Mid-Year Environmental Regulatory Update for VMA

Dan Dix, Technical Director
Don Hart, Senior Managing Consultant
Matt Dabrowski, Technical Manager

Agenda

- $PM_{2.5}$ Updates
- RMP Updates
- Lead and Copper
- Worst-Case Discharge *(presentation teaser)*
- Other Topics

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About ALL4

ALL4 consults on all matters of environmental, health, and safety (EHS), and other regulated areas. As a team of 250+ hands-on experts, we've spent decades helping organizations of all sizes and industries grow their businesses - in the face of complex regulations and changing business drivers.

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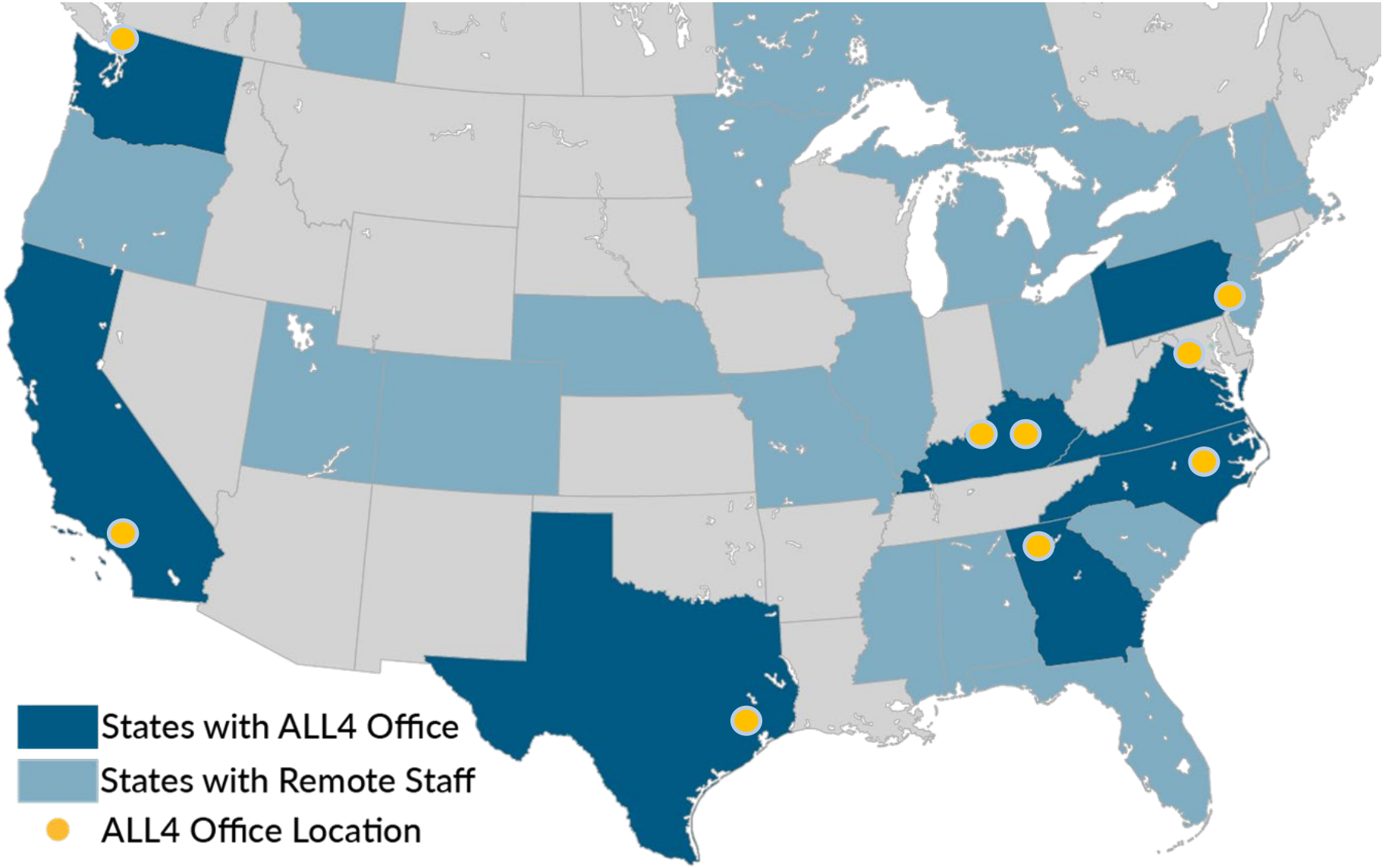

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Logistics

How to ask questions?

