

## **APPENDICES**

Appendix A: Materials Shared with Small Entity Representatives

Appendix B: Written Comments Submitted by Small Entity Representatives

## **Appendix A: Materials Shared during Outreach with Small Entity Representatives**

### Materials shared for the July 17, 2012 Pre-Panel Outreach Meeting

- Agenda
- SER fact sheet
- List of potential SERs
- SBAR Panel process presentation
- Lead and Copper Rulemaking background document
- Lead and Copper Rulemaking presentation
- Web link to EPA's small system point of use guidance
- Cost section of the 1991 Regulatory Impact Analysis for Lead Service Line Replacement

### Materials shared for the September 12, 2012 Panel Outreach Meeting

- Agenda
- List of SERs
- SBAR Panel process refresher presentation
- Updated Lead and Copper Rulemaking background document
- Updated Lead and Copper Rulemaking presentation
- Written comments/questions from potential SERs
- EPA response to potential SER questions
- Federal Register notice of the final 1991 Lead and Copper Rule

## **Appendix B: Written Comments Submitted by Small Entity Representatives**

Comments Received from potential SERs following the July 17, 2012 Pre-Panel Outreach Meeting

Comments Received from SERs following the September 12, 2012 Panel Outreach Meeting

## Written Comments from Potential SERs

### Pre-Panel Outreach Meeting for the Lead and Copper Long-Term Revisions Rulemaking (July 17, 2012)

1. John West (WSI Environmental Services - VT)
2. Janet Andersen (Twin Lakes Water Works - NY)
3. Rusty Reeves (Louisiana Rural Water Association)
4. Chuck Van Der Kolk (Zeeland, Michigan Board of Public Works)
5. Mike Sienkiewicz (Lebanon Valley Mobile Home Community - PA)
6. Herb Spencer (Pennsylvania Rural Water Association, et al)
7. Mary Lou White (Richardson Beardsley Park Water System - CA)
8. George Hanson (Chesapeake Water Association – MD) and John Sasur (Three Rivers Fire District - MA)
9. John Scheltens (City of Hot Springs – SD)

**From:** [John West](#)  
**To:** [Lanelle Wiggins/DC/USEPA/US@EPA](mailto:Lanelle.Wiggins/DC/USEPA/US@EPA)  
**Subject:**  
**Date:** 07/17/2012 12:34 PM

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#### Site Selection Criteria:

Agree w/ EPA prioritizing lead service line sites over sites with solder or brass/bronze fixtures and fittings.

Agree w/EPA eliminating the age range for solder sites (1983 – 1988) & allowing for changes to sampling plans to include areas of new development so as to focus on Copper. Hopefully this will not produce an increase in the number of sample sites. More control at state level for number of sampling sites for systems. Some of our systems have to be sampled over several days due to limited number of sample sites i.e. one room school house w/ two sinks. We sample same sites over several days to achieve the minimum five samples.

Worried about flushing not taking place prior to sampling in states with many second home owners and resort areas where water can remain in lines for extended period of time.

#### **John J. West, CET, LAFT**

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**To:** Lanelle Wiggins  
**From:** Janet Andersen, Twin Lakes Water Works, South Salem, NY  
**Subject:** Pre-Panel Outreach with Potential SERs on Lead and Copper Regulatory Revisions  
**Date:** July 30, 2012

Thank you for the opportunity to join the pre-panel outreach call. I am very interested in participating as a SER. Please let me know if you would like additional information about my background and experience. While I am a member of the Twin Lakes Water Works board, these comments are my own, and may not represent the management of the water system.

**Questions on the materials provided:**

- How prevalent are lead service lines, especially in small systems? This is relevant because of the proposed change to the definition of control in order to deal with lead service lines. I am concerned about the unanticipated consequences of this change on operations beyond lead and copper. Would a change in this definition also change the current system and customer responsibilities included in any water company rules and regulations?
- What are the deleterious health effects of copper? Nausea and vomiting appear to be acute symptoms. It would be helpful to know if there are chronic symptoms, and the concentrations at which they appear. How high a priority is it to further regulate copper in the context of the many other contaminants being considered?
- Absent lead service lines, lead is added after it leaves the water system, that is at the household level. The sustainable solution is to prevent that addition. What more can EPA do to reduce lead sources in the household? Lead free fixtures and the ban on lead solder are starting points. What are the other sources of lead inside household plumbing? And regarding copper, should EPA be promoting PEX inside the home as a long term solution to copper leaching?
- It appears that the first flush draw for systems without LSLs and the potential flushing approach for LSLs are both attempts to capture the worst lead levels, not representative lead levels. Is this what the AL is based upon? Is the same regulatory approach used for other contaminants? Or are other regulatory contaminants not so predictably variable?

**Comments on proposed changes:**

- **Create separate lead sampling site selection criteria for systems with and without lead service lines (LSLs).**

It sounds as if the recommendation is to declare Tier 1 sites single family homes with LSLs, Tier 2 as all multiple family homes, and then Tier 3 as all single family homes without LSLs. That is a fairly modest change to the selection criteria and if scientifically justified, it seems reasonable. In addition, for those systems without LSL's, it eliminates the need for the water system to determine the building or remodeling dates of homes.

- **Create separate copper sampling site selection criteria.**

The EPA has not provided any scientific reason or proposed criteria for separate copper selection sites, other than “new” copper plumbing. It is unclear if this means a continuous rolling update of sampling sites based on home remodeling, rebuilds, or new homes. Without any reason for separate copper sites, it is hard to support the increased operational complexity of separate sites, the need to educate new sample site residents on the sampling procedure, and the need for more bottles. In addition, today residents provide one sample bottle for both lead and copper assays. If in the future there were separate bottles, but one house fit the criteria for both lead and copper, there would not be a composite “first flush” bottle. Further, as more houses renovate and implement PEX (plastic) plumbing, it seems that determining “new copper plumbing” could become difficult for systems to determine. More information is needed on this proposal, but absent any scientific reason for separate sampling criteria for copper, I do not support this change.

- **Provide a waiver or reduced monitoring for copper for non-aggressive water.**

Since today there is an a way to have reduced monitoring for lead and copper if the results are below AL, presumably this proposed change is for systems with LSLs that exceed the AL for lead and so will continue to sample for lead, but don't exceed ALs on copper. Since, as noted above, I do not support unique sampling sites for copper, this would mean that some of the water collected at the household tap would be tested for lead but not for copper. This could be done within the current context of the reduced monitoring rules. I support reduced monitoring based on prior test results. I am not sure that I can support this based only on WQP results. For example, a system with orthophosphate treatment may have water with pH above 7 and alkalinity lower than the proposed standard , but if their copper sampling results are below the action level, they should remain eligible for reduced monitoring. If you meant to exempt only those without CCT, please clarify. A note on terminology: a waiver means the test is never done, reduced monitoring means it's done less often. The backup document proposed reduced monitoring, the powerpoint proposal sounds like a permanent waiver. Please clarify which proposal is correct, or if both options are under EPA consideration.

- **Modified sampling procedures for systems with LSLs.**

If the goal is to sample the highest level of lead, then the sampling procedure should be modified. It is not clear if the proposal is to have one standard set of instructions (e.g., provide a gallon jug and a sample bottle and fill the gallon jug first, then the sample bottle) or to require each system to measure the highest lead levels and then incorporate that finding in their sampling instructions. Please clarify the implementation steps for this proposal.

- **Standardized sampling instructions.**

This change seems reasonable. Having a standard approach would make the results more comparable and perhaps more fair. To avoid concerns, perhaps the EPA would include language that if the resident has not been in the house to use the water for a week prior to the sample, a day of average household use should proceed the stagnation period.

