing of treatment technology, or the analysis or processing of monitoring samples, except where the Administrator provides the funding for such activities. Before exercising this authority, the Administrator shall first seek to obtain the information by voluntary submission.

(D) The Administrator shall not later than 2 years after the date of enactment of this subparagraph, after consultation with public health experts, representatives of the general public, and officials of state and local governments, review the monitoring requirements for not fewer than 12 contaminants identified by the Administrator, and promulgate any necessary modifications.

# APPENDIX B: Burden and Labor Rate Derivations[[16]](#footnote-17)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Estimated hours per system to read the rule** | | | **Source:** Based on implementation burden estimated for the Ground Water Rule (GWR) Economic Analysis (EA) (USEPA, 2006).[[17]](#footnote-18) | | | |
| 4 | | |
| **Estimated hours per system to assign staff for implementation** | | | **Source:** Based on implementation burden estimated for the GWR EA (USEPA, 2006). | | | |
| 8 | | |  | | | |
| **Estimated hours per system for staff to attend training and technical assistance from the state during rule implementation** | | | **Source**: Public Water System Supervision (PWSS) ICR (2015)[[18]](#footnote-19) | | | |
| 8 | | |  | | | |
| **Estimated hours per system for staff to conduct planning and identify financial options for initial planning of LSLR Program** | | |  | | | |
| Systems <=100, CWS | 5 | | | | | |
| Systems 101-500, CWS | 5 | | | | | |
| Systems 501-1,000, CWS | 5 | | | | | |
| Systems 1,001-3,300, CWS | 10 | | | | | |
| Systems 3,301-10,000, CWS | 20 | | | | | |
| Systems 10,001-50,000, CWS | 25 | | | | | |
| Systems 50,001-100,000, CWS | 50 | | | | | |
| Systems 100,001-1,000,000, CWS | 75 | | | | | |
| Systems >1,000,000, CWS | 100 | | | | | |
| Systems <=100, NTNCWS | 1.75 | | | | | |
| Systems 101-500, NTNCWS | 1.75 | | | | | |
| Systems 501-1,000, NTNCWS | 1.75 | | | | | |
| Systems 1,001-3,300, NTNCWS | 1.75 | | | | | |
| Systems 3,301-10,000, NTNCWS | 3 | | | | | |
| Systems 10,001-50,000, NTNCWS | 3 | | | | | |
| Systems 50,001-100,000, NTNCWS | 7 | | | | | |
| Systems 100,001-1,000,000, NTNCWS | 7 | | | | | |
| Systems >1,000,000, NTNCWS | Not applicable | | | | | |
| **Estimated hours per primacy agency for staff to read and understand the rule** | | | **Source:** Labor hours for start-up activities are based on GWR EA (USEPA, 2006) estimates. One fourth of the primacy agency unit start up burden from GWR is used. | | | |
| 15 | | |  | | | |
| **Estimated hours per primacy agency for staff to adopt rule and develop program**  **Value** | | | **Source:** Labor hours for start-up activities are based on GWR EA (USEPA, 2006) estimates. One fourth of the primacy agency unit start up burden from GWR is used. | | | |
| 260 | | |  | | | |
| **Estimated hours per primacy agency for staff to modify data system while implementing rule** | | | **Source:** Labor hours for start-up activities are based on GWR EA (USEPA, 2006) estimates. One fourth of the primacy agency unit start up burden from GWR is used. | | | |
| 520 | | |  | | | |
| **Estimated hours per primacy agency for staff for training and technical assistance during rule implementation** | | | **Source:** Assumes labor hours for start-up activities to be based on GWR EA (USEPA, 2006) estimates. One fourth of the primacy agency unit start up burden from GWR is used. | | | |