- Please enter your questions in the Questions box; Q&A at the end

Can I get a certificate of completion?

- Yes, webinar attendees will receive a certificate
- Please email **marketing@all4inc.com** if you have any questions

Will I get a copy of the slides?

- Yes, a link to the recording and slides will be emailed to participants

Lowered $PM_{2.5}$ NAAQS

https://www.all4inc.com/pm2-5-naaqs/

$PM_{2.5}$ NAAQS Timeline

- January 2023 – U.S. EPA proposed to lower annual $PM_{2.5}$ NAAQS to a level between 9 $\mu g/m^3$ and 10 $\mu g/m^3$
- March 6, 2024 – U.S. EPA finalizes the lowered annual $PM_{2.5}$ NAAQS at 9 $\mu g/m^3$
- April 30, 2024 - U.S. EPA lowers annual $PM_{2.5}$ Significant Impact Level (SIL) from 0.2 $\mu g/m^3$ to 0.13 $\mu g/m^3$
- May 6, 2024 – Effective date of the lowered $PM_{2.5}$ NAAQS

$PM_{2.5}$ NAAQS Annual Standard

- Once the rule toke effect, the 2-year clock started for states submit (by March 6, 2025) and U.S. EPA to approve annual $PM_{2.5}$ attainment designations (by March 6, 2026)
- States then have 18 months to develop (and U.S. EPA approve) their nonattainment State Implementation Plans (SIPs) to get area(s) back into attainment (by December 2027)
  - SIP could include $PM_{2.5}$ Reasonably Available Control Technology (RACT) or air quality modeling requirements
- March 6, 2032, is the target attainment date
  - If area's not in attainment classification changed from moderate to serious

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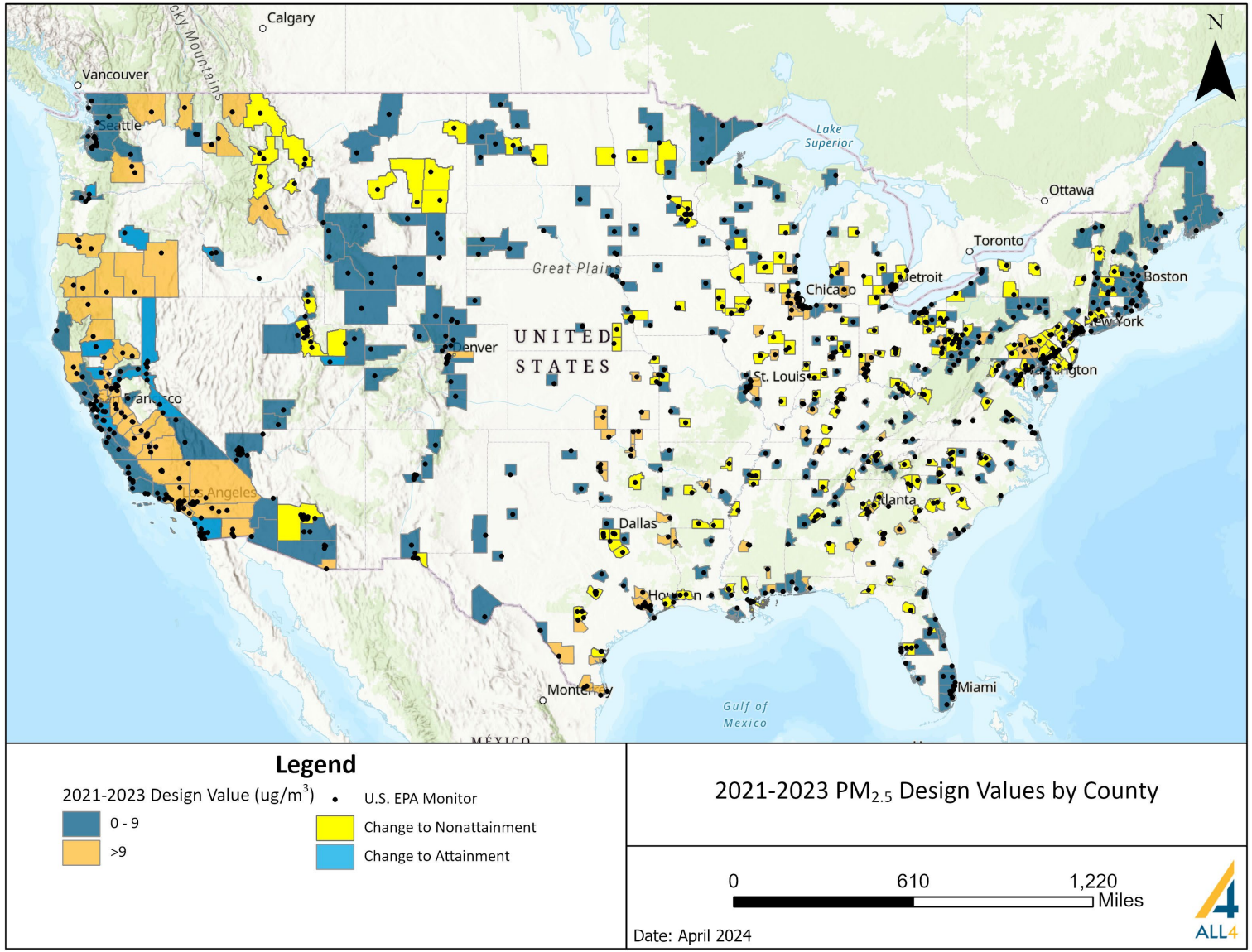
Current and Potential Nonattainment Areas

