



REGULATORY IMPACT ANALYSIS ADDENDUM

Proposed Changes to National Primary Drinking Water Regulations for Lead and Copper



Regulatory Impact Analysis Addendum:
Proposed Changes to
National Primary Drinking Water Regulations For
Lead and Copper

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1.0 Executive Summary

EPA is proposing several minor revisions to the final Lead and Copper Rule (LCR), which was promulgated on June 7, 1991 (56 *Federal Register* 26460). These minor revisions eliminate unnecessary requirements and clarify other requirements. The Agency's intent in proposing them is to promote consistent implementation of the LCR nationwide, streamline and reduce reporting burden. EPA is confident that the proposed minor revisions will not change the level of public health protection afforded by the final rule. Accordingly, EPA has updated the 1991 Regulatory Impact Analysis (RIA), Regulatory Flexibility Analysis, and Information Collection Request (ICR)¹ prepared in support of the final LCR. This RIA addendum updates the impacts estimated in the 1991 RIA and Regulatory Flexibility Analysis. A separate ICR document presents the recordkeeping and reporting impacts of the revisions that EPA is proposing.

At the time of promulgation, based on data from a select group of U.S. cities, the Agency estimated that the cost for water systems to comply with the various treatment requirements would total between \$500 and \$790 million per year. Household costs were estimated to range from less than \$1 per year for large systems (serving over 50,000 people) to \$2 to \$20 per year per household in smaller systems. Now that water systems have collected lead samples from hundreds of thousands of household taps around the country to comply with the monitoring requirements of the rule, much more reliable predictions of costs (and benefits) can be made. It is clear that significantly fewer systems will be required to install corrosion control and, therefore, both costs and benefits associated with the rule are less than originally predicted. EPA would now estimate that costs associated with the rule are roughly \$200 million per year, resulting in reduced lead exposure for approximately 40 million Americans. Health benefits associated with these exposure reductions would still be substantial, totaling over \$1 billion per year and resulting in an estimated 200,000 young children whose blood lead levels are reduced to below the Centers for Disease Control (CDC)/EPA action level of 10 micrograms per deciliter.

To calculate the relative magnitude of the regulatory revisions that EPA is proposing, the original cost model and the same basic assumptions regarding impacts of the individual rule components were used. It is estimated that the proposed revisions to the LCR will result in a decrease in national costs of \$1.88 million annually. Regardless of the baseline used, it is clear that the projected impacts of the proposed regulatory revisions will be minimal compared to the total national costs associated with the lead and copper regulations. Most of the reduction results from proposed changes in monitoring and public education delivery requirements. Proposed revisions to the information States are required to report to EPA also contribute to the reduction in State implementation costs. Overall, EPA estimates the proposed changes will result in a very minor reduction (less than one percent) to the annual drinking water program implementation costs and the Agency does not believe this percentage reduction would change substantially if costs for the entire rule were recalculated.

¹ *Final Information Collection Request for National Primary Drinking Water Regulations for Lead and Copper*. U.S. Environmental Protection Agency. April, 1991.

Exhibit 1

Estimated Cost Impact for Proposed Changes to the LCR (Annual Cost in Millions of Dollars)²

Major Cost Components of LCR	1991 RIA Cost Estimate ³	Final LCR Cost Estimate	Change in Cost Associated with Minor Revisions
Public Water System Costs			
Monitoring	\$39	\$39	- \$1.02
Corrosion Control Treatment (Including Corrosion Studies)	\$217	\$220	\$0
Source Water Treatment	\$17.94	\$90	\$0
Public Education	\$30	\$30	-\$0.57
Reporting Completion of Public Education	Not Applicable ⁴	Not Applicable ⁵	+ \$0.03
Lead Service Line Replacement	\$156-366	\$80-370	-\$0.01
State Implementation Costs	\$39	\$40	-\$0.31
TOTAL	\$498-785	\$499-789	-\$1.88⁶

² Totals may not add, due to independent rounding.

³ Source: Final RIA, April 1991, Page 4-33, Alternative B, base case.

⁴ The current costs for reporting completion of public education activities were not quantified in the 1991 RIA.

⁵ The current costs for reporting completion of public education activities were not quantified for the final LCR.

⁶ This estimate does not reflect several proposed changes that cannot be reliably quantified but would increase cost savings further (see text).

Overall, the LCR revisions would result in only slight changes in national costs. Exhibit 1 is a detailed comparison of cost estimates for various rule components. Unless otherwise noted, the costs presented in Exhibit 1 represent costs to public water systems. State implementation costs associated with the minor LCR revisions are described in Chapter 4.5 of this document.

2.0 Problem Statement

The *Final Regulatory Impact Analysis of the National Primary Drinking Water Regulations for Lead and Copper*, (Lead RIA of April 1991), which accompanied the final rule, discussed the problem of lead in drinking water and how to control it. Health effects, occurrence, and treatment technologies were among the topics covered.

Although EPA, the states, and the public water systems themselves today have a more thorough understanding of the issues associated with implementing this rule, the need to regulate lead and copper and the underlying approach to doing so discussed in the April 1991 RIA have not changed. Consequently, Chapter 2 of the April 1991 RIA, the Problem Statement, is not revised in this RIA addendum.

3.0 Market Imperfections, the Need for Federal Regulation, and Consideration of Alternatives

As states implemented the provisions of the final LCR, they identified unnecessary requirements that should be eliminated and other changes that should be made to improve the consistency of the rule's implementation nationwide. The proposed revisions discussed in this document incorporate the findings of a work group comprised of EPA Headquarters and regional staff and state drinking water officials. EPA developed the proposed revisions after extensive consultations with state agencies charged with implementing the LCR. Further, several of the proposed revisions, some of which eliminate certain system reporting requirements, are the result of Stakeholder meetings that the Office of Ground Water and Drinking Water (OGWDW) held in response to Agency-wide burden reduction initiatives. The market imperfections, need for federal regulation, and EPA's approach to regulating lead and copper in drinking water have not changed since the April 1991 RIA. Consequently, Chapter 3 of that document is not revised in this RIA addendum.

4.0 Assessment of Total National Costs

Chapter 4 contains a detailed description of how the proposed modifications are expected to impact the total national costs associated with LCR compliance. These modifications will impact both public water systems and states. State cost and burden impacts that could be quantified are described separately in Chapter 4.5, although state activities are described minimally in the Chapters 4.1 through Chapters 4.4 to the extent this description is needed to complete the discussion associated with system impacts.

To identify relevant assumptions for analyzing the impacts of EPA's proposed revisions to the LCR, the April 1991 RIA and ICR were reviewed. The May 1988 RIA, which the April 1991 RIA revised, was reviewed as well.

The minor revisions now proposed by EPA are estimated to result in a cost decrease of \$1.88 million annually, which is a change of approximately 0.4 percent. This estimated impact can be considered negligible given the underlying uncertainties in model input parameters. Annual cost estimates for the proposed revisions are averaged over the 13 years remaining in the 18-year LCR planning period. The cost estimates for the revisions include increased labor rates for both public water systems and states.

The current revisions were assessed in light of the assumptions used in preparing the 1991 RIA and ICR documents and, to the extent possible, were evaluated using models developed for these analyses. Where the RIA and ICR models did not support analysis of the current revisions, some additional basic analyses were conducted to determine the cost of the change. Given the simplifying assumptions used to estimate national cost impacts in the 1991 RIA, the impacts associated with some of the minor revisions could not be estimated quantitatively and are instead described qualitatively. For example, some of the LCR modifications provide states with authority to require water systems to perform additional activities such as conducting public education for systems that typically would not be subject to this requirement or increased monitoring. For the most part, the cost impacts associated with such state-specified requirements were not included in this RIA. Proposed rule changes that do not have any impact on national costs have been identified as well.

National state implementation costs are estimated to decrease by approximately \$0.31 million annually. These costs have been estimated taking into consideration the changes proposed and described in the preamble to the Notice of Proposed Rulemaking. The most significant cost impacts are associated with proposed changes in monitoring and public education. These changes affect water systems as well as states with primary authority to enforce the drinking water regulations (also known as primacy).⁷ Changes to lead service line requirements are expected to result in a minor cost decrease for systems and states. The proposed revisions are not expected to impact corrosion control or source water treatment. In presenting these cost estimates, the RIA addendum identifies, to the extent possible, the cost impacts associated with each proposed rule change.