- **Public education on copper - Require water systems with water that is aggressive to copper (pH >7, alkalinity < 250 mg/l of CaCO<sub>3</sub>) to provide copper outreach materials, perhaps to all users, perhaps to new homes.**

I do not support this recommendation as a blanket requirement for all systems that have aggressive water, especially for systems that have installed corrosion control treatment. I support providing language for the CCR if a water system has copper test results above the 90% action level (AL). Currently, there is no language for use in the CCR if a water system exceeds the copper AL but does not exceed the lead AL. I do not support the suggestion that copper information be sent to new homes only. It seems to me this places a burden on the system to determine the age for a “new” home, separate substantial reconstruction from minor repairs, deal with questions like homes that burn, homes that have been stripped of copper, etc. In addition, many new homes have substantial amounts of PEX piping. Also, the EPA has not provided data that copper is a sufficient health threat to warrant independent education. I support including a copper health statement in the CCR if an action level is exceeded, but at this time the EPA has not given a reason for additional education.

- **If AL exceeded, re-optimize corrosion control treatment (CCT) before being triggered into LSL replacement.**

I assume this would apply only to lead AL’s, and only to systems with LSL’s. It seems that most systems would prefer to be able to attempt to modify CCT before having to incur the expense and disruption to replace LSL’s. The proposal isn’t clear if re-optimization could go on indefinitely to essentially never trigger LSL replacement. If the lead continues to exceed AL’s, at some point it seems that LSL replacement may be the right public health choice. Note: the background document gives a very different view of this recommendation. The background document implies that re-optimization would apply to both lead and copper AL levels, and would encourage the implementation of orthophosphate treatment and the use of higher levels of orthophosphate. Later in this document, I comment on my concerns with excessive orthophosphate use. The background document also indicates that systems will continue to monitor for lead and copper and WQPs until the system has “completed all corrosion control steps”. That needs improved definition. In addition, the Primary Agency needs to be given a timeframe to establish OWQPs if monitoring must continue until those parameter ranges are established.

- **Revise LSL replacement requirements.**

The EPA is considering many changes associated with lead service line replacement, including not requiring LSL replacement if only partial replacement can occur. At the same time, EPA has indicated that evaluation periods are too short to fully identify the impacts of full vs partial lead line replacement. Since LSL replacement is only triggered when lead AL’s have been exceeded, it is not clear how the negative health effects would be reduced if LSL replacement is abandoned, and although the costs to the water system would presumably decrease, I cannot support that change. I support a short period of CCT optimization to see if the lead levels can be controlled. I do not support waiving LSL replacement if lead levels continue to exceed ALs. I could support a POU distribution alternative and suggest that EPA allow several pilots to test if that is a viable long term alternative. Perhaps the EPA should consider requiring that the LSL owned as property must be replaced when the property is transferred or sold, an approach taken in many jurisdictions for problematic infrastructure components such as failing individual wells, septic systems, and in-ground oil tanks.



- **Expand the definition of service lines under the control of water systems.**

Unless this expanded definition of service lines under the control of water systems could be limited to lead service lines and their replacement, I am concerned about the unknown potential implications of this change. I am concerned that small systems would need to pay for legal advice when encountering any number of standard occurrences. If the ramifications could be controlled, I could support this approach, but more information is needed.

**Other suggested changes:**

- **Enable reasonable alternatives to orthophosphate for corrosion control.**

Orthophosphate appears to be the corrosion control option of choice and the usual “default” recommendation of the Primary Agency. We live in a lake community with septic systems, and adding orthophosphate to the drinking water supply (and therefore to septic systems) is estimated to add over 50kg of phosphorus to our lakes each year. As a result, our customers are very dissatisfied with the addition of orthophosphate as a corrosion control method, and many have repeatedly requested that we find an alternative. The community lake management plan states:

“The single largest source of phosphorus within the watershed would appear to be the orthophosphorus that is added to the drinking water supply to combat the corrosive nature of the drinking water supply. Orthophosphorus is a highly bio-available form of phosphorus, meaning that algae can quickly utilize this form for growth and reproduction. Adding this amount of phosphorus to the drinking water supply means that all domestic water for cooking, cleaning, flushing and watering contains a high amount of bio-available phosphorus and much of it will ultimately make it into the lake through the septic system.” (Martin, 2004)

This problem is not unique to septic system communities. Drinking water supplies add orthophosphate at a level that is above most wastewater discharge standards. In other words, water at the entry point to the distribution system would not pass the standards for wastewater discharge and would have to be treated to remove the orthophosphate pollutant. From a whole system view, this is absurd. It is imperative that we find and implement an alternative corrosion control treatment that does not produce polluted water. We have a costly process to add a chemical to our water and then we need a cost and energy intensive process to remove that same chemical from our wastewater. For that reason, I encourage the development of alternate corrosion control techniques or the approval of some alternate solutions, perhaps even POU solutions. I also encourage the EPA to continue look at ways to reduce the lead and copper in household plumbing.

Further, according to page 5 of “EPA Revised Guidance Manual for Selecting Lead and Copper Control Strategies, Office of Water (4606M) EPA-816-R-03-001 [www.epa.gov March 2003](http://www.epa.gov/ogwdw000/lcrmr/pdfs/guidance_lcrmr_control_stratageis_revised.pdf)” [http://www.epa.gov/ogwdw000/lcrmr/pdfs/guidance\\_lcrmr\\_control\\_stratageis\\_revised.pdf](http://www.epa.gov/ogwdw000/lcrmr/pdfs/guidance_lcrmr_control_stratageis_revised.pdf), much higher concentrations of orthophosphate may be needed to control copper than lead. Since copper seems to be of secondary importance or may only have health effects on a small segment of the population with Wilson’s disease, and those affected people must be on medication, I suggest that the copper

AL be raised to reduce the amount of orthophosphate required in our water systems. Our water system would gladly consider an alternative to orthophosphate should we be allowed to do so.

The following comments and proposals reflect our water system's discussions with the DOH and may be specific to our situation. However, if our water system is encountering these situations, perhaps others are as well, and clarification of the rules would help in these circumstances.

- **Reduced monitoring clarification.**

The reduced monitoring allows lead and copper sampling every three years. Our DOH representative says that means we have to test every two years in order to make the results available within three years. Our interpretation is that if we tested in August of 2010 and are granted reduced monitoring, our next test should be three years later in August of 2013, not in August 2012. I'm not sure how the wording could be clearer, but please take a look.

- **Water quality parameter (WQP) monitoring.**

We installed corrosion control (orthophosphate) at State direction in 1999. We have never since exceeded our lead levels. One of our 5 reduced monitoring samples exceeded the AL on copper in 2003. We are currently performing WQP tests every two weeks at considerable expense and time. The DOH has never provided our water system with the "State specification of minimum values or ranges for water quality parameters for optimal corrosion control treatment". As a result, we need to continue to monitor WQP every two weeks. Please consider a requirement that after the water system has provided the results of the water quality parameter treatments for two consecutive six month periods, the State shall provide the specification of minimum values or ranges for water quality parameters for optimal corrosion control treatment within 90 days (or some period that is defined). Then the water system could go on reduced monitoring of WQP if appropriate. Also please include that in the absence of the State providing a WQP range after some period of time, the system is allowed to go to reduced WQP monitoring. At the current time, the State has no mandate to provide the WQP ranges, the water system has no leverage to make the State provide the ranges, and therefore the water system must continue to incur costs for WQP tests every two weeks. Please seriously consider implementing a time constraint on the State to adhere to the regulations or, failing that, a waiver or reduced monitoring for the system. In addition, groundwater systems generally have very stable WQP's and I ask that the EPA consider reducing the initial monitoring frequency (every two weeks) or period (twelve months) for groundwater systems.