- Over 300 counties would be nonattainment based on unadjusted 2021-2023 monitor data.
- Refinement of 2023 data based on exceptional events, and FEM monitor adjustments will reduce this number.



Exceptional Events

- There are five categories of Exceptional Events noted in the rule
  - Fireworks displays
  - Prescribed fires
  - Wildfires
    - ***40 CFR 50.1(n) Wildfire*** is any fire started by an unplanned ignition caused by lightning; volcanoes; other acts of nature; unauthorized activity; or accidental, human-caused actions, or a prescribed fire that has developed into a wildfire. A wildfire that predominantly occurs on wildland is a natural event.
  - High wind dust events
  - Stratospheric intrusions

$PM_{2.5}$ NAAQS Modeling Implications

- Lowered annual $PM_{2.5}$ NAAQS and SIL will impact air quality modeling permitting requirements as of May 6, 2024
- $PM_{2.5}$ NAAQS modeling demonstration required when PSD triggered for primary $PM_{2.5}$ or Secondary $PM_{2.5}$ pollutants NO_X or SO_2
- Biggest impact will be the reduced “headroom” when conducting NAAQS air quality modeling demonstrations that require the inclusions of background concentrations from representative ambient monitoring stations
- U.S. EPA’s current modeling guidance requires addition of design concentration to peak annual modeled concentration