To aid comparisons with the April 1991 RIA, the cost changes in this addendum follow the outline and numbering scheme used in the 1991 RIA.

⁷ For simplicity, the remainder of this document will use the term state to mean a state with primacy for the LCR or the appropriate EPA Region (where the state does not have primacy for the rule) or any federally-recognized Indian Tribe that has been granted primacy for the program.

4.1 Costs of Monitoring

Many of the proposed changes to the final rule address monitoring requirements. Each proposed change is discussed along with the analytical approach adopted to evaluate its impact on national costs.

§ 141.81(b)(2)

This change would require systems optimizing corrosion control under § 141.81(b)(2) (or "b2" systems)⁸ to comply with the requirements for continuing tap water and water quality parameter monitoring specified in § 141.86(d)(3) and § 141.87(d), respectively. The current regulation initially requires tap water monitoring by all systems. It also requires water quality parameter monitoring by all large systems and by small and medium systems during the monitoring periods in which they exceed either the lead or copper action level. The current rule inadvertently omitted language that specifically required "b2" systems to continue lead and copper tap water monitoring and water quality parameter monitoring after the state set water quality parameters. Therefore, this revision proposes language to correct this omission.

The April 1991 RIA also explicitly assumed that "b2" systems would perform lead and copper tap water monitoring, but not water quality parameter monitoring. Therefore, this modification results in a monitoring cost increase only for small and medium "b2" systems that exceed the lead or copper action level. There is no water quality parameter monitoring cost increase for large systems because the 1991 RIA assumed all large systems, including "b2" systems, were performing water quality parameter monitoring. EPA believes, however, that the water quality parameter monitoring cost increase will be small because: 1.) few small and medium systems are expected to have installed corrosion control treatment prior to promulgation of the LCR and 2.) few "b2" systems are expected to exceed an action level since they already have corrosion control treatment in place.

§ 141.81(b)(3)

Attainment of Copper Action Level

This change would require systems seeking to be deemed to optimize corrosion control under § 141.81(b)(3) to meet the copper action level of 1.3 mg/l for two consecutive monitoring periods, in addition to the current requirement for lead. The current lead requirement is to demonstrate that the difference between the ninetieth percentile lead level as measured at the tap and the lead level measured in source water is below the lead Practical Quantitation Limit of 0.005 mg/l for two consecutive 6-month monitoring periods, before being considered to have optimized corrosion control under § 141.81(b)(3).

⁸ A system optimizing treatment under § 141.81(b)(2) (i.e., a "b2" system) has demonstrated that it has conducted activities equivalent to corrosion control treatment steps in the rule.

The April 1991 RIA incorporated EPA's assumption at the time that systems meeting the lead action level would also meet the copper action level. Furthermore, the April 1991 RIA explicitly assumed that each time lead was analyzed, copper was also analyzed. Therefore, no RIA cost increase is imposed by this change.

Continued Tap Water Monitoring

This change would require systems meeting the § 141.81(b)(3) criteria (or "b3" systems) to continue to conduct lead and copper tap water monitoring to ensure that lead and copper concentrations remain at levels that are protective of public health. Although "b3" systems are not required to install corrosion control treatment, they may be currently treating their water (or later install treatment) for other reasons that may indirectly affect the water's corrosivity. Under the proposed modification, all "b3" systems would be required to collect lead and copper tap water samples triennially (once every three calendar years) at the reduced number of sites specified in § 141.86(c).

The April 1991 RIA did not distinguish between "b1,"⁹ "b2," or "b3" systems; instead, the RIA evaluated the percentages of systems that would adopt different compliance pathways (for examples, see Exhibits 4-3 and 4-4 in the April 1991 RIA) and hence different monitoring schedules. The number of systems assuming a particular pathway was based on estimates of the percentage of systems that met or failed the lead and/or copper action levels.

No cost impact is estimated for this change because of the monitoring assumptions contained in the 1991 RIA model. In particular, the model assumed that a set of large systems (i.e., "pathway 1" systems) would monitor in a similar fashion to medium and small systems that do not exceed the lead action level. Although the model does not specifically identify "b1," "b2," and "b3" systems, EPA assumed "pathway 1" large systems to be "b3" systems. According to the model, these systems would have continued monitoring and would have already qualified for triennial monitoring in 1996 (before the changes become effective).

§ 141.86

Holding Time for Acidified Lead or Copper Samples

EPA is proposing to modify the current analytical methods used for measuring lead and copper. This change would decrease the holding time specified in § 141.86(b)(2) for acidified lead or copper samples from 28 to 16 hours after acidification in the laboratory. This change is assumed not to have a measurable effect on the monitoring burden or cost of the rule, although reducing the holding time will increase the number of samples that can be processed in a day. Further, because EPA has already modified the holding times for other inorganic contaminants to 16 hours, some water systems may realize a cost savings because this provision eliminates the need

⁹ "b1" systems are those systems that are deemed to optimize corrosion control under § 141.81(b)(1) because they meet the lead and copper action levels for two consecutive monitoring periods.

to coordinate separate acidification holding times for lead and copper with other inorganic contaminants.

Non-Transient, Non-Community Water System Sampling Sites

Some non-transient, non-community water systems (NTNCWSs) do not have enough taps that can provide first-draw samples (i.e., one liter of tap water collected in accordance with the provisions in

§ 141.86(b)(2) that has been standing in plumbing pipes at least six hours and is collected without flushing the tap). This change would allow such systems to collect "non-first-draw" samples, if the sampling locations and sampling times are first approved by the state. Systems would be required to submit written requests to the state before including such taps in their sampling pool. This change is necessary because a number of non-transient, non-community water systems operate 24 hours a day, and therefore, cannot collect a sufficient number of first-draw samples.

Systems using non-first-draw samples would be required by § 141.90(a)(2) to provide the state with a letter requesting approval of proposed sampling locations and times for non-first draw samples that are expected to result in the longest standing times. EPA estimates that approximately 500 systems will seek state permission to use non-first-draw sampling sites. However, no cost impact is estimated for this change because the cost for the system to prepare a letter for the state to review is assumed to be more than offset by the cost now avoided because the system would no longer need to disrupt its normal operations to obtain a sample meeting the first-draw criteria.

This provision may result in an additional cost decrease for systems. In particular, some systems should no longer have to sample at non-representative sites and times because of an insufficient number of first-draw sites; consequently, these systems could potentially avoid the costs associated with corrosion control treatment installation.

Reduced Tap Water Monitoring Sites

Under § 141.86(d)(4), systems serving more than 100 people that qualify for reduced lead and copper tap water monitoring are allowed to reduce the number of sites from which they must draw samples. Section 141.86 does not specify which sampling sites should be included in the reduced sampling pool. EPA is concerned that some systems may select the sample sites with the lowest concentrations of lead and copper, thus yielding artificially low lead and copper monitoring results. To prevent this, EPA proposes a minor change to § 141.86(c) that: 1.) specifies that systems must choose representative sample sites and 2.) gives states the authority to designate, when they feel such designation is appropriate, which sampling sites a system must use when conducting reduced monitoring.

The April 1991 RIA assumed states would not designate the sites that systems must use for resampling. Since under the proposed revision, states would be given the option of designating resampling sites, but are not required to designate resampling sites, additional costs are not

directly imposed by this change. It is reasonable to assume, however, that some states will choose to designate resampling sites for certain systems. The affected systems would incur additional costs associated with reviewing the state's letter, which would specify the sites that can be included in the reduced sampling pool.

It is assumed the cost for a system to review the state's letter would be offset by the cost now avoided because the system would no longer need to determine which locations to include in its reduced sampling pool. Therefore, no cost impact is estimated for this change.

Sufficient information is not available to determine precisely the number of states that will designate resampling sites or the number of systems that will be affected. In the 1991 RIA, 79,000 water systems were assumed to be regulated under the LCR. Of these, 46,000 systems are assumed to be capable of reducing the number of sampling sites used. EPA believes, however, that no more than twenty percent of the systems capable of reducing the number of sampling sites used would be affected by this proposed revision. Note that there are about 33,000 systems serving fewer than 100 people that cannot reduce the number of sampling sites used. These systems are required to sample only five sites—the minimum required by the LCR.