Thank you for the opportunity to provide these comments. Please let me know if you would like clarification of any of these points.

## Comments regarding Lead and Copper Rule

Submitted by: Rusty Reeves, CET  
Louisiana Rural Water Association

My comments regarding the Lead & Copper Rule is going to be based on my experiences, first working as small water system operator when the Lead and Copper Rule was first implemented, and then secondly working with small municipalities and rural water systems across the state of Louisiana as technical assistance provider for the last fifteen years. I also spoke with current co-workers regarding their working experiences with water systems and compliance with the Lead and Copper Rule.

### 1. Lead Gooseneck Replacement

- a. I know of no small water systems that had lead gooseneck replacement program
- b. Most of the small water systems that have replaced lead goosenecks, replaced the lead goosenecks when replacing the distribution system piping, due to failure.
- c. Many of the rural waters in Louisiana were built in the 60's, 70's, and 80's there was very few water systems built with lead service lines
- d. If I am reading the information correctly, it appears that there is evidence that when replacing lead goosenecks the system may see an increase in the lead levels in the water. In that case the water system needs to understand methods available to lessen the lead exposure. Customer notification is important and has always been a challenge of getting the information to the right people.

### 2. Sample Collection Procedures

- a. Sample collection procedures has had issues
- b. Many of the rural water system had issues finding homes on the water system that met the criteria of the tier system. Many of these water systems in an effort to meet the sample site criteria, utilized sample sites, at fire stations, office building, banks, and etc. These sites cause several systems to exceed to action levels from time to time, due to excessive time of water in the piping.
- c. I know of some systems that had been in compliance and then would have a spike on one of the sampling sites, and then discover that, the home had done some piping changes or replacement.
- d. All in all, the practice of the consumer collecting the sample has worked well and provided a good public relations tool for some systems. There have been isolated issues regarding sample validity.

### 3. Water Treatment Procedures

- a. Most rural water systems opted to add a ortho –phosphate or some other type of corrosion control chemical to lessen the lead and copper leaching process
- b. Many of these water systems also had to begin practicing continuous disinfection, due to changing the chemical makeup of the water. This also caused some water system operators to upgrade their certification to include a treatment license.
- c. Many of the water systems relied on their chemical supplier to monitor and adjust the chemical feed rates. There have been a few cases when the chemical supplier was questioned about chemical cost, the supplier found a less costly method.
- d. It is very important that the operator understand the treatment process, the purpose, and the results needed.

**4. Education**

- a. As with all regulations education is the key in success compliance.
- b. Education process should include all treatment options, compliance tools, and sampling procedures.
- c. The cost of the rule implementation should be part of the education process.

Just a comment for thought:

I can remember being at a rural water training session, when the Lead and Copper Rule first went into effect and was having a conversation with a Health Department Representative. We were discussing the cost that the Health Department was experiencing due to the Lead and Copper Rule. As we discussed the associated cost, I began to advise him of the cost to the small water system of 700 plus connections that I was operating by myself.

The cost included time:

- a. Attending a training session regarding the Lead and Copper Rule
- b. Studying the new rule
- c. Surveying homes that met the criteria
- d. Contacting potential home owner regarding sampling
- e. Completing the proposed plan
- f. Distributing the sampling bottles
- g. Collecting the samples (this took a couple days due to customer forgetting to collect sample)
- h. Submitting the samples

While I did not have a dollar amount to provide, the process easily took an excess of a week of my time to submit the first round of samples.

## QUESTIONS AND COMMENTS IN RESPONSE TO EPA'S JULY 17 OUTREACH MEETING

If EPA could answer the questions posed, we would be better able to provide useful advice.

- (recommendation) - EPA should remove the current date ranges that limit LCR sample site selection.
  - (question) - What data demonstrates that current sampling sites are not adequately triggering initiation of OCCT or re-appraisal of OCCT?
  - (question) - How does the agency (specifically) propose to change sample site tiering for small systems?
- (recommendation) - Small systems with plastic mains, service lines, and in-house plumbing should receive a waiver from LCR requirements.
  - (question) - What data does EPA have to support a waiver for other reasons in addition to plastic piping?
- (recommendation) - Three separate sampling tiers (1) lead service lines (LSL's) and copper plumbing with lead solder broadly, without a specific range of installation dates, (2) multi-family homes with copper plumbing and lead solder, and (3) representative sampling. (recommendation) - EPA should not consider separate compliance monitoring sites targeting new copper plumbing.
  - (question) - What data is available to support requiring systems to monitor at separate sites for copper?
- (question) - What are defensible criteria EPA could include for "non-aggressive" water waivers?
  - (question) - Do we have expert consensus on what are sound criteria for defining "aggressive to copper"?
  - (question) - Is there a technical consensus that use of phosphate corrosion control inhibitor will control copper levels as well as it controls lead levels?
  - (question) - Has the agency reviewed literature on pitting corrosion of copper for factors and range of conditions under which pitting is occurring?
- (recommendation) - Simple easy sampling instructions are imperative to utilizing homeowners.
  - (question) - Is there compelling data indicating that fixing the stagnation period at 6 hours or removing the aerator leads to an inadequate LCR trigger for lead or copper?

- (recommendations) - Water systems need EPA to provide a clear sampling protocol with sound underlying logic that systems can implement the protocol and the issue of "gaming" can be put aside.
  - (question) - How would water residing in a LSL (full or partial) during the stagnation period be calculated in order to draw a representative sample and how would systems communicated these instructions to a homeowner in simple terms
- (recommendation) – Public education for lead has resulted in unnecessary panic and communication challenges for water systems.
  - (question) Does EPA believe public education requirements for copper would be "one size fits all"?
  - (question) Would systems that do not exceed the copper action level be required to implement public education?
  - (question) Would the public education contain unnecessary "scare" language similar to the language for lead?
- (recommendation) - Water systems experience changes to and blends source water and treatment that impact PH, alkalinity and other factors that affect corrosion control on a day-to-day basis; water quality parameters ranges should not be made narrow beyond what is practical to reliably achieve.
- (recommendation) - Re-optimization should be structured so that systems are not driven to make changes that have unintended adverse consequences-like with the original LCR implementation construct- "optimization" includes balancing competing objectives including but not exclusively reducing Pb and Cu.
  - Who pays for the expertise to re-evaluate OCCT? How expense a task does EPA think re-evaluating OCCT will be?
- (question) What is the percentage of systems currently being triggered to LSLR because they are experiencing protracted high Pb or Cu levels?
- (question) What is the purpose of the 72 hour sample following LSLR?
- (question) Would a licensed plumber be required to install any type of filter?
- (question) Who would pay for, maintain and be liable for the installation and maintenance of filters?
- (question) What length of time will filters be required?

**From:** [Mike Sienkiewicz](#)  
**To:** [Lanelle Wiggins/DC/USEPA/US@EPA](#)  
**Subject:** Optional written comments  
**Date:** 07/31/2012 05:12 PM

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Dear Lanelle,

Thank you very much for the opportunity to participate in the Lead & Copper project.

In reading over this we continue to question the reason this rule applies to manufactured housing. Manufactured homes which are built in a factory and transported to the site do not use the same plumbing products as used in site built homes. When choosing building materials affordability and transportability is a huge consideration.