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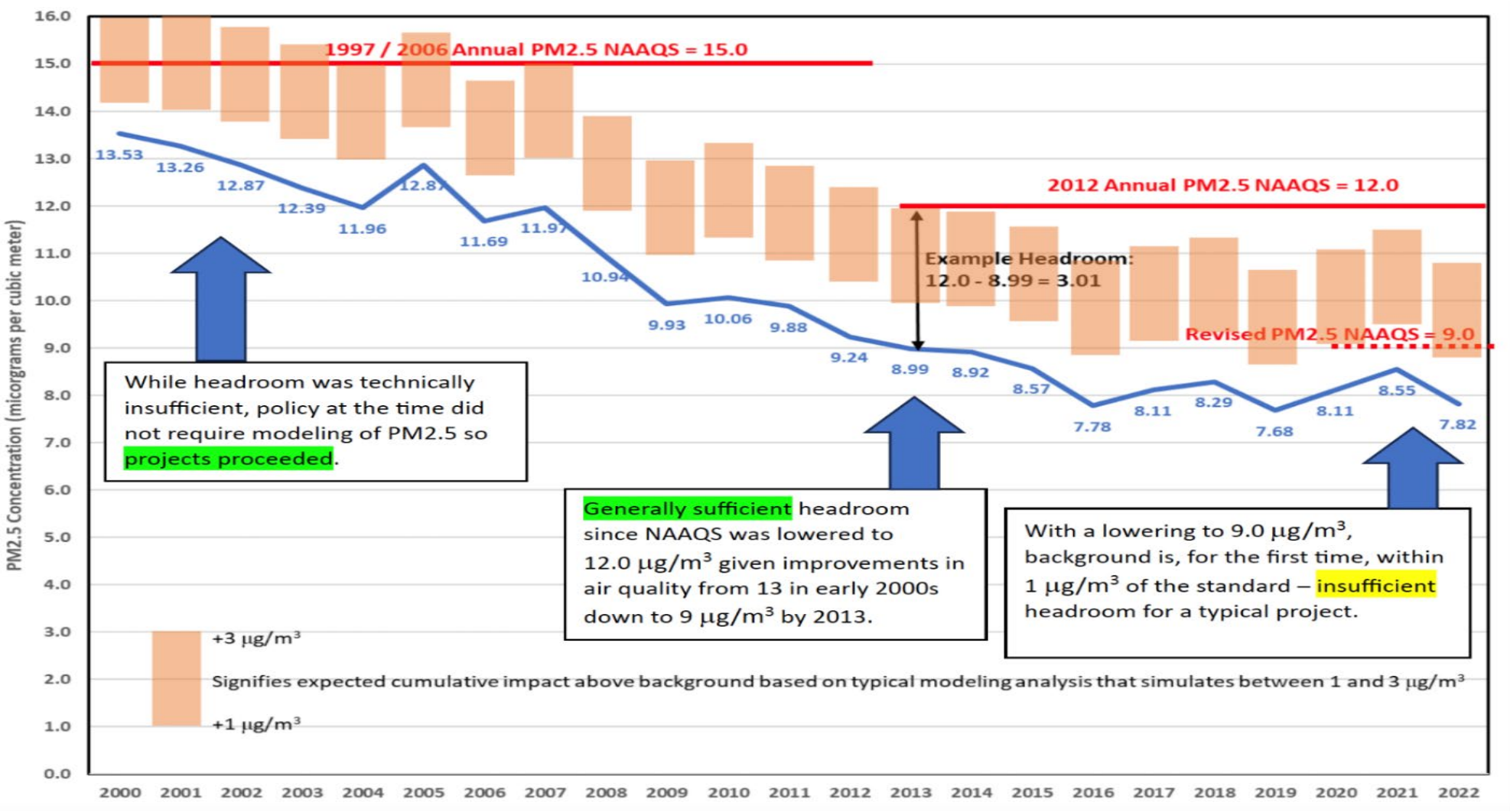
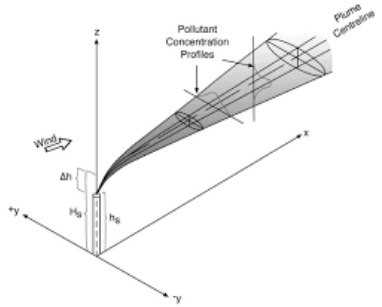
Why is this important now?



EPA, Particulate Matter Trends (https://www.epa.gov/air-trends/particulate-matter-pm25-trends)

Conclusions



- Major NSR applications need to model against lowered $PM_{2.5}$ NAAQS and SIL
- Direct $PM_{2.5}$ modeling is also triggered by major PSD permitting for SO_2 and NO_X precursor pollutants
- Annual $PM_{2.5}$ SIL was lowered to 0.13 $\mu g/m^3$
- Site specific background exceptional event analyses for modeling projects likely to become more common
- Working with states to determine offsite inventories and representative ambient monitors becomes more important

Recommendations

- Review emissions sources, stack parameters, and property boundary to gain a general understanding of the process types and dispersion considerations that could influence future $PM_{2.5}$ air quality modeling
- Review most recent annual emissions report with a focus on reported $PM_{2.5}$ emissions and what factors/assumptions are used to quantify them
- Review $PM_{2.5}$ ambient monitoring data and/or consider collecting site specific background $PM_{2.5}$ ambient monitoring data

Summary of Rule Changes – RMP Safer Communities by Chemical Accident Prevention

https://www.all4inc.com/4-the-record-articles/revisions-to-the-risk-management-program-safer-communities-by-chemical-accident-prevention-requirements/

What is the RMP Rule?

- The Risk Management Program (RMP) Rule implements Section 112(r) of the 1990 Clean Air Act Amendments at 40 CFR Part 68.
- The rule was developed to prevent chemical accidents at facilities that use extremely hazardous substances.
- These facilities must develop a Risk Management Plan.
- The plan identifies potential effects of chemical accidents, steps to prevent an accident, emergency response procedures.
- Plan must be reviewed and resubmitted to EPA every 5 years.
- Facilities are in Program 1, 2, or 3 based on industry and risk.
- Program 3 has the most requirements.

