Opening Remarks

- Background on Del-Co Water Company
- Lead Exposure & Health Effects
- Ohio Regulation Changes
- Aqua Ohio’s Lead Program
- Recent Events & Federal Response
- Resources
Del-Co General Information

- Member owned 501 (c) Not-for-Profit Corporation
- Served 1st customer in 1974
- Largest ‘Rural’ System in Ohio
- 8th largest PWS
- Customers = 46,000
- Population = 140,000
Del-Co System

- 4 Treatment Plants
- 800 Sq. Mi. Service Area
- 1850 Miles of Pipeline
- 30 Elevated Tanks
- 18 Booster Stations
- Serve 7 Counties
- 7 Off-stream Reservoirs
1. Olentangy Plant / Reservoirs
2. Ralph E. Scott Plant
3. Timothy F. McNamara Plant / Reservoirs
4. Thomas E. Steward Plant
5. City Columbus/Del-Co Upground Reservoir
Olentangy Plant

- Source: Olentangy River
- 4 Off-stream reservoirs (1.6 billion)
- Capacity: 19.2 MGD
- Upgraded soon to 28.8 MGD
- Supplies 50% of Del-Co customers
Timothy McNamara Plant
- Source: Alum Creek
- 2 Off-stream reservoirs
- Capacity: 4.0 MGD
- Peak Plant for increased demand

Ralph Scott Plant
- Source: Alum Creek
- 2 Off-stream reservoirs
- Capacity: 6.6 MGD
- Supplies 40% of Del-Co customers
Thomas Steward Plant

- Source: 4 Groundwater Wells
- Capacity: 6.0 MGD
- Supplies 10% of Del-Co customers
Lead Health Effects

- Lead is a Public Health Issue
- No known safe blood lead concentration
- CDC recommends intervention with Blood Lead Levels $>5 \ \mu g/dL$
- Cumulative poison with permanent effects

At high levels, can...
  - Attack brain and nervous system, leading to coma or death
  - Lead to miscarriage, stillbirth, premature birth

At low levels, can...
  - Affect children’s brain development
  - Reduce IQ scores and behavioral problems
  - Reduce attention span and lead to learning problems
  - In adults can increase risk of high blood pressure and kidney damage
Lead Exposure

- Occupational and Environmental
- Inhalation of lead particles
- Ingestion of dust, water, food

- ~ 80% of exposure from food, dirt, and dust
- ~ 85% of exposure to infants from tap water

- Infants, children, and pregnant women most susceptible
  - Transfer to fetus in 12th week of gestation
  - Young children absorb 4-5 times more than adults
Lead in Drinking Water

- Generally is not in finished water or source water
- Comes from pipes, solder, fittings, service lines
- WHO guideline of 10 ppb based on exposure to infants
- USEPA regulation is an Action Level of 15 ppb
- CDC recommends children and pregnant women use bottled or filtered water if above 15 ppb
No safe blood level has been identified and all sources of lead exposure for children should be controlled or eliminated. Lead concentrations in drinking water should be below the U. S. Environmental Protection Agency’s action level of 15 parts per billion.

There is no safe exposure.

EPA has only an AL; there is no MCL.

An AL exceedance is ‘not a violation’ and a ‘Do Not Drink’ notification is not required.

EPA’s Maximum Contaminant Level Goal is zero.
Lead & Copper Rule Review

- Establishes an Action Level (AL) for Pb and Cu
- The AL for Lead is 15 ppb (µg/L)
- An AL exceedance is a trigger for...
  - Increased Water Quality and/or Source Water Monitoring
  - Corrosion Control Treatment; Public Education; LSL Replacement
- Must notify homeowner of result within 30 days
- If AL exceedance, notify entire system within 60 days
OEPA LCR Revision Basics