Except for a few cases where copper is used in the hot water area, it is extremely rare to find copper or lead in manufactured homes. Prior to 1976 they used galvanized pipes which were replaced by polybutylene which was replaced in 1982 with PEX or CPVC – these are plastic products and do not contain copper or lead.

Someday government needs to realize we cannot save everyone and in trying to do so a lot of resources – time and money – are spent. We continue to advocate for sensible testing requirements that are based on sound science and current practices. CWS's are straining under the recent mandates complying with 4-log and the change in waivers for IOC/VOC/SOC. In fact the cost is so high several manufactured housing communities are choosing to close versus coming into compliance. These changes, if the numbers are correct, will cost a 500 connection system \$2.50 more than a 10,000 system. In my case we have 70 connections so the cost for us will be \$25 per home site versus the .93 cents a system with 10,000 connections will see. Keep in mind; this is on top of all the other regulations that are in place for the water system. FYI... Our cost to comply with the 4-log mandate was \$27,000, \$386 per home site. We also have a sewer system that has its own set of costs and other services that go into providing leasable sites for manufactured homes.

Keep in mind in Pennsylvania 11% of the systems are large (3301-10,000) and 89% of the systems are small ( $\leq 500 - 3300$ ) and half of the small systems are manufactured housing land lease communities.

Anytime that it is obvious or can be proven that a system is not impacted by a contaminant waivers should be made available. Therefore we support the following.

- Regarding your question on lead service lines we would support the creation of two separate tiering structures – one for systems with LSLs and another for systems without LSLs.
- Regarding copper, we would support a copper monitoring waiver allowing systems with water qualities not considered aggressive to be waived but we ask that you take it a step further waive systems that do not serve housing with copper systems such as manufactured homes. Testing is expensive and if the system is not at risk they should be exempted from testing period.
- Before any changes are made in the current OWQP and the LSLR, EPA needs sound facts proving that current language is not working.

If you wish to discuss further feel free to call.

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July 31, 2012

Lanelle Bembenek Wiggins  
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RE: Lead & Copper Regulatory Revisions – SER

Dear Ms. Wiggins,

It was a pleasure to participate in the Outreach Meeting regarding the Lead and Copper Rule Long Term Revisions.

I was hopeful that more Rural Water Association members would be with us.

Of all the advocates for the small water system community, they have the greatest impact when gathering or disseminating information about the impact of regulations on their communities from both cost and technology challenges.

Having been on the firing line of providing assistance, training and experiential research since the inception of the EPA LCR and as a long term advocate for small water system operation issues, I fully appreciate the disproportionate financial impact that implementation has on this huge segment of water suppliers, nationwide.

Investments in appropriate treatment technology, monitoring and ongoing analysis accompanied by the expense of operator staffing and certified training are spread across a much smaller rate payer base.

Specifics:

Illustrated on slides 10, 11 and 12 and based upon the AwwaRF study (ongoing research) it would appear that we are trying to hit a moving target which may or may not be the highest potential exposure for lead.

To mandate a change in the amount of draw prior to compliance sampling is fraught with additional chances for error and quite frankly, not very palatable to the average homeowner who hasn't developed an appreciation for the term "liter".

I am not sure of the number of households that are still served by Lead Service Lines. Any change in protocol should reflect the potential exposure (health risk) balanced by cost/benefit.

Copper:

Public Education is the key. Every effort should be made to provide the public with the information necessary for the homeowner to make the logical decisions for mitigating "elevated" levels of copper. What is "elevated level"? Has it been quantified?

There many avenues of introduction of Copper into the water from treatment processes, transmission pipes, copper services, interior copper pipes and fixtures, and stray current.

Appropriate educational material and instructions will aid the consumer in taking personal responsibility to improve water quality at the tap (should it be necessary). The suggestion of recommending either an in-house filter or filtered pitcher is reasonable and inexpensive when measured against the benefits.

The Potential Revisions to Optimal Corrosion Control Treatment to include re-optimization are on target.

Since the Lead and Copper Rule was promulgated several other regulations (DBP, ISWTR, etc.) required the selection of alternative disinfectants, primary coagulants and filtration media to meet tighter parameters.

Such changes altered redox potential, chloride to sulfate ratio, corrosion indices and disinfectant residuals.

For some systems, these changes affected LCR compliance (exceedence), making it necessary to revisit the corrosion control treatment programs.

Choosing re-optimization prior to being triggered into LSLR is more expedient and will produce positive results without the long delays and potentially needless expense.

At the end of the day we must ask ourselves if “we”, the regulators and the regulated are meeting the obligation of protecting public health in a reasonable and responsible way. Is our role really to protect our consumers from themselves by entering into a behavioral arena that could produce indeterminate results?

As members of our communities, AWWA, Water Works Operators’ Associations, National Rural Water Association and water authorities we share that commitment of service to our consumers.

Thank you for your consideration and the opportunity to share my thoughts. I welcome the opportunity to participate in future reviews.

Respectfully,

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**Comments RE: the Lead/Copper Rule following the pre-panel outreach meeting of 7/17/12**

For purposes of assessing impacts to small entities, EPA considers small entities to be public water systems serving 10,000 or fewer persons. I am operating a community water system with 30 users. This gap in applying regulations to “small entities” is too wide.

Many of the very small water systems are struggling with the basic challenge of providing an adequate, reliable, safe, supply of water to their users. They are typically operated by persons whose primary duty is NOT that of a professionally trained water system operator. The difference in resources is vast when comparing systems that serve 10,000 people versus 1000 or even 100 or less.

Pertaining to the Lead/Copper Rule (LCR), I suggest that an additional tier be established for the smallest of the water systems. This tier could capture systems with less than 200 service connections or 300 users, whichever is greater. A greatly simplified approach to addressing the objectives of the LCR could be developed for this tier. Examples of how this could be implemented include:

- Annual public notification without any additional testing of the water quality. This approach could be used if there are no reasons to indicate that the levels of lead and/or copper in the service lines or distribution system exceed the Action Level. A publication similar to the EPA document “*Protect Your Family From Lead in Your Home*” could be developed and distributed.
- Alternately, an initial round of monitoring could be done with 5 sample sites selected using current criteria. If none of the samples exceed an Action Level, then the system would simply provide periodic notification.
- For the smallest systems that have previously had an Action Level exceedance, or other indicators that there may be an elevated lead and/or copper exposure, they may be subject to the full LCR unless a more flexible, yet equitable & effective approach could be identified. (e.g.: a NSF/ANSI certified pitcher filter for lead removal). Remember, we are dealing with very limited resources with these systems.

There is no denying that the potential public health benefit of compliance with the Lead/Copper Rule is worthy. The reality is this is a confusing, burdensome regulation that is significantly flawed, beginning with the sampling process. Water system operators and the regulators of these smallest systems are struggling with more basic issues (adequate & reliable quantity; bacterial quality, emergency preparedness plans, etc.) Both are “juggling too many balls” to do an adequate job in all areas. Reducing the burden and allowing individuals to take personal action, if they are compelled to, is a better course of action for the LCR.

I asked our local regulator what the results have been of the Lead/Copper testing that has been submitted since the rule was implemented. He responded that NONE of the systems

required to monitor for it have exceeded the Action Level. (San Diego County, as a local primacy agency, regulates about 165 small water systems. Approximately 60 of these are subject to the LCR. ) The direct & indirect costs of the testing are not warranted.