What was not Revised?

- EPA did not change the list of RMP regulated chemicals or the threshold quantities triggering RMP applicability in 40 CFR 68.130.
- EPA did not change the Hazard Assessment and Off-site Consequence Analysis requirements in 40 CFR 68.20 – 68.42:
  - Evaluation of worst-case and alternative release scenarios
  - Distances to toxic endpoints
  - Impacted population and sensitive off-site receptors
  - Five-year accident history

What was Revised?

- EPA has classified the changes into four categories:
  1. Prevention program updates
  2. Revisions to emergency response requirements
  3. Enhancing information availability
  4. Other areas of technical clarification

Revised Prevention Program

- Safer Technologies and Alternatives Analysis (STAA):
  - Mandate facilities to assess and document the feasibility of adopting STAA as part of their Process Hazard Analysis (PHA).
  - Focusing on petroleum and coal products manufacturing (NAICS 324) and chemical manufacturing (NAICS 325).
  - Additionally, facilities must prioritize inherently safer technology (IST) or inherently safer design (ISD), followed by passive, active, and procedural measures.
  - These facilities must implement at least one practicable passive measure or a similarly viable active or procedural measure post-STAA evaluation.

Revised Prevention Program

- Hazard Evaluation:
  - Addresses natural hazards and power loss within Program 2 hazard reviews and Program 3 Process Hazard Analyses (PHA).
  - Additionally, monitoring equipment associated with the prevention and detection of accidental releases from RMP-regulated processes required to have standby or backup power.
  - Siting evaluations within PHAs and hazard reviews must consider hazards associated with the location of processes, equipment, buildings, and nearby facilities, as well as their potential impacts on the community.

Revised Prevention Program

- Hazard Evaluation:
  - Risk Management Plan submittals must include justifications for any declined recommendations, selected from the following options:
    - Analysis which the recommendation is based contains material factual errors.
    - Recommendation is not necessary to protect health and safety of employees.
    - An alternative measure would provide a sufficient level of protection.
    - The recommendation is infeasible.
- Root Cause Analysis:
  - Program 2 and 3 processes are required to conduct a root cause analysis as part of an incident investigation for any RMP-reportable incident.
  - The root cause analysis must include specific elements, utilize a recognized investigation method and must be completed within 12 months.

Revised Prevention Program

- Third Party Compliance Audits:
  - Requires independent third-party compliance audits for Program 2 and Program 3 processes following one RMP-reportable release in a 5-year period.
  - Required to prepare and submit a third-party audit findings response report within 90 days of receiving the third-party audit report.
  - Required to develop a schedule to address deficiencies identified in the audit findings response report and document the action taken to address each deficiency, along with the completion date.
  - Upon completion of the audit findings response and the schedule to address deficiencies, each must be immediately provided to the owners/operators.
  - Must list in their risk management plans any third-party audit findings they choose to decline.

Revised Prevention Program

- Employee Participation:
  - Process Level 2 facilities must develop an employee participation plan.
  - Process Level 3 plans must include consultation with employees on addressing, correcting, documenting, and implementing recommendations from PHAs, incident investigations, and compliance audits.
  - Process Level 3 plans must provide the following authorities to employees :
    - Recommend to the operator in charge of a unit a partial or complete shutdown of an operation/process based on the potential for catastrophic releases.
    - Allow a qualified operator in charge of a unit to partially or completely shutdown an operation/process based on the potential for catastrophic releases.
  - Plans must include a process for employees to report hazards that could lead to catastrophic releases, unreported reportable incidents, or other non-compliance issues to owners/operators and EPA either anonymously or with attribution.

Revised Emergency Response

- Release Detection/Notification
  - Facilities and local emergency response agencies should form partnerships to ensure a community notification system is in place to quickly warn the public in threatened areas during a release.

Revised Emergency Response

- Exercises
  - Notification exercises are required annually (existing requirement).
  - The first notification exercise must be completed by December 21, 2024.
  - Tabletop exercises required at least once every 3 years (existing requirement).
  - The first tabletop exercise must be completed by December 21, 2026.
  - Field exercises are required at least once every 10 years (modified requirement).
  - The first field exercise must be conducted by March 15, 2027.
  - Field exercise frequency can be adjusted if local responders deem it infeasible.
  - Field and tabletop exercise evaluation reports are required within 90 days of each exercise.