Because the assumptions described above are considered to be conservative, the number of systems that incur costs due to this revision may actually be smaller. The true monitoring burden may be significantly lower because some states may issue broad guidance regarding reduced sampling sites.

Systems Unable to Locate Sufficient Tier 1, 2 and 3 Sites

EPA is proposing revisions to § 141.86(a)(5) and § 141.86(a)(7) to clarify that community water systems and non-transient, non-community water systems, respectively, having an insufficient number of tier 1, 2, or 3 sites can complete their sampling pool with representative sites throughout their distribution system. This provision is needed because the current LCR does not address situations where a system is unable to identify a sufficient number of sites meeting the tiering criteria specified in § 141.86(a). Consequently, this has resulted in confusion about whether such systems are required to monitor, and if so, how they should select their sampling sites.

No cost impact, however, is expected to result for this revision because the original RIA cost models assumed all systems subject to the LCR would have a sufficient number of sampling sites meeting the tiering criteria. Further, no cost impact is anticipated because the system is not required to first obtain state approval before including non-tiered sites in their sampling pool.

Sample Site Justification

Current LCR provisions at §§ 141.90(a)(2) and (3) and § 141.90(a)(4), respectively, require systems to notify the state if they are unable to complete their sampling pool with Tier 1 sites or are unable to collect 50 percent of their samples from sites served by lead service lines. EPA is

proposing to eliminate these requirements because states can use other mechanisms such as on-site inspections or file reviews to determine if systems are sampling at appropriate locations. No cost impact is estimated for these modifications because, in general, systems are assumed to have submitted these justifications prior to the start of initial monitoring, the date of which has already passed. Additional justifications may have been required to be submitted by some systems that could not gain entry to the same sampling locations for subsequent monitoring periods. However, the costs models were not designed to estimate the number of systems fitting this scenario.

Timing of Reduced Monitoring

As required by § 141.86(d)(4)(iv), systems that monitor tap water for lead and copper annually or less frequently must sample during the months of June, July, August, or September. However, some non-transient, non-community water systems are closed during those months. Therefore, samples taken in months when the system is not operating would result in data that are not representative of water actually used for drinking. To remedy this problem, EPA is allowing systems that do not operate from June through September to monitor during their warmest month(s) of operation. The system, not the state, would be responsible for determining the month(s).

The April 1991 RIA did not account for off-season monitoring costs, and the cost model used in the 1991 RIA is not precise enough to quantify this level of detail. Consequently, no cost impact is estimated for this proposed revision, although some cost savings could be expected. Off-season monitoring may have imposed an extra burden on systems that do not operate during the warmest months of the year, but were required by the LCR to take samples in these months. Specifically, there may have been additional costs associated with taking special steps to collect samples; this change would eliminate such costs.

Accelerated Reduced Lead and Copper Monitoring

This change would allow water systems with very low lead and copper levels (i.e., those systems having ninetieth percentile lead levels of less than or equal to 0.005 mg/l and ninetieth percentile copper levels of less than or equal to 0.65 mg/l) for two consecutive six-month monitoring periods to assume a triennial monitoring schedule for lead and copper tap sampling more rapidly than permitted by the current rule.

The April 1991 RIA assumed that three years of annual monitoring would be required before a system could assume a triennial monitoring schedule. If this proposed change becomes effective in 1997 (based on EPA's current schedule for promulgation), all systems that completed their first two rounds of monitoring on schedule and met the action levels will not benefit from this change. However, systems that will have to install corrosion control treatment because they exceed the lead and/or copper action levels will benefit by being able to reduce monitoring sooner than projected in the April 1991 RIA. The model indicates that these systems would be able to

eliminate an average of approximately 7,077¹⁰ lead and copper samples per year with a monitoring cost of \$50 per lead and copper sample. This would result in a reduction in system monitoring costs of \$353,800.¹¹

In addition, a few large "b2" and "b3" systems that did not continue lead and copper tap monitoring beyond initial monitoring may also benefit. However, the 1991 RIA monitoring cost models are not sufficiently precise to calculate the cost savings for these categories of systems.

Sample Invalidation

EPA recognizes that there may be occasions when a monitoring sample is not collected or analyzed properly or would otherwise not provide reliable results. In such cases, EPA believes, the state should have the authority to exclude the test results from such samples. Consequently, the Agency proposes to allow States to invalidate lead and copper monitoring samples under four circumstances:

- When the laboratory establishes that improper sampling analysis caused erroneous results;
- When the state determines that the sample was taken from a site that does not meet the site selection criteria of § 141.86;
- When the sample container is damaged in transit; and
- When the state has substantial reason to believe that the sample was subject to tampering.

Systems are required to report all sample results to the state. If a system seeks to have any samples invalidated, the system must provide supporting evidence to the state in writing as required by § 141.90(a)(1)(ii). The state also must document in writing all decisions to invalidate samples. The proposed § 141.86(f)(3) prohibits states from invalidating a sample solely because a subsequent sample taken at the same site is higher or lower than the original sample.

Some systems take only the required number of samples in each monitoring period, so any invalidated samples would decrease the number of samples below the minimum sampling requirement. Under such circumstances, a system would incur a monitoring violation, but EPA

¹⁰ The annualized number of samples avoided each year (7,077) was derived by multiplying the average number of samples collected (8.2 samples) by the number of systems affected (5,600) and by the number of rounds of monitoring avoided (2). The total of 92,000 samples was divided by 13, the remaining years in the 18-year LCR planning period. It should be noted, however, that the 92,000 eliminated samples would not be evenly distributed over this 13-year period.

¹¹ This cost includes a \$15 per hour labor rate for junior staff and is consistent with the *Information Collection Request for the 1995 Drinking Water Needs Survey*, OMB No. 2040-0176.

believes that it is reasonable to allow these systems to replace any invalidated samples. The proposed § 141.86(f)(4) requires that any replacement samples be taken at the same locations as the invalidated sample(s) or, if not possible, at locations other than those already used for sampling during the monitoring period. Any replacement samples also must be collected by the end of the monitoring period or, if that is not possible because the invalidated sample was drawn too late in the monitoring period, up to 20 days after the state invalidates the sample.

A water system would need to replace invalidated samples only if it did not have sufficient valid samples to meet minimum sample requirements. EPA encourages systems to take more samples than required by the LCR and not to wait until the end of the monitoring period to complete sampling. In this way, if any samples are invalidated, the system has a "cushion" and should not need to take replacement samples.

The April 1991 RIA did not assume that samples could be invalidated. Because systems may be required to replace invalidated samples in order to have a sufficient number of samples for calculating ninetieth percentile values, systems may incur some monitoring costs in addition to those presented in the April 1991 RIA.

EPA assumes that less than 0.5 percent of the approximately 79,000 systems will seek to have samples invalidated each monitoring period. The burden incurred by a system in writing a letter to the state requesting that a sample(s) be invalidated is assumed to be approximately one hour. Assuming that the system labor cost is approximately \$15 per hour, the cost of preparing each letter is \$15.

Many water systems and states have indicated their desire to modify the LCR to allow sample invalidation, despite the modest increase in transactional costs associated with this provision. The burden imposed by this provision could be offset significantly if a water system is able to avoid having to install corrosion control treatment because of an erroneous sample result that would otherwise have to be included in their ninetieth percentile calculation. The potential treatment cost avoided will vary based on system size. In particular, the 1991 RIA estimated the following corrosion control treatment costs ranges for small, medium, and large systems, respectively: \$2,000 to \$6,000; \$20,000 to \$75,000, and \$120,000 to \$3 million. Other potential cost savings associated with this change include the costs avoided for systems that would have had to resume a standard monitoring schedule because an erroneous sample resulted in an action level exceedance.

Monitoring Waivers for "All Plastic" Systems

In § 141.86(g) EPA is proposing to allow small systems (i.e., those serving 3,300 or fewer) to obtain a monitoring waiver if they meet certain criteria. In particular, the system must:

- provide the state with a certification that the system itself and all buildings connected to the system are free of all lead-containing and copper-containing materials, as specified in § 141.86(g)(1); and
- demonstrate that the ninetieth percentile lead and copper levels for any and all rounds of monitoring performed since the system became "all plastic" do not exceed 0.005 mg/l of lead and 0.65 mg/l of copper.