| 520 | | |  | | | |
| **Estimated hours per primacy agency for staff to train internal staff for rule implementation** | | | **Source:** Labor hours for start-up activities are based on GWR EA (USEPA, 2006) estimates. One fourth of the primacy agency unit start up burden from GWR is used. | | | |
| 130 | | |  | | | |
| **Estimated hours per primacy agency for staff to train internal staff for rule implementation** | | |  | | | |
| 8 | | |  | | | |
| **Hours rate for primacy agency staff** | | | Fully loaded State employee wage rates. Derived in part from National Occupational Employment and Wage Estimates, United States, Bureau of Labor Statistics (BLS) Standard Occupational Classification (SOC) Code 19-2041, "State Government - Environmental Scientists and Specialists, Including Health," hourly mean wage rate. May 2016 data (published in March 2017).[[19]](#footnote-20) https://stats.bls.gov/oes/2016/May/oes192041.htm | | | |
| $57.24 | | |  | | | |
| **Hours rate for system staff** | | | Fully loaded technical labor wage rates are based on wage rates for treatment plant operators. EPA estimates that systems serving 3,300 or less use 100% (technical) labor, whereas systems serving >3,300 use 80% technical (operator) labor and 20% managerial (engineer) labor. | | | |
| Systems <=100 | | $28.64 | | |  | |
| Systems 101-500 | | $28.64 | | |  | |
| Systems 501-1,000 | | $28.64 | | |  | |
| Systems 1,001-3,300 | | $28.64 | | |  | |
| Systems 3,301-10,000 | | $33.74 | | |  | |
| Systems 10,001-50,000 | | $36.15 | | |  | |
| Systems 50,001-100,000 | | $39.01 | | |  | |
| Systems 100,001-1,000,000 | | $44.38 | | |  | |
| Systems >1,000,000 | | $44.38 | | |  | |
| **Estimated hours per system for staff to create the lead service line inventory** | |  | |  |  | |
| Systems <=100, CWS | | 15 | |  |  | |
| Systems 101-500, CWS | | 15 | |  |  | |
| Systems 501-1,000, CWS | | 15 | |  |  | |
| Systems 1,001-3,300, CWS | | 30 | |  |  | |
| Systems 3,301-10,000, CWS | | 60 | |  |  | |
| Systems 10,001-50,000, CWS | | 75 | |  |  | |
| Systems 50,001-100,000, CWS | | 150 | |  |  | |
| Systems 100,001-1,000,000, CWS | | 225 | |  |  | |
| Systems >1,000,000, CWS | | 300 | |  |  | |
| Systems <=100, NTNCWS | | 5.25 | |  |  | |
| Systems 101-500, NTNCWS | | 5.25 | |  |  | |
| Systems 501-1,000, NTNCWS | | 5.25 | |  |  | |
| Systems 1,001-3,300, NTNCWS | | 5.25 | |  |  | |
| Systems 3,301-10,000, NTNCWS | | 9 | |  |  | |
| Systems 10,001-50,000, NTNCWS | | 9 | |  |  | |
| Systems 50,001-100,000, NTNCWS | | 21 | |  |  | |
| Systems 100,001-1,000,000, NTNCWS | | 21 | |  |  | |
| Systems >1,000,000, NTNCWS | | Not applicable | |  |  | |
| **Likelihood community water systems with lead service lines already have a lead service line inventory or demonstration of no lead service lines** | |  | | | | |
|  | | Systems with LSLs | | | | Systems without LSLs |
| Systems <=100, CWS | | 0.18 | |  | 0.18 | |
| Systems 101-500, CWS | | 0.18 | |  | 0.18 | |
| Systems 501-1,000, CWS | | 0.19 | |  | 0.19 | |
| Systems 1,001-3,300, CWS | | 0.18 | |  | 0.19 | |
| Systems 3,301-10,000, CWS | | 0.2 | |  | 0.20 | |
| Systems 10,001-50,000, CWS | | 0.25 | |  | 0.25 | |
| Systems 50,001-100,000, CWS | | 0.31 | |  | 0.32 | |
| Systems 100,001-1,000,000, CWS | | 0.31 | |  | 0.33 | |
| Systems >1,000,000, CWS | | 0.32 | |  | 0.32 | |
| Systems <=100, NTNCWS | | 0.27 | |  | 0.27 | |
| Systems 101-500, NTNCWS | | 0.26 | |  | 0.26 | |