**I offer a few additional comments on some of the specific material reviewed pertaining to the revision of the LCR:**

- *“EPA estimates that if the sampling site criteria are changed, all small systems will be required to re-evaluate their current sampling sites, and many may be required to identify and sample from new sites.” This is one more reason the smallest tier should be exempted from additional testing. Many systems had a difficult time finding the 5 or 10 initial sample sites. Please - keep it real.*
- *“Currently, there are no public education materials provided on the health risks of copper exposure, or steps consumers can take to reduce the risk of exposure. EPA is evaluating whether materials should be provided to consumers for copper. EPA is also evaluating the target audience for any materials that might be developed (new homes versus system-wide).*

*Outreach materials could explain the potential health effects of elevated copper, the likelihood of copper levels being higher at new copper sites, and actions that the consumer can take to reduce their exposure to copper.” The suggestion made herein to use public education as a primary means to compliance seems consistent with the current thought process.*

- *“EPA estimates that if public education is required for copper, some small systems would be required **to develop** and distribute public education materials for copper to some households.” This is NOT realistic for the smallest of systems. This DOES seem to be an ideal opportunity for the State Rural Water associations – perhaps through grant funding from the federal level.*
- **Suggested costs of implementation are unrealistic & have been minimized. Small cost variables can greatly impose a huge burden on the smaller systems:** *“6) The number of systems performing a rule component does not take into account when or how often the activity is performed. Therefore, systems performing an activity infrequently, or towards the end of the analysis period, will lower the per system costs by being included in the total number of systems performing that activity.*

**Thank you for allowing me the opportunity to comment and be included as a potential SER.**

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July 31, 2012

Lanelle Bembenek Wiggins  
RFA/SBREFFA Team Leader  
U.S. Environmental Protection Agency  
Office of Policy  
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**RE: Comments in response to EPA's July 17th Lead and Copper Rule (LCR) pre-panel outreach meeting.**

Dear Ms. Bembenek Wiggins:

Thank you for the opportunity to participate on the EPA July 17th LCR pre-panel outreach meeting. We look forward to continuing to participate in the SBREFFA process and the rulemaking for revisions to the LCR.

The vast majority of U.S. water supplies are small, 94% or 47,495 of the 51,651 community water systems serve a population less than 10,000 people. Small and rural communities often have a difficult time, due to their limited customer base, providing safe water and complying with federal standards. This is compounded by the fact that small and rural communities often have lower median household incomes and higher water rates compared to larger communities.

We urge the EPA to provide comments, findings, and data on the following questions regarding the LCR in the outreach materials for the upcoming Panel Outreach meeting:

- What is the justification for requiring the water supply to treat drinking water based on conditions that exist external to water supply's owned distribution system?
- Is the agency consulting any professional or scientific organizations (i.e. the National Association of Corrosion Engineers) experienced with corrosion control in the development, documentation and testing methods under the rule?
- Should the rule allow a water system to invalidate or challenge a sample when a water sample has been improperly obtained, tampered with, or there are in home plumbing or electrical issues that would create spikes in test results?
- What is the historic compliance data for systems and what are the types and locations of systems that have had action level exceedances in the past? What was the goal of the rule when promulgated? Has this goal been achieved – to what degree?

- What are the results of the total lead line replacement numbers for systems who have to replace 7% of lines per year since the last rule revision? Has this lead replacement portion of the rule been effective?
- Has the tiered (building age) sampling requirement of the rule resulted in any correlation in sample results?
- Does the agency have an estimate or data on the increased costs for compliance due to additional personnel, higher-grade operator certification requirements?
- Does the SDWA prohibit the agency from providing a small system variance technology provision in the rule? Does the agency have any ability to supplant the variance technology affordability review to ensure the rule is not unaffordable for disadvantage populations? Does the agency believe the rule is constructed to be feasible or affordable for small communities?
- Are their alternatives to notifying the entire water system for violations when any water quality issues are limited to certain homes?
- Is flushing (at the tap) an effective action for reducing lead concentrations.
- Are any of the currently applied treatment technique chemical additives environmentally problematic when they inevitably reintroduced to surface waters in wastewater streams? For example, do phosphates become a problematic nutrient in wastewater streams and are any additional treatment removal costs considered in the drinking water rule?
- It would be helpful for the agency to explain (provide a finding) of the Constitutional and statutory authority for the agency to mandate local governments to enter private property/homes (or require the occupants) to perform tests.
- What are the sampling alternatives to entry into private dwellings to accomplish water quality analysis for lead and copper? How reliable are the alternatives?
- What is the agency's definition of water system "control" and "ownership?" Are there any conflicts with these definitions and the rule's reliance on testing at private taps?

***Has the tiered (building age) sampling requirement of the rule resulted in any correlation in sample results?***

In many cases within my own system, the historic first draw sample results from one specific location for both lead and copper varied considerably from year to year. Also in many cases in my system, our Tier 3 sites had higher lead and copper results than Tier 1 sites.

I felt that both the historic variation of levels from the same site as well as the variation between tiers is not unique to my system. Therefore it begs the question whether any analysis of nationwide sampling data has been completed to:

- 1) analyze historic lead & copper levels at single sites to determine variability and reliability of results.
- 2) determine if there is actual correlation between each of the current tiers and actual sample results.

This leads to the basic comment that questions whether the Rule's current method of sampling protocol in the determination of the susceptibility of lead leaching or the effectiveness of treatment reliable based the above.

***Are there alternatives to notifying the entire water system for violations when any water quality issues are limited to certain homes?***

This question may have been worded incorrectly as it is agreed that it is not considered a "violation" but rather an exceedence of a threshold that triggers a TT. The Rule's strategy is to find the "most likely homes with probable high lead content" (ie. lead service lines or plumbings). The question is raised as the Rule then requires a PWS to notify all their customers with lead health language (when only a few homes exceed an action level) even though the majority of the PWS's customers are not susceptible to lead leaching from lead service lines. The language in the public notification requirements of the Rule should be tailored to those homes which are most susceptible to lead leaching from lead lines.

**Ref: Proposed Changes to the Lead & Copper Rule  
Comments to the Environmental Protection Agency**

John Scheltens, Principal  
Scheltens & Associates  
Representative of the City of Hot Springs  
Hot Springs, South Dakota 57747

Date: 31 July 2012

The proposed changes to the LCR will have significant impact to Small Systems. A number of items are of serious concern that places the small system in difficult, if not impossible, positions to administer. It is also a very costly rule for small systems if implemented as proposed. There are several areas of concern as follows:

1. **Service Line Responsibility (Replacement):** Utilities did not install the service line on private property when initially constructed. This is private property on private property. Making the utility responsible for private property is wrong. If the utility does not have ownership, it does not have control, nor responsibility. To pass a rule and make all utilities responsible for services lines on private property is an extremely dangerous proposal and a real Pandora's box of responsibility and liability. Where does it end? Utility's responsibility should end where the service line crosses from public ROW onto private property. This is a clear line of responsibility with no confusion.
2. **Potential Costs of LCR Revisions:** The table of costs as presented on Slide 23 is confusing. It is not clear to me, as well as others on the conference call, as to what the numbers mean. I find the table somewhat misleading in that it gives the impression that annualized costs are not that much.

I find the costs for the replacement of service lines way too low. Given the nature of lead service lines, they are very old. Installed many years ago, probably before 1940. As such, the routes on private property probably pass under many mature yards, trees, sidewalks and in many instance other structures like additions to the home, garages, porches, etc. Cost of replacement is very high given what needs to be disturbed. The location of the existing service is many instance is only a guess. Sometimes land owners or adjacent properties have tapped into them.

Please provide the information as to how these numbers were derived and what assumptions were made.