The conditions of the waiver would require tap water monitoring once every nine years at the reduced number of sampling sites specified in § 141.86(c). If the results of this monitoring indicate that the concentrations of lead exceed 0.005 mg/l or concentrations of copper exceed 0.65 mg/l, the state may require the system to resume regular tap water monitoring pursuant to §§ 141.86(d)(3) or (4) or take other appropriate remedial action(s) deemed necessary. A state may grant a waiver for some or all of the current monitoring requirements, and as a condition of the waiver may require the system to perform specific activities (e.g., limited monitoring or public education regarding faucet materials).

It is conservatively estimated that approximately 7,000 small water systems (or about 10 percent of the approximately 71,100 small systems) will be able to obtain a monitoring waiver.¹² Applying these assumptions to the 1991 RIA monitoring cost models yields an annual national monitoring cost decrease of \$504,800.

In addition to monitoring costs, this provision will also affect transaction costs. The April 1991 RIA did not account for state review of monitoring waiver requests. A conservative estimate of the average time for a system to prepare a transmittal letter to the state is approximately one hour. Assuming that the average water system labor cost is \$15 per hour, the cost to generate a letter for the state to review is \$15. If approximately 7,000 systems apply for a monitoring waiver, systems will incur a total transaction cost of \$105,000. This corresponds to an annual cost of approximately \$8,100; the annual cost is derived by dividing the total cost of \$105,000 by the 13 years remaining in the 18-year LCR planning period. Consequently, the net effect of this provision is a decrease in annual system cost of \$496,700; this corresponds to the difference between the monitoring cost savings of \$504,800 and the transaction cost of \$8,100.

Systems issued a waiver that can no longer certify that the system and all building connections are free of materials containing lead or copper must resume the monitoring schedule specified in §

¹² To estimate the number of small systems expected to qualify for this provision, EPA reviewed sampling results submitted by large- and medium-size systems (those serving > 3,300 persons), for the initial two rounds of monitoring. These data indicated that over twenty percent of systems reported ninetieth percentile lead levels of 0.005 mg/l or less for two consecutive six-month monitoring periods. EPA anticipates similar results for small-size systems. Of these small systems, EPA assumes approximately one-half will be able to certify that their system and all buildings connected to their system are free of lead-containing and copper-containing materials.

141.86(d)(4). Examples of such systems include those with new construction or repair work. EPA does not believe many systems will be required to resume monitoring under § 141.86(d)(4) because the 1986 amendments enacted to the Safe Drinking Water Act prohibit use of pipe, solder, or flux in a public water system that is not "lead free" and because of the wide availability of lead-free materials. Therefore, this potential cost increase is not estimated.

System Source or Treatment Changes

There is a concern that the current LCR does not adequately address systems deemed to optimize corrosion control that later make changes to their source or treatment (e.g., because of additional drinking water regulations). It is important that corrosion control treatment be maintained when source or treatment changes occur to ensure that lead and/or copper is not released from the interior surfaces of pipes and other plumbing or distribution system materials.

To address this concern, EPA is proposing to require such systems to notify the state within 60 days of such changes. The state, in turn, may require the system to resume monitoring in accordance with §§ 141.86(d) and 141.86(d)(3). This modification applies to all systems that are monitoring at a reduced frequency, regardless of whether the system is on a monitoring waiver.

In order to calculate the cost impact for this modification, EPA assumed the following percentage of systems would modify either their source or treatment in each of the three-year intervals remaining the LCR planning period.

Exhibit 2

System Size Category	Percentage of Total Systems for First 3-Year Interval	Percentage of Total Systems for Subsequent 3-Year Intervals
Small	5	5
Medium	10	5
Large	25	5

The transaction burden is assumed to be one hour for the system to draft a letter notifying the state of a change in either source or treatment. Applying these assumptions to the 1991 RIA costs models, systems are expected to incur an annual increase of \$19,900. Costs associated with increased monitoring based on state discretion are not estimated because EPA believes the large majority of systems will have already collected sufficient monitoring data.

State Approval for Reduced Monitoring

Systems maintaining optimal water quality parameters specified by the state under § 141.82(f) for two consecutive 6-month monitoring periods are no longer required to request state approval before assuming an annual monitoring schedule at the reduced number of sites specified in § 141.86(c). Similarly, water systems are currently required by § 141.86(d)(4)(iii) to request state permission to adjust their monitoring to once every three years after they have completed three years of annual monitoring that demonstrates maintenance of optimal corrosion control. EPA is also proposing to eliminate this requirement.

EPA assumes approximately 12,000 systems in total (or approximately 920 systems in each of the 13 years remaining in the LCR planning period) would no longer need to obtain state permission to assume a reduced monitoring schedule. This number includes large systems other than "b3" systems, and small and medium systems that continue to exceed either action level after the installation of treatment. EPA also assumes all systems that install treatment will meet the water quality parameters specified by the state. The transaction burden reduction is assumed to be one hour for systems. Consequently, since system costs are assumed to be \$15 per hour, annual system costs are expected to decrease by \$13,800.

§ 141.87

Accelerated Reduced Water Quality Parameter Monitoring

EPA is also proposing to allow accelerated reduced water quality parameter monitoring at the tap for systems meeting the criteria for accelerated reduced lead and copper tap water monitoring. This change applies only to large systems, because small and medium systems with very low lead and copper levels are not required to perform water quality parameter monitoring. The April 1991 RIA assumed that three years of annual monitoring would be required before a system could assume a triennial monitoring schedule.

Large systems that have installed corrosion control treatment and those "b2" systems that did not continue monitoring beyond initial monitoring may be eligible for accelerated reduced water quality parameter tap monitoring once they have completed the monitoring required by § 141.87(d). When the 1991 RIA monitoring cost models were adjusted to account for this modification only a negligible cost reduction resulted because only a few systems are expected to benefit from this change.

Biweekly Entry Point Monitoring for Water Quality Parameters

EPA is proposing to allow ground water systems that are required to conduct water quality parameter monitoring to limit the entry point locations at which they must monitor. In particular, biweekly entry point monitoring would be required only at entry point locations that are representative of water quality conditions. As stated in § 141.87(c)(3) systems wishing to qualify

for this provision must provide states with an identification of selected entry points and information sufficient to demonstrate that sites are representative of water quality and treatment conditions throughout the distribution system.

EPA assumes that the number of entry points that must be sampled will be reduced by two-thirds for large ground water systems and by one-half for medium ground water systems. No reduction is assumed for small systems because of their limited number of entry points. A monitoring cost savings of \$83,000 is expected for these systems. EPA also assumes that the system will require one hour to request this monitoring reduction. The transaction burden for systems is calculated to be \$5,800 per year; this burden is offset by the monitoring savings of \$83,000 and results with a total annual cost reduction of \$77,200.

§ 141.88

Reduced Source Water Monitoring

The final regulation published in June 1991 permits a reduction in the source water monitoring frequency by water systems that exceed the lead or copper action level and for which the state has specified maximum permissible levels of lead and copper in source water. The final rule does not, however, permit water systems exceeding the lead or copper action level to reduce the frequency of source water monitoring, if the state has not specified maximum permissible source water levels. In such cases, the state has effectively determined that source water concentrations of lead and copper do not contribute significantly to concentrations at the tap.

EPA proposes to revise the final regulations to allow reduced monitoring frequency for systems with low source water lead and copper levels (i.e., below EPA's source water treatment threshold of 0.005 mg/l for lead and 0.8 mg/l for copper). To qualify for this reduced monitoring, such systems would need to maintain low source water lead and copper levels for three consecutive periods, if using an exclusively groundwater source, or three consecutive years, if using a surface water or combined surface/groundwater source.

The source water and tap water monitoring cost models included in the April 1991 RIA were developed independently to simplify model design. As a result, the source water model implicitly assumed all systems conducting source water monitoring would eventually be eligible for reduced monitoring. This implies that systems were assumed not to wait for states to designate maximum permissible levels before reducing their monitoring. Therefore, no decrease in national costs is estimated.

