Fields of Opportunities

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

March 28, 2016

Director Peter Grevatt
Director of the Office of Ground Water and Drinking Water
United States Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 4601M
Washington, DC 20460

Dear Director Grevatt:

Enclosed, please find Iowa's response to your letter of February 29, 2016 regarding implementation of the Lead and Copper Rule (LCR). The five areas of concern identified in your letter have all been addressed. As indicated, the Iowa Department of Natural Resources (IDNR) has appropriately been implementing the LCR, but will continue to search for ways to improve both the state's and the water supplies' responsiveness to public health concerns and provide notification to the public in the most timely manner.

Please do not hesitate to contact Corey McCoid, Water Supply Operations Supervisor, IDNR at 515.725.0401 or corey.mccoid@dnr.iowa.gov if you have questions or wish to discuss further. The staff of IDNR look forward to EPA's review and input.

Sincerely,

Chuck Gipp

Chuck Gipp, Director
Iowa Department of Natural Resources

Enclosure

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IOWA'S RESPONSE TO EPA'S FEBRUARY 29th LCR LETTER

Prepared By

Iowa Department of Natural Resources
Water Quality Bureau
Water Supply

Submitted To

Director Peter Gravett
Director of the Office of Ground Water and Drinking Water
U.S. Environmental Protection Agency

March 28, 2016

1) Confirm that the state's protocols and procedures for implementing the LCR are fully consistent with the LCR and applicable EPA guidance: The Iowa Department of Natural Resources ("DNR") has primacy for the implementation of the Safe Drinking Water Act in Iowa. We believe we are implementing the Lead & Copper Rule ("LCR") in accordance with the U.S. EPA's regulations. When needed, we refer to various EPA guidance documents for interpretation. The LCR applies to all community and nontransient noncommunity public water supply systems ("systems"). In Iowa, we do not have any combined sampling plans between systems; each system is required to conduct the requisite LCR monitoring. These are the highlights of the rule and Iowa's practices:

- **Sampling Plan:** Systems are required to have a LCR sampling plan that is reviewed during an onsite sanitary survey by DNR-Field Office staff every three years for community systems and every five years for nontransient noncommunity systems. The sampling plan was developed using the plumbing materials evaluation that was required at the inception of the LCR, which was in 1991-1993 for most systems. In response to the heightened scrutiny of the LCR implementation, DNR is examining the process conducted during the sanitary surveys to ensure the LCR sampling plans meet the rule requirements. Sampling plan requirements and review will be included in the upcoming Central Office/Field Office joint meeting.

- **Sampling Sites and Frequency:** Systems are required to monitor in the distribution system at a kitchen or bathroom tap in accordance with their sampling plan, per the schedule in their operation permit, which is issued by DNR-Water Supply Operations (DNR-WSO). For community systems, the sites are in single family homes that meet the plumbing tiering criteria. The minimum number of required sample sites is based upon population and previous sample results. The frequency of sampling and the number of required samples are listed in the permit. The least frequent monitoring for any system is once every three years; the most frequent is every six-months. The larger the population, the more samples are required. The smallest number of sites to be sampled during a sampling period is 5 sites. The largest number of sites is 100 sites. Anytime the frequency changes, the system receives a new operation permit.

- **Change of Source or Treatment Process:** Any system that has a change in source water or treatment process is required to notify DNR before any change happens. The change is evaluated by DNR to determine if the system should have a change in tap monitoring (more samples and more frequent sampling events), have optimal corrosion control parameter ranges revisited, etc.

- **Change of Sampling Site:** Systems are required to submit documentation when one site is dropped from the sampling plan for a new site. The new site must have the same Tier

as the previous site, if possible. Reasons for switching sites are typically that the homeowner refuses to participate in the sampling event or a water softener has been installed.

- **90th Percentile Calculation:** The analytical results are evaluated and the 90th percentile is calculated by DNR-WSO according to the accepted practices. Sample results are ranked and the 90th percentile sample is selected. With 10 sample sites, for example, the 9th highest value is the 90th percentile. If the system's 90th percentile sample result exceeds an action level, the DNR-WSO contacts the system to discuss the results. The DNR-WSO prepares the form 141A page 3, and then sends it to the system for the system to review, sign, and return to DNR-WSO.