3. **Filters:** Utilities providing and servicing filters is a problem. Selecting the right filter is critical. However, providing the filter opens the utility to legal liability issues, especially when the filter is located on private property. The ability to access and service the filter is problematic given the restricted access



to private property not to mention what plumbing device the homeowner may have installed before the filter.

4. **Public Notification:** Lead in the body may be harmful, but the amount contributed by drinking water is really not known. Therefore the wording contained in public notification of Lead in drinking water needs to be informative not alarming.

Even though there has been an overall reduction of lead in humans, there are many possible reasons not the least of which is the removal of lead in gasoline, which I suspect has had a much greater impact than drinking water. Until public health studies can determine the effect of lead in drinking water, we do more harm than good by alarming wording in public notification documents.

5. **Sampling Locations:** Representative sampling in the home, as well as the time of sampling, access to sampling sites, etc. are all major drawbacks from conducting an effective lead sampling program. If we can determine that the responsibility of the utility is the service to the property line, then select sampling sites at the property line will provide a quality controlled sampling program. i.e. get out of private property homes and internal plumbing where utilities have no ownership nor control.

Thank you for the opportunity to comment.

John P. Scheltens, Principal  
Scheltens & Associates  
Representative of the City of Hot Springs, SD

# Written Comments of Small Entity Representatives

## Panel Outreach Meeting for the Lead and Copper Long-Term Revisions Rulemaking (September 12, 2012)

1. Chuck Van Der Kolk (Zeeland, Michigan Board of Public Works)
2. Janet Andersen (Twin Lakes Water Works - NY)

## Questions/Comments/Suggestions Regarding The September 12 Meeting

1. *EPA is evaluating the whether to change the tiers for monitoring sites under the LCR.*
  - a. **Question:** How will small water systems determine whether a potential sampling site has “partial LSLs”?
2. *EPA is evaluating whether to monitor at separate sites for copper. EPA is considering requiring public water systems to conduct copper monitoring at separate sampling sites more likely to have elevated copper levels, such as those with copper pipes less than three years old.*
  - a. **Comment:** A separate copper sampling pool would increase the burden of LCR on small systems:
  - b. **Question:** What sites would small systems use that have few or no new homes, homes that use plastic or unwilling participants?
  - c. **Question:** How would small systems identify copper plumbing? Few small systems maintain records of new copper plumbing in residences in the water system. Not all local building permit programs will maintain records sufficiently detailed to support community water systems locating homes with copper plumbing.
  - d. **Question:** Is “less than 3 years old” going to be interpreted the same way as “more than 6 hours” is being interpreted with respect to stagnation times in sampling? That is, is a home subject to sampling as soon as it is constructed, at the time of occupancy, after 6 months of occupancy, or stated another way “Is a water system “gaming” if all of its copper samples are taken at homes that have been in use for between 24 and 36 months?”
  - e. **Question:** Since by definition “new copper” is not passivated, how will sampling from new copper demonstrates that a water system’s optimized corrosion control treatment is or is not optimized?
3. *What is the impact of re-structuring the LCR monitoring sample sites?*
  - a. **Question:** Would shifting the sample to only homes with lead service lines (revised Tier 1) and copper that has yet to be passivated (proposed new copper sample pool) lead to more exceedences of the action level.
  - b. **Comment:** EPA has not provided enough information from past years of experience implementing the current LCR to predict the number of systems that are currently compliant with the existing LCR action levels that would be triggered to take action based on the revised sampling sites.
4. *EPA is considering revising standard monitoring from two six-month periods, to one annual period of June through September.*

- a. **Comment:** A single monitoring period in combination with the restrictions on LCR monitoring and reporting included in the 2007 LCR revisions will make it more difficult to take a representative sample.
  - b. **Comment:** If EPA moves to a single annual monitoring period then it needs to provide water systems with a way to end public education and new burdens imposed by revisions to the LCR more quickly than current “2 consecutive monitoring periods.”
5. *EPA is also contemplating revising the sampling procedures for systems with LSLs.*
- a. **Comment:** Small systems rely on customers to take tap water samples. Getting willing participants to take samples is difficult; the more complex the sampling instructions becomes the harder it will be to get customers to take samples. This effect will make the difficulties resulting from the proposed changes to the sample pool(s) worse.
  - b. **Comment:** EPA has not provided information from past years of experience implementing the current LCR to predict the number of systems that are currently compliant with the existing LCR action levels that would be triggered to take action based on revising the sampling protocol or the combination of revising the sampling pool and revising the sampling protocol. This is particularly important for small systems, since small systems are typically more sustainable when treatment is not extensive, heavily dependent on operator oversight, or re-evaluated based on small changes. Strategies to encourage small systems to evaluate or re-evaluate OCCT should be careful to avoid situations where system that are providing high quality water are driven to make changes, perhaps repeatedly, and run the risks of treatment failures and unintended consequences of treatment modifications.
6. *EPA is contemplating prohibiting water systems’ from instructing samplers to remove and clean the aerator or flushing the tap prior to the stagnation period.*
- a. **Comment:** Sample instructions to samplers need to be easy to follow and clearly worded in order to get adequate customer participation and representative samples.
  - b. **Comment:** Customers should receive simple instructions that lead them to provide water samples that reflect typical stagnation periods (e.g., school structures should not be sampled in the summer but during flows typical of when structure is in use; homes should be sampled under normal use conditions – not during a typically high irrigation usage, protracted periods when structure was not lived in or from a long stagnated sampling source, etc.) so as to appropriately guide management of OCCT.
  - c. **Question:** What would be considered “normal” use?
  - d. **Question:** What criteria would be used to invalidate a customer drawn sample?
7. *EPA is evaluating whether materials should be provided to consumers for copper. EPA is also evaluating the target audience for any materials that might be developed (new homes versus system-wide). The Agency is considering requiring copper outreach materials for systems exceeding the copper action level, and at new copper construction sites.*

- a. **Comment:** See previous comments with respect to difficulties associated with copper sample site selection and sampling.
  - b. **Comment:** EPA outreach materials, like the recent CCR statement on lead, can be alarmist, particularly when contaminant levels are quite low. It is important that any new education materials provide useful information but not unduly alarm recipients.
  - c. **Question:** Many small systems require copper water services. Following installation would they be required to provide education materials to notify them of the potential dangers of their newly installed service?
  - d. **Question:** What water service materials would be considered safe?
8. *EPA is evaluating whether to require systems to re-optimize corrosion control treatment, before being triggered into LSLR, and if that re-optimization process should be more prescriptive.*
- a. **Comment:** It is very difficult to assess impact and do ability of “re-optimize OCCT” without a clearer understanding of what is re-optimization – the listed components do not provide a clear description.
    - i. It is not reasonable to expect that a state will allow a small water system to conduct its own re-optimization study if it entails the items listed, rather a documented expert will be expected to do the work. Most often this will be the water system’s engineer. Similarly, to the extent that a treatment change is required, the system’s customers would expect a qualified outside party to provide advice. The qualifications of the individual responsible for this assessment, the amount of data that will be expected to substantiate the evaluation, and the priority given to different aspects of OCCT will determine the cost of re-optimization.
  - b. **Comment:** To best target limited small system resources, it would be best if re-optimization started with an assessment of current corrosion control treatment where it is in place (e.g., were the feeds working?, was the dose correct?, etc.); if treatment is in place but not effective, then assess how treatment might be modified; and if treatment needs to be installed or completely re-thought, then a complete set of studies as reflected in initial LCR.
  - c. **Comment:** OCCT is a site-specific solution -- the proposed expansion of OCCT considerations may make sense in some situations, but it seems more likely that as described these provisions would impose more costs on small systems without guiding them to cost-effective, site-specific solutions.
  - d. **Comment:** Historically EPA guidance has recognized that selecting OCCT required consideration of factors beyond simply minimizing lead and copper levels. EPA should be sure to retain this more inclusive framework for what constitutes successful OCCT.
  - e. **Comment:** To the extent possible small systems will find it more sustainable to minimize treatment strategies that require extensive operator oversight.
9. *Allow Non Transient Non Community Water Systems (NTNCWSs) serving fewer than 10,000 people to install Point of Use (POU) treatment units in lieu of CCT.*

- a. **Comment:** There are a number of “community water systems” that have the same features as NTNCWSs. To avoid arbitrary distinctions and state-to-state variability in nomenclature, the use of POU could be open to both CWS and NTNCWSs. Practical feasibility given SDWA requirements will severely limit the number of systems where POU is a viable option.