Resampling Triggers for Compositing Samples

The proposed revision under § 141.88(a)(1)(iii) affects the resampling trigger level for lead and copper in source water when composite samples are taken. Under the final regulation published in June 1991, any system that exceeds an action level for lead or copper must collect samples from source water entry points. These samples are used to determine the contribution of source

water to lead and copper concentrations at the tap. Furthermore, under the final regulation, a water system may composite as many as five sampling sites.

In the final regulation, the resampling trigger for composited lead and copper samples was based on the method detection level for lead and copper (i.e., 0.001 mg/l for both lead and copper). The Phase V Rule (57 FR 31776, July 17, 1992), modified these provisions to require the resample trigger for composited inorganic chemical samples to be no greater than or equal to one-fifth of their maximum contaminant level.

EPA has not specified maximum contaminant levels for lead or copper, however. As described in more detail in the preamble accompanying this RIA addendum, EPA is proposing to base the composite resample triggers for lead and copper on source water treatment thresholds according to *Lead and Copper Rule Guidance Manual Volume II: Corrosion Control Treatment* (Document No. EPA 811-B-92-002). EPA proposes:

- To set the lead resample trigger at 0.001 mg/l (i.e., one-fifth of the 0.005 mg/l treatment threshold), and
- To set the copper resample trigger at 0.160 mg/l (i.e., one-fifth of 0.8 mg/l treatment threshold).

Therefore, relative to the final regulation published in June 1991, EPA proposes not to change the lead resampling trigger (i.e., it remains 0.001 mg/l), and to revise the copper resample trigger upward, from the method detection level of 0.001 mg/l (or 0.020 mg/l when atomic absorption direct aspiration is used) to 0.160 mg/l (i.e., one-fifth of the treatment threshold).

EPA is modifying § 141.89 to remove the requirements that laboratories achieve the copper method detection level of 0.001 mg/l or 0.020 mg/l because the laboratories will be sufficiently tested on their capabilities, as required by § 141.90(1)(ii). Section 141.90(1)(ii) requires laboratories to achieve a quantitative acceptable limit of ± 10 percent of the actual amount of a performance sample when the actual amount is greater than or equal to 0.050 mg/l, which is below the proposed copper resampling trigger of 0.160 mg/l.

The April 1991 RIA assumed that all systems with multiple entry points which were required to perform source water monitoring would composite samples. Furthermore, the 1991 RIA did not evaluate how many systems would be required to resample because they exceed the lead or copper trigger level. Note, however, that because the trigger levels will not decrease due to the proposed revision, EPA does not anticipate an increase in costs. In fact, costs may actually decrease because the resampling trigger for copper will increase from 0.001 mg/l to 0.160 mg/l.

§ 141.90

EPA is proposing a number of changes to system reporting requirements codified at § 141.90. With the exception of modifications to the reporting requirements associated with lead service line

replacement, these modifications address lead and copper tap water and water quality parameter monitoring.

First-Draw Certifications

EPA is proposing to eliminate the reporting requirement, currently codified at § 141.90(a)(1)(ii) that systems submit a certification that each lead or copper tap sample collected by the system meets the first-draw criteria at § 141.86(b). EPA also is proposing to eliminate the reporting requirement at § 141.90(a)(1)(iii) that systems certify that tap samples collected by residents occurred after the water system informed the residents of the proper sampling procedures.

EPA assumes that this change will eliminate approximately 535,200 certifications in total (an average of 41,170 per year) for the remaining 13 years in the planning period and that the burden incurred by a system to prepare the certification is 10 minutes. Assuming the system labor cost is approximately \$15 per hour, the cost associated with each certification is \$2.50. EPA estimates that eliminating these requirements will save water systems approximately \$102,900 annually.

Sample Invalidation Requests

EPA is proposing to add a new reporting requirement at § 141.90(a)(1)(ii) that systems requesting sample invalidation in accordance with § 141.86(f) submit supporting documentation demonstrating the need to have the sample invalidated. The estimated costs associated with this reporting requirement are discussed above under § 141.86 in this chapter.

Sample Site Justification

As described above under § 141.86, EPA is proposing that water systems no longer be required to submit a letter to the state demonstrating why sufficient Tier 1 sites cannot be located or why 50 percent of the sites sampled are not served by lead service lines. EPA is therefore proposing to eliminate the corresponding reporting requirements currently codified at §§ 141.90(a)(2) - (4). The estimated cost savings associated with these reporting requirements are discussed as a part § 141.86 in this chapter.

NTNCWS Sampling Sites

EPA is proposing to codify at § 141.90(a)(2) the reporting requirements for requesting state approval of alternative sampling sites, pursuant to § 141.86(b)(5), by NTNCWSs with too few taps from which first-draw samples can be drawn. The estimated system costs associated with this reporting requirement are discussed as a part of § 141.86 in this chapter.

System Source or Treatment Changes

EPA is proposing to codify at § 141.90(a)(3) the reporting requirements for reporting changes in system source or treatment, pursuant to § 141.86(d)(4)(vii), by systems subject to reduced monitoring. The estimated system costs associated with this reporting requirement are discussed as a part of § 141.86 in this chapter.

Monitoring Waivers for "All Plastic" Systems

EPA is proposing to codify at § 141.90(a)(4) the reporting requirements for small "all plastic" systems to request monitoring waivers from the state pursuant to § 141.86(g). The estimated system costs associated with this reporting requirement are discussed as a part of § 141.86 in this chapter.

State Approval for Reduced Monitoring

As discussed above, EPA is proposing to eliminate the requirements in § 141.86(d)(4) that water systems request state approval before reducing the number and frequency of sampling. EPA also is proposing to eliminate the corresponding reporting requirement currently codified at § 141.90(a)(5). The estimated cost savings associated with eliminating this reporting requirement are discussed as a part of § 141.86 of this chapter.

Biweekly Entry Point Monitoring for Water Quality Parameters

EPA is proposing to codify at § 141.81.90(a)(5) the new requirement for ground water systems to provide the state with information identifying the selected entry points and demonstrating that these entry points are representative of water quality and treatment conditions throughout the systems in conjunction with requesting state approval to limit biweekly entry point water quality parameter monitoring to representative locations pursuant to § 141.87(c)(3). The estimated costs associated with this reporting requirement are discussed as a part of § 141.87 in this chapter.

Rebutting Presumption of Lead Service Line Control

As discussed in chapter 4.4.2, EPA is proposing to eliminate the presumption that the water system controls the entire length of the lead service line. This presumption is no longer required since EPA is proposing a revised definition of "control" of lead service lines. EPA also is proposing to modify § 141.90(e)(4) to remove the reporting requirement associated with rebutting the presumption of lead service line control since the revised definition is self-implementing and it will no longer be necessary to demonstrate to the state why the water system cannot replace the entire length of the line. The cost savings associated with removing this reporting requirement are discussed as a part of chapter 4.4.2.

4.2 Costs of Coping With Source Water Contamination

None of the proposed changes are expected to affect the number of systems that the April 1991 RIA estimated will be required to install treatment equipment to remove lead from source water. Consequently, source water treatment costs are not expected to change because of the proposed revisions.

4.3 Costs of Coping With Lead Leached From Solder

The proposed changes will not have a direct impact on the costs of coping with lead leached from solder. Public education tasks may be required due to a lead exceedance resulting from lead solder; however, such costs are described in Chapter 4.4.1.

4.4 Costs of Coping With Lead Leached From Lead Pipes

These costs are discussed in sub-parts 4.4.1 and 4.4.2 as follows.

4.4.1 Cost of Corrosion Control and Public Education to Cope With Leaching from Pipes

Cost of Corrosion Control

The proposed revisions are not expected to affect the cost of installing corrosion control treatment for an individual water system, but some systems that no longer meet the § 141.81(b)(3) criteria may now be required to begin or complete corrosion control treatment. Conversely, some systems may be able to avoid the cost associated with corrosion control treatment installation because of the new sample invalidation provision that would allow erroneous sample data to be removed from a system's ninetieth percentile calculation.

