Revised Lead and Copper Rule - Find and Fix Requirements

What triggers the "Find and Fix" requirements?
Routine lead samples that exceed the action level of 15 micrograms per liter (µg/L).

35 IL Adm Code 611.351(J)

How soon do I have to act?
Within 5 days (or within 14 days for systems with a population less than 10,000 people without corrosion control treatment (CCT)) of becoming aware of the sample result you must select a representative sample location and monitor water quality parameters. You must continue to monitor this location quarterly as a water quality site if optimum water quality parameters have been set.

35 IL Adm Code 611.351(J)(1)

Within 30 days of your awareness of the elevated lead concentration result, you must resample the location(s) that exceeded 15 µg/L.

35 IL Adm Code 611.351(J)(2)

How do I select the representative sample location for water quality parameters monitoring?
Select a location based upon the following options at or near (within 0.5-mile radius, same pressure zone, same size water main) each site with lead level greater than 15 µg/L.

- First Option –Use a nearby existing water quality parameter (WQP) site
  - The advantage to this option is that there will be historical information and you can proceed by following routine WQP sampling without increasing the number of sites already required
  - This option only applies to systems currently conducting WQP monitoring
    (Note: The regulation is silent regarding use of a single WQP site to represent more than one 15 µg/L exceedance location. Common sense would dictate that this might be acceptable where a system has sufficient spatial representation of water quality throughout their distribution system to address all aspects of the lead and copper regulation. Prior to using a one-to-many approach, the Illinois EPA should be contacted for regulatory concurrence.)
- Second Option –Use an Existing Nearby Coliform Sample Location
  - The advantage to this option is that you can follow coliform monitoring procedures to ensure a representative distribution system WQP sample is obtained
- Third Option –Use a Nearby Hydrant
  - The disadvantage to this option is that you will likely need to develop sampling procedures with reduced flow for a set period and/or water temperature change has been detected for a designated time at an approximate reduced flow rate
- Fourth Option –New Site at a Nearby City or Utility Facility
  - Again, the advantage to this option is that you can follow your already established coliform monitoring procedures to ensure a representative distribution system WQP sample is obtained from a facility where water system officials have reliable access
- Final Option –New Customer Hose bib
  - Disadvantage of this option is the reliability of the location (lack of knowledge of premise plumbing) must be evaluated

35 IL Adm Code 611.351(J)(1)

What are the water quality parameters (WQP) I must monitor for?
If you are not currently monitoring under Option 1 (above), you will have to begin analyzing a representative location (or locations if you have more than one exceedance of 15 µg/L) for pH, alkalinity, orthophosphate (if using corrosion control treatment), and alkalinity. The analysis of pH provides information on water chemistry and scale stability and should always be done immediately upon sample collection. Alkalinity analyses provide an indication of distributed water chemical stability and can also be conducted by water supply officials. However, sample submission to a properly certified laboratory is more common as water operators do not necessarily have access to titration equipment/glassware. Orthophosphate analysis (for water systems doing corrosion control treatment) provides data on the level of corrosion control needed to reduce the corrosive properties of the distributed water. Again, orthophosphate analyses can either be done by water supply officials or a properly accredited laboratory.[i]

At this time, the Illinois EPA has made available a "Water Quality Parameter Sample Reporting Form" (www.ilrwa.org/Downloads/WQP Sample Reporting Form.pdf) for "operator"-analyzed water quality data. Until further notice the Illinois Rural Water Association (IRWA) recommends that this form be completed and emailed to your Regional Office contact (see https://epa.illinois.gov/content/dam/soi/en/web/epa/topics/drinking-water/documents/who-to-call.pdf) and EPA.LeadandCopper@illinois.gov.

The IRWA is a proponent of considering the collection of supplementary information beyond the noted required analytes. Specifically, collecting temperature information can help describe water age. Chlorine residual data can provide an indication of the likelihood of microbial activity and scale stability. Obtaining oxidation reduction potential (ORP) will also provide an indication of scale stability. Obtaining turbidity and conductivity data can be an indication of the presence of biofilm including the presence of organics and metal corrosion/precipitation and can help indicate the source of lead release within distribute water, respectively. Further, periodically submitting samples for laboratory analyses of calcium can give an indication of the distributed waters impact of cement/mortar-lined mains and evaluation of carbonate scaling). Laboratory analyses of chloride and sulphate samples will provide insight into the Chloride-to-Sulfate Mass Ratio (CSMR). Calculating CSMR provides an indication of the potential for galvanic corrosion.

What procedures do I follow to collect the resample of sites exceeding a lead concentration of 15 µg/L?
The IRWA interprets that the intention of the "Find/Fix" provision, in the Lead and Copper Regulation, is to determine why a particular location is, or may be, an anomaly. Therefore, use of an industry/regulatory accepted sampling procedure (e.g., routine lead monitoring with 1st and 5th draw analyses procedures or sequential lead sampling preceded by a stagnation period) should satisfy regulatory requirements. The bottom line is, where possible, sampling should be tailored where possible to evaluate the suspected cause for the elevated lead detection.

Regardless of the sampling protocol used, customers must be promptly notified of the lead monitoring results. Specifically, monitoring results indicating a lead concentration in excess of 15 µg/L must notify the customer within three days of data receipt and customers with lead concentrations less than or equal to 15 µg/L must be notified with thirty days of data receipt. While this monitoring data is not included in 90th% calculations, it must be promptly provided to the Illinois EPA. Until further notice, the IRWA recommends that the data be sent via email to your Regional Office contact and EPA.LeadandCopper@illinois.gov with a statement that "certifies that customer notification and education materials have provided regarding the attached lead monitoring data."

35 IL Adm Code 611.351(J)(2)

Once I have conducted my required customer resample and quarterly water quality parameter (WQP) monitoring, what am I supposed to do to "fix" the lead problem?
The purpose of collecting the described water quality parameters and site-specific lead data is to evaluate the need for corrosion control treatment or other necessary actions to reduce risk to consumers. If water supply officials determine that the high lead level is solely due to the sample collection location or cannot identify the cause for the result, no additional action is required. However, if the causation is corrosive water, water supply officials must identify suitable fixes/actions.

35 IL Adm Code 611.351(J)(3)

Within six months of the end of the monitoring period of the exceedance(s), water supply officials must recommend a solution (or solutions) to the Illinois EPA. If the officials and Illinois EPA determine that changes to optimal corrosion control treatment (OCCT) are needed, your water supply has twelve months to complete the changes and will be required to conduct follow up monitoring and designation of water quality parameters.

The regulation does note that systems without corrosion control treatment are not required to conduct a corrosion control study or install treatment, unless required by the Illinois EPA. Additionally, systems in process of optimizing or re-optimizing corrosion control treatment do not need to submit treatment recommendations.

35 IL Adm Code 611.351(J)(5) through 611351(J)(8)

After I submit my "determination" and/or "recommend solution" to the Illinois EPA, what happens next?
The Illinois EPA must issue a Special Exception Permit approving the treatment recommendation or specify a different approach within six months after your submission.

35 IL Adm Code 611.351(J)(5) through 611351(J)(8)

[i] Monitoring for water quality parameters must conform with regulatory requirement contained in 35 IL Adm Code Part 611.490(a)(f) and 611.611(a). Generally, use of DPD test methods for orthophosphate (including the use of Chemkeys™ with the Hach SL1000), a standard temperature compensated pH probe, and temperature compensated alkalinity titration will suffice. For additional information, see the following Illinois EPA document: www.ilrwa.org/Downloads/WQP Analytical Methods.pdf