| Systems 501-1,000, NTNCWS | | 0.25 | |  | 0.26 | |
| Systems 1,001-3,300, NTNCWS | | 0.2 | |  | 0.20 | |
| Systems 3,301-10,000, NTNCWS | | 0.17 | |  | 0.18 | |
| Systems 10,001-50,000, NTNCWS | | 0.19 | |  | 0.19 | |
| Systems 50,001-100,000, NTNCWS | | 0.05 | |  | 0.05 | |
| Systems 100,001-1,000,000, NTNCWS | | 0.05 | |  | 0.05 | |
| Systems >1,000,000, NTNCWS | | Not applicable | |  | Not applicable | |
| **Estimated hours per system for staff to demonstrate that the system has no lead service lines** | |  | |  |  | |
| Systems <=100, CWS | | 10 | |  |  | |
| Systems 101-500, CWS | | 10 | |  |  | |
| Systems 501-1,000, CWS | | 10 | |  |  | |
| Systems 1,001-3,300, CWS | | 10 | |  |  | |
| Systems 3,301-10,000, CWS | | 20 | |  |  | |
| Systems 10,001-50,000, CWS | | 20 | |  |  | |
| Systems 50,001-100,000, CWS | | 40 | |  |  | |
| Systems 100,001-1,000,000, CWS | | 40 | |  |  | |
| Systems >1,000,000, CWS | | 40 | |  |  | |
| Systems <=100, NTNCWS | | 5 | |  |  | |
| Systems 101-500, NTNCWS | | 5 | |  |  | |
| Systems 501-1,000, NTNCWS | | 5 | |  |  | |
| Systems 1,001-3,300, NTNCWS | | 5 | |  |  | |
| Systems 3,301-10,000, NTNCWS | | 10 | |  |  | |
| Systems 10,001-50,000, NTNCWS | | 10 | |  |  | |
| Systems 50,001-100,000, NTNCWS | | 20 | |  |  | |
| Systems 100,001-1,000,000, NTNCWS | | 20 | |  |  | |
| Systems >1,000,000, NTNCWS | | Not applicable | |  |  | |
| **Estimated hours per system for primacy agency staff to confer on and review LSLR plan** | |  | |  |  | |
| 8 | |  | |  |  | |
| **Estimated hours per system for primacy agency staff assist with LSL inventory and review submission of inventory** | |  | |  |  | |
| Systems <=100 | | 5 | |  |  | |
| Systems 101-500 | | 5 | |  |  | |
| Systems 501-1,000 | | 5 | |  |  | |
| Systems 1,001-3,300 | | 5 | |  |  | |
| Systems 3,301-10,000 | | 10 | |  |  | |
| Systems 10,001-50,000 | | 10 | |  |  | |
| Systems 50,001-100,000 | | 20 | |  |  | |
| Systems 100,001-1,000,000 | | 20 | |  |
| Systems >1,000,000 | | 20 | |  |

1. Community water systems (CWSs) are public water systems (PWSs) that have at least 15 service connections used by year-round residents or regularly serve at least 25 year-round residents. Non-transient non-community water systems (NTNCWSs) are PWSs that are not CWSs but regularly serve at least 25 of the same persons over six months a year. Throughout the rest of this document, the reference to water systems, systems, utilities, and PWSs include only these two types of PWS. [↑](#footnote-ref-2)
2. When the system’s lead 90th percentile level is above 15 μg/L. [↑](#footnote-ref-3)
3. When the system’s lead 90th percentile level is above 10 µg/L, but does not exceed 15 µg/L. [↑](#footnote-ref-4)
4. Throughout the rest of this document, the term primacy agency refers to a state, territory, or federally-recognized tribe that has been granted primacy with respect to the LCR or the appropriate EPA Region (where the state, territory, or tribe does not have primacy). [↑](#footnote-ref-5)
5. Systems will no longer be allowed to count possible LSLs that testing indicates are not LSLs toward the replacement goal. [↑](#footnote-ref-6)