Other Areas Revised

- Process Safety Information
  - EPA is finalizing the requirement to keep process safety information up to date
- Hot Work Permits
  - Added a retention period for hot work permits of three years for Program Level 3.
- Retail Facility Exemption
  - Clarified that records can be on a calendar or fiscal year
- Recognized & Generally Accepted Good Engineering Practices (RAGAGEP)
  - Hazard review and PHA language harmonized to eliminate ambiguity and ensure uniform RAGAGEP requirements
  - PHAs must incorporate an analysis of the latest RAGAGEP, ensuring identification of any gaps between facility practices and the most current RAGAGE

Compliance Dates

- May 10, 2024:
  - Evaluate natural hazards, loss of power, facility siting, and RAGAGEP in Program Level 2 hazard reviews and Program Level 3 PHAs.
  - Retain hot work permits for 3 years (applies to Program Level 3 processes).
- December 19, 2024:
  - Complete first annual emergency response notification exercise.
- December 21, 2026:
  - Complete first triennial (every third year) emergency response tabletop exercise.
- March 15, 2027:
  - Complete first emergency response field exercise (or within 10 years of a field exercise conducted between 3/15/2017 and 8/31/2022).

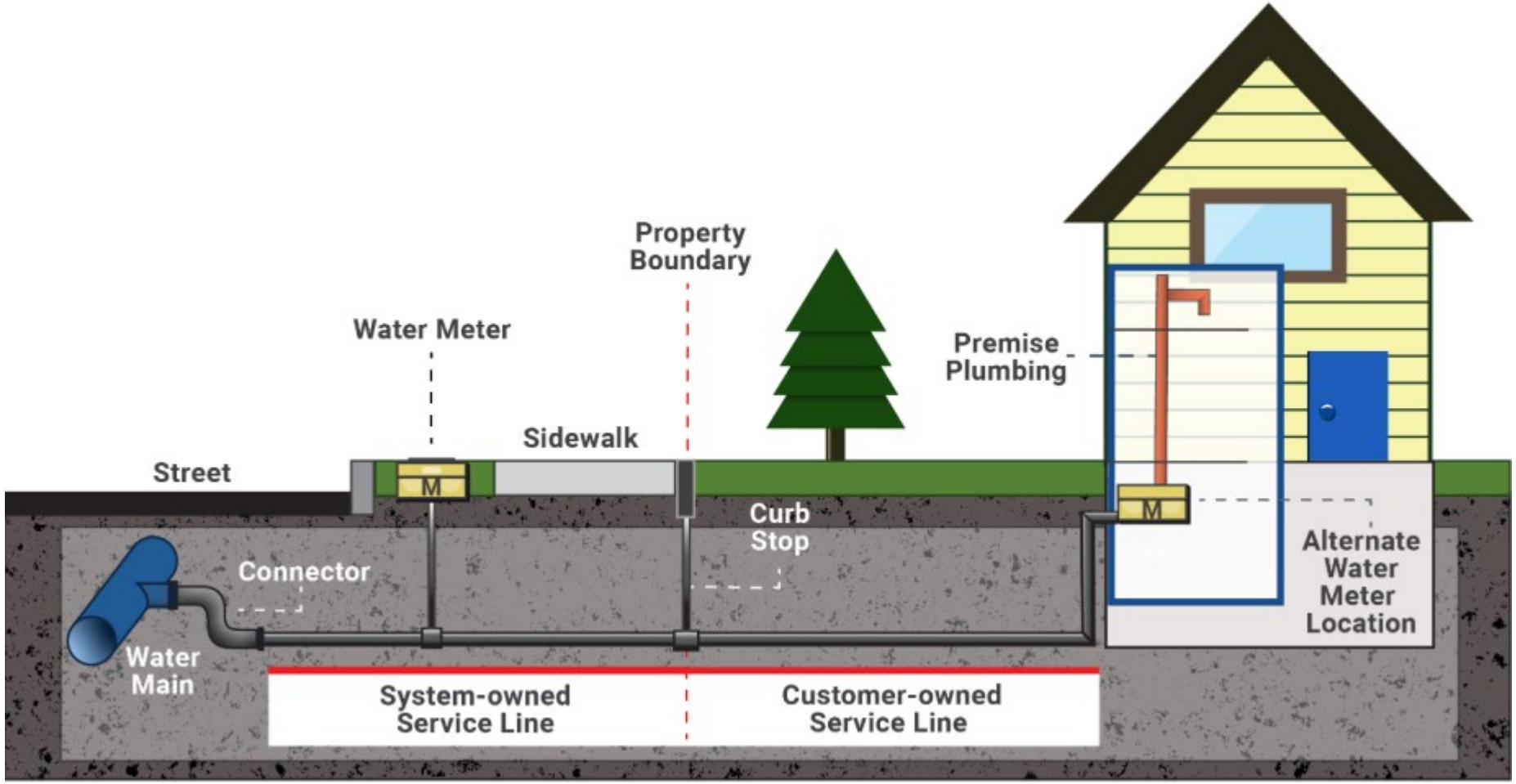
Compliance Dates

- May 10, 2027:
  - Must have standby or backup power for monitoring or detection of accidental releases,
  - Third-party compliance audits,