10. EPA is also considering requiring systems that are triggered into corrosion control steps to continue routine monitoring for lead and copper at the taps and routine WQP monitoring until the system has completed all corrosion control steps and the State and/or EPA has designated OWQPs.

- a. **Question:** Does EPA have any information that states do not already require such monitoring?
- **EPA Suggestion:** Delay Mandatory LSLR Requirement until after CCT Re-optimization. ...
  - a. **Comment:** It is useful to think about evaluating and refining OCCT prior to mandatory lead service line replacement.
- **EPA Suggestion:** Eliminate Partial LSLR. In situations when owners/residents cannot or will not pay to replace the line on private property, systems would be required to leave the entire LSL undisturbed.
  - a. **Comment:** This possibility is only feasible if EPA realizes that installation of water system facilities requires cutting lead service lines (the exact length varies with the situation), so what EPA would be eliminating is the deliberate replacement of lead service lines to the customer’s ownership, not the cutting of lead service lines.
- **EPA Suggestion:** Revise the Seven Percent Replacement Requirement. Under this potential revision, systems would no longer be required to replace seven percent of LSLs in their distribution systems each year. Instead, systems would be required to make a replacement offer through a consumer notice to at least 10 percent of homeowners served by a LSL in its distribution system per year and to fully replace those lines where a consumer agrees to replace their portion of the line.
  - a. **Comment:** The notification of 10% of residential customers served with a LSL and replacement of the fraction of that group of customers willing to work with the water system to pay their portion has appeal and should be costed out in a transparent manner so that this option gets full consideration in the rulemaking.
- **EPA Suggestion:** Eliminate follow up sampling of LSLRs. EPA is also considering removing the requirement for systems to collect a LSL sample within 72 hours following a PLSLR, and is considering enhanced requirements for the content of the notice that systems provide to residents of households where LSLRs are performed, including guidance on flushing their taps and cleaning their aerators. Systems could be required to

perform a study to determine the appropriate length of time for the residents to flush their taps.

- a. **Comment:** Eliminating the post-LSLR sample would be helpful. It is difficult for water systems to obtain this sample from customers.
- b. **Comment:** For small systems to conduct a “flushing study” the study would need to be simple, possibly reduced to a simple spreadsheet based on the length of service lines and plumbing so that a typical flushing time can be identified for a particular type of housing.
- c. **Comment:** Flushing could bring up the question “who pays” for the water?

- **EPA Suggestion:** Provide a Pitcher-filter or Other Treatment Unit Prior to LSLR.

- a. **Comment:** It is not clear that there is an NSF certified POU or pitcher-filter appropriate to this task that is currently on the market.

11. *EPA is considering revisions to the definition of control to include the portion of the service line not currently owned by the system, but may otherwise be under the control of the system because it has the authority to repair, replace, or maintain the line.*

- a. **Comment:** EPA proposing to make the water system responsible for repair of private property by expanding the system’s responsibility from the portion of the water service line it owns to the portion of private property where it “... (1) Authority to set standards for construction, repair or maintenance of the line; (2) authority to replace, repair or maintain the service line;” would be a problem for small systems.
  - i. Water systems typically have the authorities they have for the public good not to provide a benefit to an individual homeowner. For example authority to repair or maintain are to address issues that place the larger community at risk (e.g., a pipe break that floods adjacent property or causes ice on a community street), etc.
  - ii. When water systems utilize these existing authorities to protect the public they are typically paid for by that individual customer (e.g., the cost to repair a broken service line is billed to the customer, etc.).
  - iii. It is important to note that standards for plumbing originate and can reside in plumbing codes that exist at the state and jurisdiction in which a small system is located. In this regard, the “authority” is the jurisdiction implementing the plumbing code which may be the county or city in which the water system is located rather than the system itself.
  - iv. The cost of a complete lead service line replacement is important to small systems as such replacements can be very expensive and only benefit one customer, where a similar amount of funds spent elsewhere in the water system could benefit a much larger number of customers. The cost of any one service line replacement depends on:
    1. What is defined as the lead service line – is it the entire length from interior plumbing to the main? (e.g., entry into the home is necessary)
    2. Is there a basement or is the service line entering through a concrete slab?

3. Is the replacement occurring as a portion of a larger project in that street or is it a single stand-alone replacement?
4. How extensive is the number and value of trees, shrubs, gardens, walls, etc. that would be disrupted by the replacement work?
5. Liability and insurance cost.
6. Does the service cross under adjacent properties?

And other considerations, and as a result, particularly in older small systems not inexpensive.

12. *How best to distinguish plumbing materials that are exempt from the requirements because they “are used exclusively for non-potable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses where the water is not anticipated to be used for human consumption.”*

- a. **Comment:** Small systems can include manufacturing facilities, farms, colleges, and small communities with commercial entities. Identifying the elements of facility plumbing that are used to provide water for consumption (e.g., water fountains, kitchen faucets, etc.) are easily distinguished from plumbing used for fire suppression, manufacturing, irrigation, etc.. This is a distinction that is apparent to plumbers and inspectors in the routine course of business.



**To:** Lanelle Wiggins  
**From:** Janet Andersen, Twin Lakes Water Works, South Salem, NY  
**Subject:** Comments on Lead and Copper Regulatory Revisions  
**Date:** September 26, 2012

Thank you for the opportunity to participate in the reviews on the proposed lead and copper updates. While I am a certified operator and a member of the Twin Lakes Water Works board, these comments are my own, and may not represent the views of the management of our water system.

**Comments on proposed changes:**

- **Create separate lead sampling site selection criteria for systems with and without lead service lines (LSLs).**

This requirement is overly burdensome and abstract. Separate criteria may be appropriate, but the criteria have to be feasible. For systems without LSLs, the current proposal requires sampling criteria of “known metallic plumbing components”. With the 20-year ban on lead solder, and a decrease in leaching from solder after 5 years, this requirement seems to require the system to determine which users might have high-lead brass plumbing fixtures. This does not appear feasible. For those systems without LSL’s, the EPA could require “representative” homes, and eliminate the burdensome need for the water system to determine the possible lead content in any replacement brass fixtures.

- **Create separate copper sampling site selection criteria.**

The EPA has not justified this action. The EPA has not shown that copper is a threat to public health that requires separate sampling criteria. While the EPA stated that copper seemed to leach more from new plumbing than from old sites, no data was given on the amount or significance of this difference to test results and thence the test results to human health. For systems with corrosion control, no evidence was given that testing in different locations for lead and copper would result in a need for adjustments to corrosion control. The EPA is reminded that if a system exceeds action level for copper, no copper warning language is provided for the annual CCR. To jump from no language at all to a separate set of locations and tests with no evidence of human health threats from drinking water seems an overreach.