- Federal regulations need strengthened
- House Bill 512 signed by Governor Kasich in June
- Notification and Testing need strengthened
- Defines a ‘threshold level’ (TL) of 15ppb
- STILL does not reference a ‘Do Not Drink’ advisory
- Some provisions effective others under review
House Bill 512 Important Dates

- September 9, 2016
  (Notification & Analysis)
- January 15, 2017
  (Sample plans to OEPA)
- March 9, 2017
  (Lead mapping to OEPA)
- March 17, 2017
  (Interested Party Review)

OEPA LCR Revisions – Notification to Homeowner/Business Owner for Individual Results

- Must be completed no later than 2 business days after receipt of results

- For results below the TL (15 ppb):
  Direct notification by email, phone, hand delivery, or USPS (postmarked within 2 days)

- For results above the TL:
  Direct notification by email, phone, hand delivery, NO USPS
OEPA LCR Revisions – Notification for samples **above** the TL (15 ppb)

- Must provide health screening and blood lead level testing information within 2 business days
- Must provide the laboratory results to the applicable local board of health within 2 business days
- NTNC PWSs must remove all fixtures exceeding the TL immediately
- CWS must include on the CCR
  - Sample Results
  - Associated health risks of lead
  - How customers can reduce health risks
  - Actions the PWS is taking to reduce exposure
## OEPA LCR Revisions –

For a **PWS above the AL (90\textsuperscript{th} percentile >15 ppb)**

- Must provide notice to all customers within 2 business days; notice should follow Tier 1 protocols

- Must provide information on lead testing for tap water *only* to those who are known or suspected to have LSLs, lead pipes, or lead solder within 5 business days

- Provide to all customers within 30 business days
  - Laboratory results
  - Health screening and blood lead level testing information
  - Comply with existing public education requirements of a lead AL exceedance
  - Actions the PWS is taking to reduce exposure
**OEPA LCR Revisions – Other Requirements**

- PWSs must verify to OEPA that all requirements have been completed within 5 business days (excluding the 30 business day requirements).

- Samples submitted to a lab must include: site address, residence phone number, and email address.

- All labs must complete lead analyses no later than 30 business days after receipt of the sample.

- All results must be reported by the end of the next business day following the day of the analysis of the sample.
Del-Co Water Company, Inc. SMP ID

Spreadsheet for lead and copper sample sites

Please return to Michael Shadley, supervisor with subject "Del-Co Water Company, Inc. SMP ID" by January 15th, 2017.

Instructions for Completing the Lead and Copper Sample Monitoring Plan

Ohio House Bill 512 requires new notification deadlines and requirements for lead and copper in both the PWSs and Ohio EPA. Ohio EPA is working to identify unique sample and copper sample sites. The SMP IDs will follow a standard format LC201, LC202, and LC203, so specific consumer addresses within the PWS and specific contact information (phone number and residence) will be identified by the consumers at a sample site residence. Additional information on the sample site PWS with understanding sample results.

Getting Started

To complete this effort, Ohio EPA is asking PWS Owners and Operators to follow the instructions on the Ohio EPA website and download the Excel file "LC201 Sample Site Monitoring Plan.xlsm". Open the file and complete it for your PWS. Each column will contain the specific instructions. You should complete a new row for each site using a distinct column in the Excel spreadsheet.

Mapping Requirements

- Due March 9th, 2017

To date, Ohio EPA has received maps from 1,861 of the 1,878 water systems in Ohio.

<table>
<thead>
<tr>
<th>State Code</th>
<th>System Name</th>
<th>Contact Person</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>OH4600512</td>
<td>DEGRAFF VILLAGE PWS</td>
<td>WEBER, MICHAEL</td>
<td>(937) 570-5759</td>
</tr>
<tr>
<td>OH2100311</td>
<td>DELAWARE CITY PWS</td>
<td>HINSON, THOMAS</td>
<td>(740) 203-1928</td>
</tr>
<tr>
<td>OH2101412</td>
<td>DEL-CO WATER COMPANY, INC.</td>
<td>MARZLUF, GLENN</td>
<td>(740) 548-7746</td>
</tr>
<tr>
<td>OH1034612</td>
<td>DELLROY ELEMENTARY SCHOOL</td>
<td>MOORE, TERRY</td>
<td>(330) 627-2181</td>
</tr>
<tr>
<td>OH0200412</td>
<td>DELPHOS CITY</td>
<td>COLEMAN, SHANE</td>
<td>(419) 695-4010</td>
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</tbody>
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Mapping Requirements