Failure to Maintain "b3" Criteria

The proposed revisions would require states to review copper tap sample data for initial monitoring to determine if a system previously designated as a "b3" system still qualifies for this designation. States may direct systems whose initial monitoring results meeting the lead criteria, but which exceed the copper action level, to resample for both copper and lead to "re-check" for low levels of corrosion before requiring a system to initiate corrosion control treatment. Small and medium systems meeting the criteria in § 141.81(b)(1) would not be required to install corrosion control treatment.

The April 1991 RIA did not account for systems initially meeting, but subsequently failing to meet, the "b3" criteria. However, EPA expects that few systems will be affected by this provision. Furthermore, EPA believes that the conservative assumption in the 1991 RIA that

approximately 50 percent of systems would install corrosion control treatment to address high lead levels sufficiently encompasses any additional systems that may need to perform corrosion control treatment due to the proposed revision.

Public Education

The proposed changes to the public education requirements alter the existing rule in four ways. In particular, the proposed changes provide alternative public education language that can be used by non-transient, non-community water systems, allow some community water systems, allow notices to be mailed separately from water bills, affect the timing of initial public education for some water systems, modify the public education requirements for community water systems serving 500 or fewer persons, and change the schedule for reporting completion of public education tasks. All of these changes would become effective 18 months after promulgation of the revised regulation.

Public Education Language

Section 141.85(a) contains specific language that systems must use in all the written materials they distribute as part of their lead education programs. The public education efforts of systems that have exceeded the lead action level have done much to inform the public about the issue of lead in drinking water. Some EPA regions and states, however, are concerned that the language specified in this section of the LCR may not be appropriate for non-transient, non-community water systems and some small community water systems such as hospitals and prisons.

EPA wants to make the language in public education materials distributed by non-transient, non-community water systems more relevant to the people they serve. For example, EPA proposes replacing phrases such as "some homes in the community" with "some drinking water samples [taken from this facility]" since a non-transient, non-community water system typically does not serve water to homes. The Agency also proposes to delete references to lead testing; non-transient, non-community water system customers are unlikely to have water tested for lead because they consume the water for only short periods of time and have little or no control over the distribution system. For similar reasons, the Agency wants to delete references to having a plumber check pipes for solder and an electrician test pipes for improper grounding. Other similar changes are also being proposed, and their net effect is to make the public education material more relevant to the customers of non-transient, non-community water systems.

EPA also believes that the current public information language is inappropriate for some community water systems, such as hospitals and prisons. Patients and inmates, for example, are not able to install home treatment devices or have their water tested, as the current community water system public education text encourages. Similarly, references to "your home" and "your family's health" are inappropriate. Consequently, EPA proposes to allow community water systems to request state approval to use the public education language prepared for non-transient, non-community water systems when the community water systems' service population cannot make plumbing improvements or install point-of-use treatment devices and the system provides

water as part of the covered services and does not directly bill for water consumption. The Agency believes that this modification is appropriate for certain institutions and should be allowed where the state believes it better protects the public health.

This change is expected to have a minimal cost impact because systems are not required to re-print existing public education materials. In addition, systems that choose to modify their public education language will be able to exhaust their existing supply of materials first.

Separate Mailing of Notices

Section 141.85(c) requires water systems that exceed the lead action level to undertake public education tasks within 60 days of the exceedance. Under § 141.85(c)(2)(i), community water systems must include the information specified in § 141.85(a) with the water bill. In establishing these requirements, EPA wanted to provide customers with timely notification that their drinking water system had exceeded the lead action level and with information about health risks, sources of exposure, measures the system is required to undertake, and ways the customer could reduce exposure to lead in drinking water. The Agency believes that including the notice with the water bill would make customers more inclined to read the notice, and less likely to throw it away as "junk mail." These requirements have, however, caused some unintended problems for many water systems.

Many systems do not bill often enough to meet the 60-day requirement; 90 days is more the norm. Also, many systems use postcards or computer-generated self-mailers to bill customers. These bills do not allow the enclosure of additional materials, nor do they have sufficient space to include the information at § 141.85(a) on the bill itself.

The Agency believes it would be inappropriate to force these systems to change their billing formats to comply with the LCR's public education requirements. Therefore, EPA is proposing in § 141.85(c)(2)(i)(A) to allow systems to mail public education materials on the same schedule as the system's billing cycle, provided the mailings occur within six months of the lead exceedance. As noted in § 141.85(c)(2)(i)(B), EPA will give systems the option of distributing public education materials to billing units through separate mailings if they do not bill within six months of the exceedance and/or, they cannot insert information in the bill, provided the mailing is completed within the required time frame and achieves equal coverage. Systems that use an alternative delivery method must include an alert with the public education material to minimize the risk that the material will be discarded as "junk mail."

It is not currently possible to estimate how many systems will be able to benefit from this proposed change, and consequently, it is not possible to estimate precisely the impact on national costs.

Systems Serving 500 or Fewer People

Under § 141.85(c)(2), community water systems must submit notices to the major daily and weekly newspapers circulated in their community, in addition to mailing notices to billing units. These systems must provide information on lead to facilities and organizations frequented by children and pregnant women, and they must submit public service announcements to radio and television stations with the largest audience shares in the community served by the water system.

For some systems serving 500 or fewer people, particularly those that provide water only to small numbers of people in an urban or suburban area, these requirements have engendered a number of unintended consequences. For example, small systems that serve only a small portion of a metropolitan area have been deluged with calls from individuals served by other water systems. These small systems often are ill-equipped to handle a large-scale public response to a newspaper notice or public service announcement. Similarly, the requirement to distribute materials to locations visited frequently by children and pregnant women imposes a significant burden on small systems, since it may involve a large number of locations if the system is located in or near an urban or suburban area.

Because EPA believes it is inappropriate to impose such burdens on systems serving so few people, the Agency is proposing in a new § 141.85(c)(8) to limit or omit some of the required public education tasks for systems serving 500 or fewer people:

- Instead of submitting information to newspapers and broadcast outlets, these systems can mail or hand-deliver to all consumers of the water they provide (e.g., tenants of multi-family dwellings whose water is included with their rent) the same lead education materials that the system must mail to its billing units.
- These systems must furnish informational pamphlets to locations in their service areas and only to locations outside their service areas that are regularly visited by their consumers.

Systems performing public education in accordance with the provisions of § 141.85(c)(8) must repeat the tasks every 12 months for as long as the system continues to exceed the lead action level.

Although individual system public education costs were included in the April 1991 RIA, the components of these costs were not itemized. After evaluating this change, EPA believes there is probably an overall decrease in cost because approximately 19,000 systems serving fewer than 500 people will benefit from this provision. The 19,000 system estimate represents the number of community water systems serving fewer than 500 people that the 1991 RIA models assumed would be required to perform public education because of a lead action level exceedance. The burden associated with § 141.85(c)(2)(ii) and § 141.85(c)(2)(iv) is assumed to save each system approximately two burden hours. Assuming an hourly labor cost of \$15, the per-system savings is \$30 and the national cost savings is estimated to be \$570,000 annually.

Demonstrating Compliance with Public Education Requirements

This change would require each system subject to the public education requirements to submit to the state a letter demonstrating compliance with those requirements. The letter would be due within 10 days after the end of the period in which the system was required to perform public education. As is currently required, this letter must include a list of all newspapers, radio and television stations, and facilities/organizations to which the system delivered public education materials during the period covered by the letter. Currently, systems do not have to submit a letter until December 31 of each year. EPA wants to change this requirement because the Agency and the states are not provided information in a timely manner to ensure compliance.

EPA assumes that public water systems will require 10 minutes to prepare the letter/report demonstrating compliance with public education requirements. EPA estimated the number of additional reports that would be required by determining the number of systems serving more than 500 persons that would remain above the lead action level for more than one reporting period and, therefore, be required to continue public education delivery.

Community water systems serving more than 500 persons are required to perform the public education tasks associated with public service announcements (PSAs) every six months as long as they continue to exceed the lead action level. Under this proposed revision, these systems would now be required to notify the state twice a year of the completion of these tasks. EPA estimated the period of time these systems would remain above the lead action level by identifying LCR activities (e.g., the installation of corrosion control or source water treatment) that should result in systems no longer exceeding the lead action level. The total additional annual cost for this modification is estimated to be approximately \$34,200; this burden estimate corresponds to an additional 13,670 reports.¹³

Community water systems serving fewer than 500 persons would not be affected by the change in the reporting frequency for completion of public education tasks because the proposed revision, discussed above, that these systems no longer be required to submit public service announcements. Although the change in reporting frequency would not affect them, these systems would continue to be required to conduct other public education tasks on an annual basis for as long as the lead action level is exceeded and to report completion of these tasks to the state annually. They therefore could be affected by the change in timing of such reports.