  - Incident investigation root cause analysis,
  - Safer Technologies and Alternatives Analysis (STAA),
  - Employee participation,
  - Emergency response public notification, and
  - Information availability provisions.
- May 10, 2028:
  - Update and resubmit risk management plans to reflect new and revised data elements

Revised Lead and Copper Rule (LCRR) Rundown

https://www.all4inc.com/insights-webinars/lead-and-copper-rule-revisions-lcrr-rundown/

Service Line Inventory



https://www.epa.gov/system/files/documents/2023-06/Final%20Small%20System%20Entity%20Inventory%20Guide_508.pdf

Who Needs a Service Line Inventory?

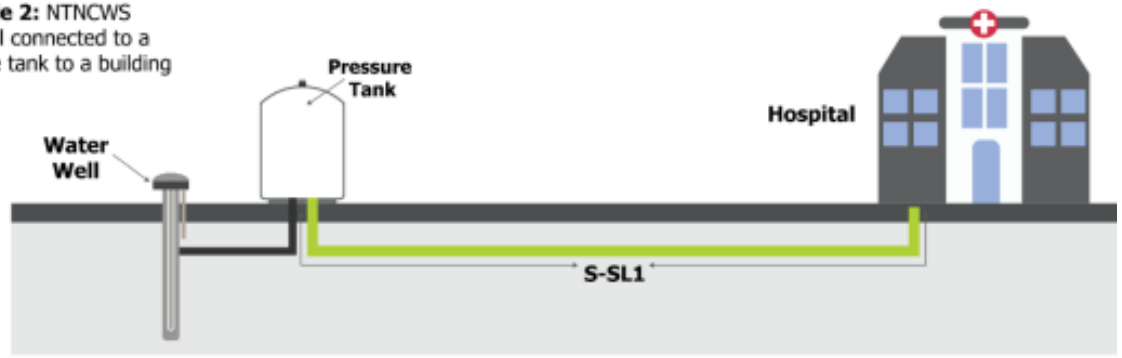
- All Community Water Systems (CWS) and Non-Transient Non-Community Water Systems (NTNCWS) must create a service line inventory
  - A CWS is a public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents
  - A NTNCWS is a public water system that regularly serves at least 25 of the same persons over six months per year
    - This includes manufacturing facilities, hospitals, and schools

What is a Service Line Inventory

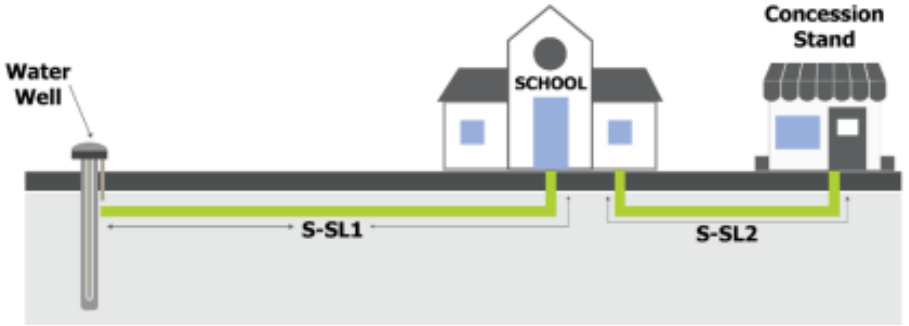
- Service lines can be connected:
  - From water main to building
  - From well to building
  - From pressure tank to building
  - From building to building
- Includes fire suppression lines and those lines connected to vacant or abandoned buildings.
- Can be customer and/or water supplier owned connections