Map Notes and Disclaimers:
Structures built before 1982 potentially have lead service lines.
Structures built between 1982-1998 potentially have service lines that contain lead solder.
Having a highlighted parcel does not mean that the structure has lead in their service line, just that there’s a possibility.
The Del-Co owned side of the service does not contain any lead nor do the water distribution mains.
For more information regarding lead and copper in public drinking water, please visit epa.ohio.gov.
For more information on Del-Co Water Company, please visit delcowater.org.
OEPA LCR Revision Summary

- In development; stay tuned
- Interested party review ended 3/17/17
- [http://www.epa.state.oh.us/Portals/28/documents/rules/draft/IPR_Factsheet_HB512_PbCu.pdf](http://www.epa.state.oh.us/Portals/28/documents/rules/draft/IPR_Factsheet_HB512_PbCu.pdf)
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- Added requirement for PWSs to certify to the Agency notifications were completed.

- Incorporated requirement for PWSs to maintain water system distribution map and supplemental information requirements.
- Added requirement for PWSs on reduced monitoring to notify the Agency prior to changing its source, treatment or before making a change that has the potential to affect corrosion control. PWSs may be required to monitor lead and copper more frequently.
- Revised triennial lead and copper monitoring language and revised triennial water quality parameter monitoring. PWSs will be required to monitor annually unless the PWS meets specific criteria and the director approves triennial monitoring.

- Revised timeframe for when PWS is to report lead and copper sample results, and water quality parameter sample results.
- Revised language requiring PWSs to provide notice to the Agency prior to introducing a new source, change in treatment, and if PWS discovers a potential or actual change in water quality that has the potential to affect optimal corrosion control.

- Added requirement for PWSs to provide notification to consumers in the affected area of a water main replacement or repairs due to water main breaks.

- Incorporated timeframe for when certified laboratories are to complete lead and copper analysis.
- Added requirement for certified laboratories to report lead and copper results, and sample identification information to the PWS and the Agency within a shortened timeframe.

- Incorporated requirement for community PWSs to report lead and copper tap results in their consumer confidence report.

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OEPA LCR Revision Summary

- Added requirement for PWSs to provide notification to consumers in the affected area of a water main replacement or repairs due to water main breaks.

*** DRAFT - NOT YET FILED ***

3745-81-91  Control of lead exposure to consumers - water main replacement.

Public water systems conducting water main replacement shall provide notice of the work to be performed by the system to consumers in the area impacted by the replacement. For planned water main replacements, notice shall be provided at least five business days prior to beginning the work and within twenty-four hours of water main repairs due to a break. The notice shall, at minimum, explain to consumers they may experience changes in the quality of their drinking water, including a temporary increase of lead levels. The notice shall also include guidance on measures the consumers can take to minimize exposure to contaminants.
Utility Response - Encountering Lead Service Lines
Utility Response -

- Customer Notification
Utility Response -

- Sampling
Resources

- House Bill 390 appropriated $12 million to the Ohio Facilities Construction Commission for:
  - Reimburse for sampling and replacement of drinking fountains, water coolers, fixtures
  - Schools built before 1990 can apply for up to $15,000 for sampling and replacement
  - [http://ofcc.ohio.gov/Portals/0/Documents/Services/Lead/Lead-Brochure.pdf](http://ofcc.ohio.gov/Portals/0/Documents/Services/Lead/Lead-Brochure.pdf)
Resources