4.4.2 Cost of Lead Service Line Replacement

Public water systems that exceed the lead action level at the tap after installation of optimal corrosion control treatment and/or source water treatment are required to replace the lead service lines they "control," unless they can demonstrate that all samples taken from the line have lead

¹³ The burden for reporting completion of public education activities was not quantified in the 1991 ICR.

levels of 0.015 mg/l or less.¹⁴ The proposed modifications provide a narrower definition of "control" than EPA promulgated in June 1991.¹⁵ EPA is now proposing that "control" equate to ownership plus the authority to replace. This narrower "control" definition may result in fewer total lines (or a smaller portion of these lines) being replaced than would have occurred under the 1991 definition. However, no decrease in public water system burden is estimated for this LCR modification because the 1991 RIA also used a narrow definition of "control" that is essentially equivalent to the currently proposed definition.

Under the current rule, systems are presumed to control the entire length of the service line unless they can demonstrate otherwise to the State. This requires systems trying to rebut the presumption to submit documentation to the state to support their claim that a line (or portion of a line) is beyond their control and, therefore, the system is not required to replace it. The Agency believes that the proposed definition of control is "self-implementing" and is therefore removing the rebuttable presumption since there should no longer be issue about control. A reduction in burden is expected for systems due to eliminating the time associated with preparing the documentation to rebut the presumption that the system controls the entire line.

As a result of this rule modification, EPA assumes that 1,500 systems in total will no longer rebut lead service line control and that each system would have required eight hours to prepare documentation supporting its rebuttal. This will result in an annual savings of \$13,800 for systems.

4.5 State Implementation Costs

There are three areas in which state implementation costs are expected to be affected as a result of the proposed modifications. These areas are discussed separately below. Note that for purposes of calculating the change in state costs, EPA used an hourly labor rate (including benefits) of \$31.09.¹⁶

Data Entry and Reporting

EPA is proposing to eliminate some of the state milestone reporting requirements contained in 40 CFR § 142.15 because they are redundant or unnecessary. EPA, however, is also proposing to require that additional monitoring and milestone data for some of the current requirements be

¹⁴ A system may avoid replacing a lead service line by demonstrating that the lead concentration in any sample collected from that line is 0.015 mg/l or less. The system may count lines with such levels toward the annual seven percent replacement requirements. None of the proposed rule modifications change the lead service line monitoring provisions.

¹⁵ This definition was challenged by the American Water Works Association and in December 1994. In December 1991, the court remanded and vacated the definition of control as it applies to portions of line beyond a system's ownership. (*AWWA v EPA*; 40 F.3d 1266 (D.C. Cir. 1994))

¹⁶ EPA revised its estimate of the hourly labor rate contained in the 1991 ICR for state staff from \$26.04 to \$31.09 per hour. The upward adjustment in the labor rate was made to account for inflation.

reported. The additional data are intended to track the dates of key state decisions and water system compliance. EPA anticipates the costs for reporting additional data will be offset by eliminating other requirements for which a substantial volume of data would have been reported. Specifically, EPA estimates that the annual state data entry and reporting costs will decrease by approximately \$81,300.¹⁷ This cost savings assumes states require 0.5 hours to process each record submitted by systems.

Review System Submittal and Notify Systems Of Requirements

A number of modifications will affect the state costs associated with reviewing systems submittal and notifying systems of LCR requirements. In particular:

- Non-first-draw samples. States will be required to review non-transient, non-community water system requests to use non-first draw samples. It is estimated that this activity will require approximately 10 minutes. Assuming that over the remaining 13 years of the LCR planning period, approximately 500 systems will make such a request, annual state costs are expected to increase by approximately \$200.
- Reduced tap water monitoring sites. EPA assumes that over the remaining 13 years in the LCR planning period, states will designate sampling sites for about 9,200 systems and that the burden to designate sites for each system is about 0.5 hours. Thus, the annual costs to states is expected to increase by approximately \$11,000. The actual burden states may realize may be significantly lower because some states might issue broad guidance regarding reduced sampling sites.
- Monitoring waivers for "all plastic" systems. The burden incurred by states to review public water system requests for monitoring waivers is assumed to be one hour. It is assumed that states will require 0.5 hours to review waiver renewal applications. Therefore, if approximately 7,000 systems nationwide seek monitoring waivers over the remaining LCR planning period of 13 years, annual state-review costs are estimated to increase by approximately \$8,400. These costs will be offset by the cost savings associated with having to review less monitoring data. In particular, EPA estimates that states will no longer need to review approximately 21,000 rounds of monitoring data; each of these rounds of monitoring data are assumed to require one hour of state time. Consequently, the cost savings associated with needing to review less monitoring data is \$50,200 per year. Therefore, the net effect of this modification is an annual state cost savings of \$41,800.
- Biweekly entry point monitoring for ground water systems. EPA assumes states will require 0.5 hours to review requests to limit biweekly water quality parameter monitoring from approximately 387 ground water systems each year. It is assumed that large and

¹⁷ For a description of the methodology EPA used to evaluate state data entry and reporting costs, see section 6a(ii) of the ICR.

medium ground water systems will be able to reduce the number of monitoring locations by two-thirds and one-half, respectively. Small ground water systems are assumed to already be monitoring from a small number of monitoring sites due to their size and configuration and will be unable to further reduce entry point monitoring. Consequently, state costs are estimated to increase by \$6,000 per year.

- Changes in treatment or source. States will be required to review documentation from systems on a reduced monitoring schedule that change either their treatment or source. For each of these submissions, the state will need to determine if the changes warrant having the system return to a standard monitoring schedule. The state is assumed to need 10 minutes to make this determination and notify the system if a change in monitoring frequency is required. The number of systems that EPA estimates will change either their source or treatment is expressed as a percentage for each major system size category. See page 13 of this document for an explanation of how the number of affected systems was derived. This translates to an annualized average cost of \$6,900; this cost was derived by dividing the total cost of approximately \$89,700 by the 13 years remaining in the LCR planning period.
- Accelerated reduced monitoring. The 1991 RIA models predict that systems will be able to eliminate approximately 7,077 lead and copper samples per year because of being able to proceed to triennial monitoring before completing three years of annual monitoring if they meet certain criteria. As a result, states will have less monitoring data to review. EPA estimates that the amount of monitoring data states will need to review will decline by approximately 862 rounds. Assuming the states require one hour to review each round of data, this translates into an annual state cost savings of \$26,800.
- Elimination of certification for first-draw or customer-collected samples. EPA is proposing that systems would no longer be required to submit a certification that each lead or copper tap sample meets the first-draw criteria at § 141.86(b) or that tap samples collected by residents occurred after the water system informed the residents of the proper sampling procedures. As a result, states will no longer need to process and review certifications that formerly accompanied monitoring data submissions. EPA estimates that annually 41,170 certifications will no longer be required. If state review of each certification is assumed to require 10 minutes, states should realize an annual \$213,300 cost savings.
- State approval for reduced monitoring schedule when water quality parameters are met. EPA assumes approximately 12,000 systems in total (or approximately 920 systems in each of the 13 years remaining in the LCR planning period) would no longer need to obtain state permission to assume a reduced monitoring schedule once they meet optimal water quality parameter ranges. The state is assumed to avoid one hour of review time per system. Therefore, state costs are expected to decrease by \$28,700 per year.

- **Lead service line control.** Under the current rule, systems can submit documentation to the state to support their claim that a lead service line (or portion of a line) is beyond their control and, therefore, is not required to be replaced under the requirements contained in § 141.84. EPA is proposing a narrower definition of "control" where "control" equates to ownership plus the authority to replace. As a result of this narrower definition, EPA expects that systems will no longer need to rebut control presumptions and that 1,500 systems in total (or approximately 115 systems in each of the 13 years remaining in the LCR planning period) will avoid having to submit rebuttals. Therefore, if states are assumed to require four hours to review a system's documentation used to rebut control presumptions, this modification will result in an annual savings of \$14,300 for states.