6. Participants were: the National Governors’ Association, the National Conference of State Legislatures, the Council of State Governments, the National League of Cities, the U.S. Conference of Mayors, the National Association of Counties, the International City/County Management Association, the National Association of Towns and Townships, the County Executives of America, and the Environmental Council of States. Additionally, the Agency invited the Association of State Drinking Water Administrators, the Association of Metropolitan Water Agencies, the National Rural Water Association, the American Water Works Association, the American Public Works Association, the National School Board Association, the American Association of School Administrators, and the Western Governors’ Association. For more information regarding the LCR Federalism Consultation, refer to: <https://www.epa.gov/dwstandardsregulations/lcr-federalism-consultation>. [↑](#footnote-ref-7)
7. <https://www.epa.gov/dwstandardsregulations/ndwac-recommendations-administrator-long-term-revisions-lead-and-copper-rule> [↑](#footnote-ref-8)
8. For more information regarding the tribal consultation, refer to the EPA Tribal Portal site at: <http://www.epa.gov/tribal/consultation/index.htm>. [↑](#footnote-ref-9)
9. There are two types of costs that may result from the proposed LCRR rule changes – direct and indirect. Direct costs are from those activities that are specified by the rule change, such as costs for additional monitoring or distribution of consumer notices. A second type of cost may also result when systems and primacy agencies use the information generated by the directly–related rule activities to modify or enhance practices to reduce lead levels. Section 6 focuses solely on the estimation of direct costs for implementation activities [↑](#footnote-ref-10)
10. Cornwell, D.A, R.A. Brown, and S.H Via. 2016. National Survey of Lead Service Line Occurrence. Journal American Water Works Association. 108(4):E182-E191. [↑](#footnote-ref-11)
11. USEPA. 1991. Drinking Water Regulations; Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper; Regulatory Impact Analysis. RIN 2040-AB51. [↑](#footnote-ref-12)
12. The number of systems submitting demonstrations of no LSLs is lower in the high cost scenario because more systems are estimated to have LSLs in that scenario. Thus, the total burden associated with this activity in the high cost scenario is lower, because these systems would instead undertake the higher burden and cost activities of an LSL inventory and LSLR planning. [↑](#footnote-ref-13)
13. The total burden for primacy agencies to review demonstrations of no LSLs is lower in the high cost scenario because more systems are estimated to have LSLs in that scenario. For these systems, primacy agencies would instead undertake the higher burden and cost activities of reviewing LSL inventories and assisting with LSLR planning. [↑](#footnote-ref-14)
14. For several of these entities, primacy activities are actually implemented by EPA Regional offices. However, as a simplifying assumption, they are included with the states for respondent calculations under this ICR. [↑](#footnote-ref-15)
15. To accommodate reporting form requirements, entries will be the mean values of each range reported in this section. [↑](#footnote-ref-16)
16. Derivation of the burden and rate estimates are provided in the Economic Analysis for the Proposed Lead and Copper Rule Revisions in the rule docket, EPA-HQ-OW-2017-0300 [↑](#footnote-ref-17)
17. Economic Analysis for the Final Ground Water Rule, EPA 815-R-06-014. [↑](#footnote-ref-18)
18. Information Collection Request for the *Public Water System Supervision Program* (OMB control number 2040-0090, EPA ID 1895.10). [↑](#footnote-ref-19)
19. Bureau of Labor Statistics (BLS) accessed: https://stats.bls.gov/oes/2016/May/oes192041.htm [↑](#footnote-ref-20)