- USEPA Information for Child Care Providers

Information about the sources of lead in drinking water

Guidance materials to assist with testing for lead in drinking water

https://www.epa.gov/dwreginfo/lead-drinking-water-schools-and-child-care-facilities
Moving Forward...There are mixed messages

- USEPA to establish health-based, household level
- Ohio’s Threshold level of 15 ppb
- No safe levels – CDC/EPA
- Environmental Defense Fund recommends 3.8 and 8.2 ppb for infants
- Messaging & Public Education is essential
Moving Forward......be vigilant

1,700 Flint Residents Sue U.S. EPA for $722 Million in Damages
Over 30,000 water lines in Toledo made with lead

Treatment coats pipes to avoid corrosion, leaching

Drinking water is within safe levels as long as lead is less than 15 parts per billion in the water. While that level is set by the U.S. Environmental Protection Agency, many researchers say no level of lead exposure is safe.

According to the water quality report, a home tested at five parts-per-billion, with the maximum contaminant level at 15 parts-per-billion. The reports say to think of parts-per-billion like this: "One ppb is like one teaspoon of salt in an Olympic-sized pool."
Closing Remarks

- Lead is a public health issue
- Continue operating at a high level
- Public Education is crucial
- Focus on your OCCT
- Compliance may not be enough
- Must minimize risk to customers
Questions ???

Ohio AWWA NW District
Spring Meeting
March 23rd, 2017

Jeff Kauffman
Del-Co Water Company, Inc.
jkauffman@delcowater.com
Recent Events – Flint, MI

- Under the direction of a state appointed manager
- System serves ~ 100,000 people
- Switched sources to the Flint River in 2014
- No OCCT required; but there was discussion
- High levels of lead detected in February, 2015
- USEPA is notified by MDEQ that Flint had no OCCT in April, 2015
Lead Levels – Flint, MI

- Michigan DEQ and USEPA were aware of increased lead levels
- USEPA did direct MDEQ to assist with Flint
- Elevated blood lead levels (EBLL) detected in hundreds of children in September, 2015
- EBLLs increased from 2.4% to 4.9%
- Switched back to Detroit water on October 16th, 2015
- Exposed to high levels for ~ 18 months
Fallout – Flint, MI

- Michigan and U.S. Attorney's Office Investigations
- Employee Actions
  - USEPA Region 5 Administrator resigned
  - MDEQ Director resigned
- Criminal & Civil Issues
  - Criminal Charges against 9 individuals (5 MDEQ, 3 MDHHS, 1 Flint)
  - Michigan AG filed 2 civil suits against Veolia and LAN
  - Class Action suit against USEPA, MDEQ, MDHHS, Governor
- Blame on both MDEQ and USEPA
- Residents still use bottled water for drinking, cooking, bathing
Recent Events – Sebring, OH

- Different situation from Flint
- System serves ~ 8,000 people
- Sodium Hydroxide addition stopped; led to acidic water
- High levels of lead detected in August, 2015
- OEPA sent request to notify by September 25th, 2015
- OEPA was attempting to have Sebring notify public
- Public notification occurs January 22, 2016
Lead Levels – Sebring, OH

- 7 homes with elevated lead; 90th percentile = 21 ppb
- OEPA stated they were “too patient” with Sebring
- Elevated blood lead levels detected in 5 children
- Children and pregnant women should avoid the water
- OEPA ordered advisory to stay in effect for at least one year (until monitoring proves safe)
- Modified treatment; levels have decreased
Fallout – Sebring, OH

- Ohio has strengthened LCR regulations

- Employee Actions
  - Operator had license revoked and was terminated
  - 2 OEPA officials fired and 1 demoted (one hired back)

- Criminal & Civil Actions
  - USEPA investigation into operator’s actions
  - Operator charged with 3 criminal misdemeanors for failure to notify customers within 30 days and system-wide within 60 days
  - Not aware of any civil lawsuits