Reporting Completion of Public Education

One of the proposed changes would affect the deadline for reporting to the state compliance with public education requirements. For community water systems serving 500 or fewer persons that remain above the lead action level for two monitoring periods in a calendar year, states would be required to review an additional letter/report prepared by the system. Currently, states review such reports only once at the end of the calendar year.

EPA assumes that the state will require 10 minutes to review the letter/report submitted by the system demonstrating compliance with public education requirements. Consequently, the total additional annual cost for this task is estimated to be \$70,800; this cost estimate corresponds to an additional 13,670 reports.

5.0 The Benefits of Reducing Lead in Drinking Water

The minor changes proposed in this rulemaking are intended to improve implementation of the LCR. The effect of these changes will be to eliminate unnecessary requirements and to promote consistent national implementation of the rule. EPA does not intend these changes to modify the level of health protection extended by the final rule and no impact on health protection is anticipated. There are no known decreases in health benefits associated with these proposed changes.

6.0 Regulatory Flexibility Analysis and Paperwork Reduction Analysis

Regulatory Flexibility Analysis

As indicated in the earlier sections of this RIA addendum, EPA is proposing revisions to the final LCR designed to eliminate unnecessary requirements, streamline and reduce burden, and promote consistent and flexible implementation of the rule nationwide. Such objectives are consistent with the Regulatory Flexibility Act (Act), which requires that all executive agencies explicitly consider small entities in their regulatory design and implementation processes. For regulatory flexibility analysis purposes, systems serving 50,000 or fewer people are considered to meet the Act's definition of a small entity. See Exhibit 3 for a distribution of the number of public water systems by size category.

Exhibit 3 Public Water System Distribution	
Population Served	Number of Systems ¹⁸
> 50,000	793
3,301 to 50,000	6,768
< 3,300	71,142

The quantifiable cost impacts described in this RIA addendum primarily affect systems serving 50,000 or fewer people. In fact, EPA estimates that most of the impacts associated with these revisions will be borne by systems serving 50,000 or fewer people. Accordingly, costs for these systems are expected to decrease by approximately \$1.57 million per year (see Exhibit 4). Cost impacts are summarized in more detail below.

¹⁸ Represents the distribution of systems included in the 1991 ICR as subject to the LCR.

Exhibit 4
Cost Impact To Systems Serving Fewer Than 50,000 People
(Annual Cost Estimates in Millions of Dollars)

Proposed Change	Cost Impact (\$M)¹⁹
Monitoring Waivers for "All Plastic" Systems	- 0.497
Request for Reduced Monitoring	- 0.013
Biweekly Entry Point Monitoring	- 0.074
Rebuttable Presumption Regarding Control of Lead Service Lines	- 0.014
Treatment or Source Water Changes	+ 0.020
Certifications of First-draw and Customer-collected Samples	- 0.103
Accelerated Reduced Lead and Copper Monitoring	- 0.354
Public Education	- 0.570
Reporting Completion of Public Education	+ 0.034
Total	- 1.57

Monitoring-Related

- Assuming systems that serve fewer than 3,300 people meet the lead and copper action levels at the tap are able to benefit from the modification permitting accelerated reduced lead and copper tap water monitoring, national monitoring costs will decrease by \$353,800 annually.
- The availability of monitoring waivers for "all plastic" systems is a provision restricted to systems serving 3,300 or fewer. Consequently, all of the \$496,700 annual cost savings will accrue to systems serving less than 50,000 persons.
- As a result of the modification that would allow biweekly entry point monitoring for water quality parameters at representative sites, systems are expected to save \$73,800 in annual monitoring costs.

¹⁹ Total may not add, due to independent rounding.

- Annual system costs are expected to decrease by \$13,400 because of a modification that would eliminate the requirement that systems first obtain state permission before assuming a reduced monitoring schedule.
- EPA is proposing to require that systems on a reduced monitoring schedule notify the state if there are changes in their treatment or source. Consequently, system costs are expected to increase by \$19,500 annually.
- As a result of a modification EPA is proposing, systems would no longer be required to submit a certification that each lead or copper tap sample meets the first-draw criteria at § 141.86(b) or that tap samples collected by residents occurred after the water system informed the residents of the proper sampling procedures. These modifications are expected to decrease annual system costs by \$102,900.

Lead Service Line Replacement

- Because of a modification to §§ 141.84(d) and 141.90(e)(4) that would modify the definition of "control" for lead service lines and eliminate the associated reporting requirements, respectively, systems are expected to realize an annual cost savings of \$13,800.

Public Education

Many of the proposed changes are intended to address the unique circumstances of systems serving 50,000 or fewer persons. Specifically, the public education modifications provide alternative language tailored to the unique circumstances of non-transient, non-community water systems, almost all of which serve 50,000 or fewer persons. In addition, modification to allow alternate public education delivery methods was intended to address systems that do not bill frequently or that use billing methods that preclude the insertion of public education materials. Many systems serving fewer than 3,300 persons are expected to benefit from this change because they tend to bill their customers quarterly or even less frequently.

The public education requirements have been reduced explicitly for systems serving 500 or fewer people because many such systems are ill-equipped to respond to the level of public response those requirements generate. In particular, the tasks contained in §§ 141.85(c)(2)(ii) and 141.85(c)(2)(iv) that require submission of lead public education information to newspapers and radio and television stations would be omitted. Systems also would be allowed to limit the number of locations to which they must furnish informational materials. As a result, the 19,000 systems serving fewer than 500 people will incur a \$570,000 per year cost-savings.

Reporting Completion of Public Education

The proposed change associated with reporting completion of public education will increase water system costs by approximately \$34,200 annually. This cost increase is conservatively assumed to be borne by community water systems serving fewer than 50,000 persons.

Paperwork Reduction Act Analysis

One of the purposes of the Paperwork Reduction Act is to minimize the costs of federally imposed paperwork requirements for individuals, small businesses, and state and local governments, as well as minimize the federal government's costs associated with collecting and maintaining information submitted by such entities.

The Paper Reduction Act requires preparation of an ICR for any activity that involves collecting information from 10 or more non-federal respondents. As noted in Chapter 1.0, a separate ICR will address the proposed minor revisions to the LCR. The results of the ICR are discussed in Chapter 4 of this RIA addendum. As described in detail in the ICR, many of the proposed changes to § 142.15 are intended to eliminate duplicative or unnecessary reporting of information already provided to the Safe Drinking Water Information System.²⁰ As shown in Chapter 4, the net quantifiable decrease in costs associated with these proposed revisions is minuscule when compared to the cost of the entire LCR.

Water system cost savings are expected to result from revisions associated with accelerated reduced lead and copper and water quality parameter tap monitoring, assumption of a reduced monitoring schedule without first having to obtain state permission, monitoring waivers for "all plastic" systems, reduction in biweekly entry point water quality parameter monitoring, reduced source water monitoring for some additional systems, less frequent resampling of composited source water samples, elimination of certifications pertaining to first-draw and customer-collected samples, elimination of select public education requirements for small systems, reduction in system reporting requirements, and elimination of rebuttable presumption regarding ownership of lead service lines. A portion of these cost savings, however, will be offset by transaction costs incurred in preparing letters associated with monitoring requirements for state review, increased public education compliance reporting, and reporting changes to treatment or source water.

²⁰ Effective August 15, 1995, the Safe Drinking Water Information System became the data base of record for the national drinking water program and replaced the Federal Reporting Data System.

States are also expected to realize a net reduction in costs associated with the proposed modifications to the LCR. In particular, state costs are expected to decline for provisions associated with eliminating the requirement that systems obtain state permission to assume a reduced monitoring schedule, accelerated reduced monitoring, monitoring waivers for "all plastic" systems, reduction in water quality entry point monitoring, elimination of rebuttable presumption regarding ownership of lead service lines, elimination of certifications pertaining to first-draw and customer-collected samples, changes in federal reporting requirements, and reduced reporting resulting from less frequent system monitoring requirements. Although overall state costs will decrease, states will incur transaction costs associated with reviewing system requests, making monitoring-related determinations, and more frequent assessments of public education compliance.