- **Action Level Exceedance Requirements:** If the 90th percentile result exceeds the action level, the system is required to sample at the routine number of samples for two six-month rounds, and to conduct public education if the lead action level is exceeded. Other requirements include the water quality parameters samples, source entry point samples, and depending upon where the system is in the process, a desktop corrosion control study, assignment of optimal water quality parameter ranges, and, ultimately, replacement of the lead service lines.

- **Large Systems and Optimal Corrosion Control:** Systems that serve at least 50,000 people are required to monitor water quality parameters and operate at optimal corrosion control. Assigned ranges are determined by DNR-Water Supply Engineering and are listed in the operation permit.

- **Lead Consumer Notice:** Per the LCR, systems are required to provide a consumer notice to every homeowner (community system) or employees (nontransient noncommunity) whose home or work area was sampled each round, within 30 days of receiving the laboratory results. This notice is required regardless of the analytical result, and the system must certify to the DNR that the notice was given and must include a copy of the consumer notice which was provided. The system is required to provide the lead notice; DNR encourages all systems to include the copper result and health effects language, too. Templates for both the lead and lead & copper consumer notices are on DNR's website.

- **Annual Consumer Confidence Report:** Community systems are required to include the range of lead and copper results and any 90th percentile action level exceedance in the annual consumer confidence report (CCR). Systems are also required to calculate the 95% lead action level, and if that exceeds the 0.015 mg/L value, include a special lead notice in their CCR. The system must certify to the DNR that the CCR was produced and

distributed. Every CCR is required to include the following mandatory lead health effects language, regardless of the lead results in that system.

> If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. [The System Name] is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

- **Annual State Compliance Report:** The DNR publishes the Public Drinking Water Program Annual Compliance Report every year by July 1st for the previous calendar year. The report lists the action level requirements, as well as all systems with 90th percentile action level exceedances or monitoring violations that were incurred during the year.
  - In 2014, there were 1,108 community systems (CWS) and 135 nontransient noncommunity systems (NTNC), for a total of 1,243 systems that were required to comply with the LCR.
  - There were ten systems with one lead action level exceedance each, and six systems with a total of eight copper action level exceedances.
  - Fifteen systems did not collect the required lead and copper samples within the prescribed sample period and were issued monitoring violations, as reported in the ACR. One monitoring violation was retracted in November 2015 upon discovery of a laboratory transmission error. Of the fourteen valid monitoring violations, thirteen of the water supplies failed to perform any of the required monitoring and one water supply monitored at 8 of the required 10 sample sites. One system is no longer active as a PWS, one system was issued a monitoring violation for 2015 and is required to sample in 2016, with the remaining 12 water supplies having returned to compliance in regards to their monitoring requirements.

2) Use relevant EPA guidance on LCR sampling protocols and procedures for optimizing corrosion control:

Sampling Protocols: The sampling protocols are listed in the rules and are similar to EPA's regulations. The EPA sampling guidance documents have changed several times over the past 25 years – most recently, on February 29, 2016. Here are some of the highlights:

1. We require the sample site have a minimum 6-hour stagnation period, which in the past has been interpreted to be the whole house for CWS with single family dwellings.
2. We require the sample site be a kitchen or bathroom tap.
3. Most systems have the homeowner collect the sample and provide the sampling instructions to the homeowner. In the remaining systems, the system's operator collects the samples.
4. We do not recommend aerator removal for lead and copper tap sampling.
5. We do require the 1000 mL first draw sample that meets the preservation requirements of the analytical method, which is typically acidification at the laboratory within 14 days of sample collection, and analysis within 6 months of sample collection.

Procedures for Optimizing Corrosion Control: Systems are expected to optimize corrosion control, and the vast majority of them have demonstrated optimization through their tap sampling. Most systems are on reduced triennial sampling and have been for several triennial rounds. The large systems (>50,000 population served) and any system with an action level exceedance or a system with assigned optimal corrosion control ranges, are assigned water quality parameters to be monitored at the proper frequency and location. The large systems as well as systems triggered into corrosion control are assigned optimal water quality parameter ranges by DNR-WSE in their operation permit. The DNR-WSE staff use the desktop corrosion control model from AWWA entitled "TetraTech RTW Model for Water Chemistry, Process, and Corrosion Control." The current version is 2.0. We also use the EPA Guidance Manual for Selecting Lead and Copper Control Strategies to determine our agreement with what a facility proposes. The RTW model predicts water stability based on water quality parameters, and the manual predicts the selected treatment's potential for success. Iowa systems that have had action level exceedances in the past have typically added orthophosphate for corrosion inhibition. Other treatments include calcium carbonate precipitation potential and silicate addition.