- The proposed copper sampling criteria is overly vague. The EPA proposed criteria for separate copper selection sites is “those more likely to have elevated copper levels, such as those with copper pipes less than three years old”. It appears this would require a continuous rolling update of sampling sites based on home remodeling, rebuilds, or new homes. Without any health reason for separate copper sites, it is hard to support the increased operational complexity of continuous identification of new, separate copper sites.
- The proposed separate copper sampling is overly burdensome. In addition to site identification, separate copper sites requires the education of new sample site residents on the sampling procedure, and the coordination required to distribute and collect more bottles. In addition, today residents provide one sample bottle for both lead and copper assays. If in the future there were

separate bottles, but one house fit the criteria for both lead and copper, there would not be a composite ‘first flush’ bottle. Also, as more houses renovate and implement PEX (plastic) plumbing, determining new copper plumbing would be a significant burden, and it is likely that many systems would not be able to devote the time required to go to the building department to find which houses had renovated their drinking water plumbing. It is unclear that building departments organize their permits by water system locations or by type of permit. Further, states require a sampling plan (with locations) well in advance of any sampling, and only accept tests from those approved sampling locations. Each update of the sampling plan would result in time consuming discussions with states and provide the potential for lab tests that are not accepted by the state because of a disagreement over the generation of the sampling plan under use.

Potential alternatives: For systems without lead service lines, the EPA might consider asking for lead and copper samples from the same locations based on the date of copper piping replacement, if known. To make this more feasible, perhaps the EPA would consider mandating that the locations for both lead and copper should be revisited every 10 or 15 years rather than a continuously rolling update of sample locations.

- **Provide a waiver or reduced monitoring for copper for non-aggressive water.**

The EPA proposal lacks clarity and would be confusing to implement as currently described. Since today small systems can have reduced monitoring for lead and copper if the results are below AL, presumably this proposed change is for systems with LSLs that exceed the AL for lead and so will continue to sample for lead, but don't exceed ALs on copper. Since, as noted above, there is no rationale supporting unique sampling sites for copper, this would mean that some of the water collected at the household tap would be tested for lead but not for copper. This could be done within the current context of the reduced monitoring rules. Reduced monitoring should be allowed based on prior test results. Reduced monitoring based only on WQP results does not make sense for systems with CCT installed. For example, a system with orthophosphate treatment may have water with pH above 7 and alkalinity lower than the proposed standard, but if their copper sampling results are below the action level, they should remain eligible for reduced monitoring. If you meant to exempt systems with CCT, please clarify. A note on terminology: a waiver means the test is never done, reduced monitoring means it's done less often. The backup document proposed reduced monitoring, the powerpoint proposal refers to a waiver. Please clarify the proposal.

- **Revise the standard monitoring period to one annual period from June through September**

This may require changes to procedures but those costs would be offset by one annual rather than two 6-month tests, and seems to be scientifically justified.

- **Modified sampling procedures for systems with LSLs.**

The EPA needs to clarify the sampling procedure language. If the goal is to sample the highest level of lead, then the sampling procedure should be modified. It is not clear if the proposal is to have one standard set of instructions (e.g., provide a gallon jug and a sample bottle and fill the gallon jug first, then the sample bottle) or to require each system to measure the highest lead levels and then incorporate that finding in their sampling instructions. Please clarify the implementation steps for this proposal. It must be simple to describe to residents.

- **Standardized sampling instructions.**

A standard approach would make the results more comparable and perhaps more fair. However, the language must be simple for both systems and residents to understand. On the call, the discussion included a suggestion that there should be normal household usage of the sample site in the week before the stagnation period begins, and no unusual steps to clean the aerator should be taken. Those directions seem clear and simple. Changing household directions is required for both this and for the modified sampling procedures for LSLs, but should be a one-time change, with some additional time required to explain the change to users.

- **Public education on copper - Require water systems to provide copper outreach materials, perhaps to all users, perhaps to new homes.**

This requirement is overly burdensome in the absence of any scientific support for health hazards from copper in public water supplies. The EPA should provide language for the CCR if a water system has copper test results above the 90% action level (AL). The EPA has proposed that copper information could be sent to new copper construction sites. This is burdensome on the systems to monitor for copper construction, and is overly vague. Would this apply to new homes, reconstruction, and repairs? Building permits are not sufficient, since many new homes have substantial amounts of PEX piping. Any EPA mandated education language should be provided with reasonable clarity and in soft copy so that systems can include it in their materials and not incur separate mailing expenses. However, a need has not been demonstrated.

- **Re-optimize corrosion control treatment (CCT) before being triggered into LSL replacement.**

While this seems to be a beneficial approach, as currently expressed this proposal is too vague to evaluate. The background document does not indicate what would trigger re-optimization requirements, although the powerpoint references ALs. Without any stated trigger, and with the state able to set study requirements, this could be extremely burdensome. Some water systems have been doing WQP testing every two weeks for many years without the state setting optimal parameters. In order for the testing burden on systems to be reasonable, states must comply with their regulatory requirements. The Primary Agency needs a set timeframe to establish OWQPs if monitoring must continue until those parameter ranges are established.

The proposal is not clear if re-optimization could go on indefinitely or at what point LSL replacement would be required. The background document implies that re-optimization would apply to both lead and copper AL levels, and would encourage the implementation of orthophosphate treatment and/or the use of higher levels of orthophosphate. Alternatives to orthophosphate should be allowed and encouraged. The background document also indicates that systems will continue to monitor for lead and copper and WQPs until the system has “completed all corrosion control steps”. That, like every aspect of this section, needs improved clarification.

- **Revise LSL replacement (LSLR) requirements.**

The EPA is considering many changes associated with LSLR. At the same time, EPA has indicated that evaluation periods have been too short to fully identify the impacts of full vs partial lead line replacement. The EPA should support continued studies to better understand this issue.

The EPA proposes instead of a required 7% replacement, the system would offer to preplace 10% of the full LSLs annually. If that 10% turns down the offer to replace owner controlled portion, and

LSLR does not occur, it is not clear what happens to those lines. Can systems ask the same population the next time AL's are exceeded? Must they go to other areas? Do these 10% have to include the high AL results? Does testing have to occur where replacements did not occur? More clarification on how this would operate is needed for evaluation.

Public education and ANSI filters seem reasonable but may be very expensive in reality. Would it be adequate to offer filter pickups at reasonable hours or does the system have to deliver them to each home? The details need to be addressed.

Perhaps the EPA should consider requiring that the LSL not owned by the system must be replaced when the property is transferred or sold, an approach taken in many jurisdictions for problematic infrastructure components such as failing individual wells, septic systems, and in-ground oil tanks.

- **Expand the definition of service lines under the control of water systems.**

This needs clarification. State DOH has told water operators that we are "first responders" and we have the authority to shut off water using customer owned curb-cocks for non-payment, or if there is any danger to public health or the water supply. When outside watering is prohibited, we have been told we can shut off user-owned hoses and sprinklers. Those "emergency measures" imply that the water system has some control of essentially all of the user-owned piping. Water systems cannot afford to take on the cost of maintaining, repair, or replacement of those lines. Small systems may also need to pay for legal advice when encountering any number of standard occurrences. This would disrupt many carefully crafted corporate documents and the cost cannot currently be estimated. The EPA needs to find a different way to achieve these goals.

Thank you for the opportunity to provide these comments. Please let me know if you would like clarification of any of these points.