3) Post on your agency's public website all LCR sampling protocols and guidance for identification of Tier 1 sites (at which LCR sampling is required to be conducted):

In April 2011, the DNR and the Iowa Rural Water Association jointly developed a Public Water Supply Lead and Copper Sampling Plan Requirements document. This document is used to assist public water systems in developing and maintaining their lead and copper sampling plans, which includes LCR sampling protocols and guidance for Tier 1 sites. DNR is currently reviewing this document in light of the new EPA recommendations of February 29, 2016, and will revise it as appropriate.

The Public Water Supply Lead and Copper Sampling Plan Requirements document is posted on the Iowa DNR's website at the following link (first item under "Sampling Plans"): http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Drinking-Water-Compliance/Forms

4) Work with public water systems – with a priority emphasis on large systems – to increase transparency in implementation of the LCR by posting on their public website and/or on your agency's website:

- **The materials inventory that systems were required to complete under the LCR, including the locations of lead service lines, together with any more updated inventory or map of lead service lines and lead plumbing in the system**

We recommend that DNR, as EPA recommends, focus on large systems (>50,000 population). The materials inventory was required to be completed by all CWS and NTNC public water systems at the onset of the LCR in 1991. This inventory was not required to be submitted to the Iowa DNR, therefore, we do not have these in our water supply files. Our plan is to send a letter to Iowa's eleven large systems requesting that they increase transparency to their customers by posting on their website their materials inventory along with any updated inventory information they may have.

- **LCR compliance sampling results collected by the system, as well as justification for invalidation of LCR samples**

Our plan is to focus on the eleven large public water systems in this effort. DNR can post the most recent LCR compliance sampling results, along with any sample invalidations and the justification for the invalidation. DNR can post this spreadsheet of routine LCR sample results for each of the eleven large systems on the DNR's website, to include Analyte, Analytical Result, Units, and Sample Collection Date. The 90th percentile results for lead and copper will also be posted with the analytical results.

5) Enhance efforts to ensure that residents promptly receive lead sampling results from their homes, together with clear information on lead risks and how to abate them, and that the general public receives prompt information on high lead levels in drinking water systems.

The timeframes for notifying the sampling sites of lead results, and the general public on high lead levels are currently specified in the LCR. The DNR's plan to enhance efforts and promptly notify the public of high lead levels in their systems includes the following:

- The DNR can change the Lab Certification rules to require laboratories to report samples exceeding the lead action level action level to the DNR within 24 hours via Lab Fax, rather than seven days after the month of analysis, as is allowed by the rule.
- Once DNR learns of an elevated lead level, the DNR can contact the system to recommend the system provide an immediate consumer notice to that particular sampling site with the elevated lead level that exceeds the action level. The LCR currently allows the public water system 30 days to issue the consumer notice after the system receives the lab report.
- The DNR already has templates on its website for consumer notices for both CWS and NTNC systems that include lead and copper. Only the lead consumer notice is required under federal and state rule, so the inclusion of the copper result and health effects language was developed for a system to use if it so chose. The DNR has already encouraged systems to use the lead and copper consumer notice for each site, and will continue to do so.
- The DNR can encourage all systems to complete their sampling early in the assigned period, thus allowing for an earlier calculation of the 90^{th} percentile for that sampling round.
- The DNR can also encourage the system that has exceeded the lead 90^{th} percentile action level to conduct its public education more quickly than the 60 days allowed by rule. If the system fails to submit the required public education with the specified timeframe, the DNR will make a public news release to inform the consumers in the affected system.
- The DNR-WSO will forward the name of the system that has a lead action level exceedance to the Iowa Department of Health's Lead Poisoning Prevention Program for their information as soon as it is calculated, and collaborate as the IDPH requests.