Example 1: NTNCWS with well pumped directly to a building

Example 2: NTNCWS with well connected to a pressure tank to a building



Example 3: NTNCWS with well connected to a building connected to another building



https://www.epa.gov/system/files/documents/2023-06/Final%20Small%20System%20Entity%20Inventory%20Guide_508.pdf

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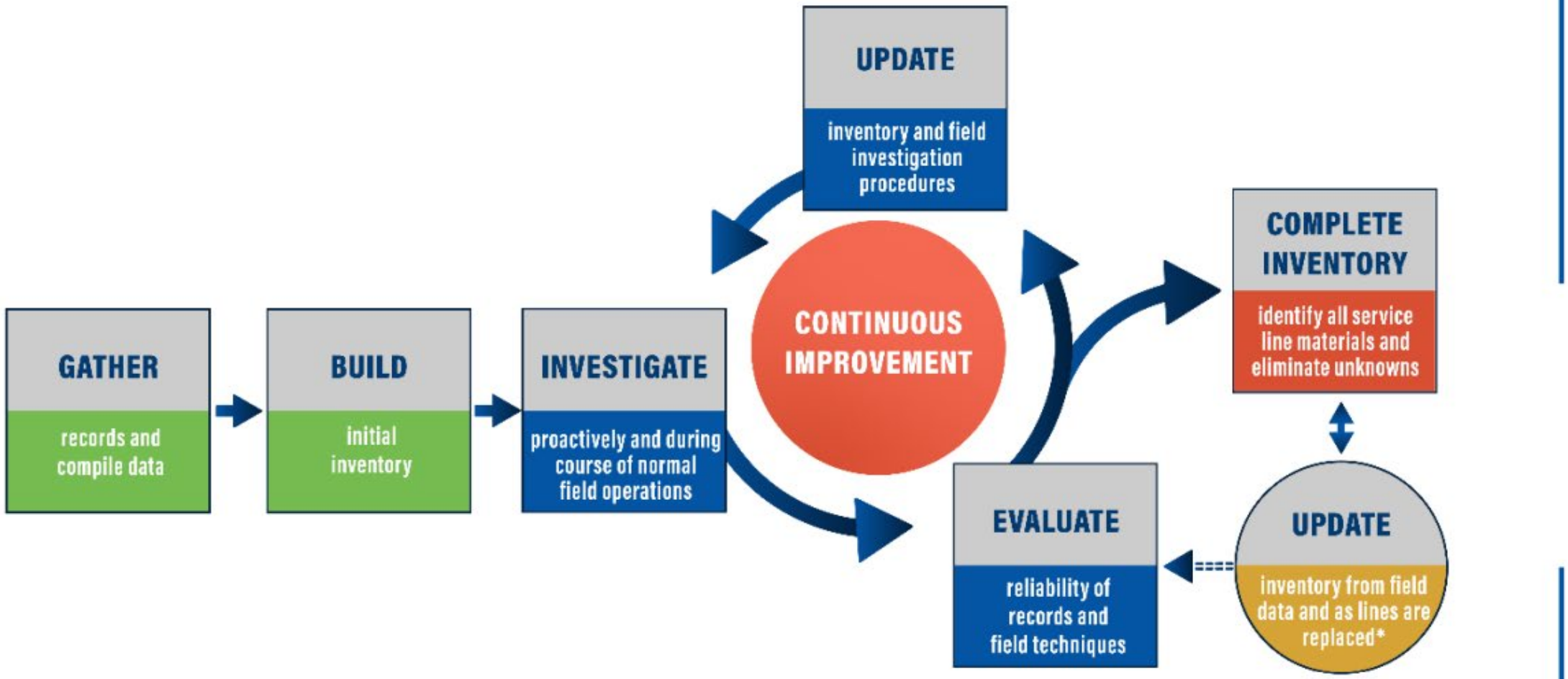
Service Line Material Classifications

- The service line must be classified based on material composition.
- Must include material of both extension and connection if different.
  - Lead (LSL)
  - Galvanized requiring replacement (GRR)
  - Non-lead
  - Lead status unknown



*Discrepancies may be occasionally encountered. If they are repeatedly encountered, systems should reassess their confidence in their inventory's accuracy.

Replace Lead Service Lines

Replacing lead service lines can occur anytime in the steps shown

https://www.epa.gov/system/files/documents/2023-06/EPA-Factsheet-Combined-06072023%20508-final.pdf

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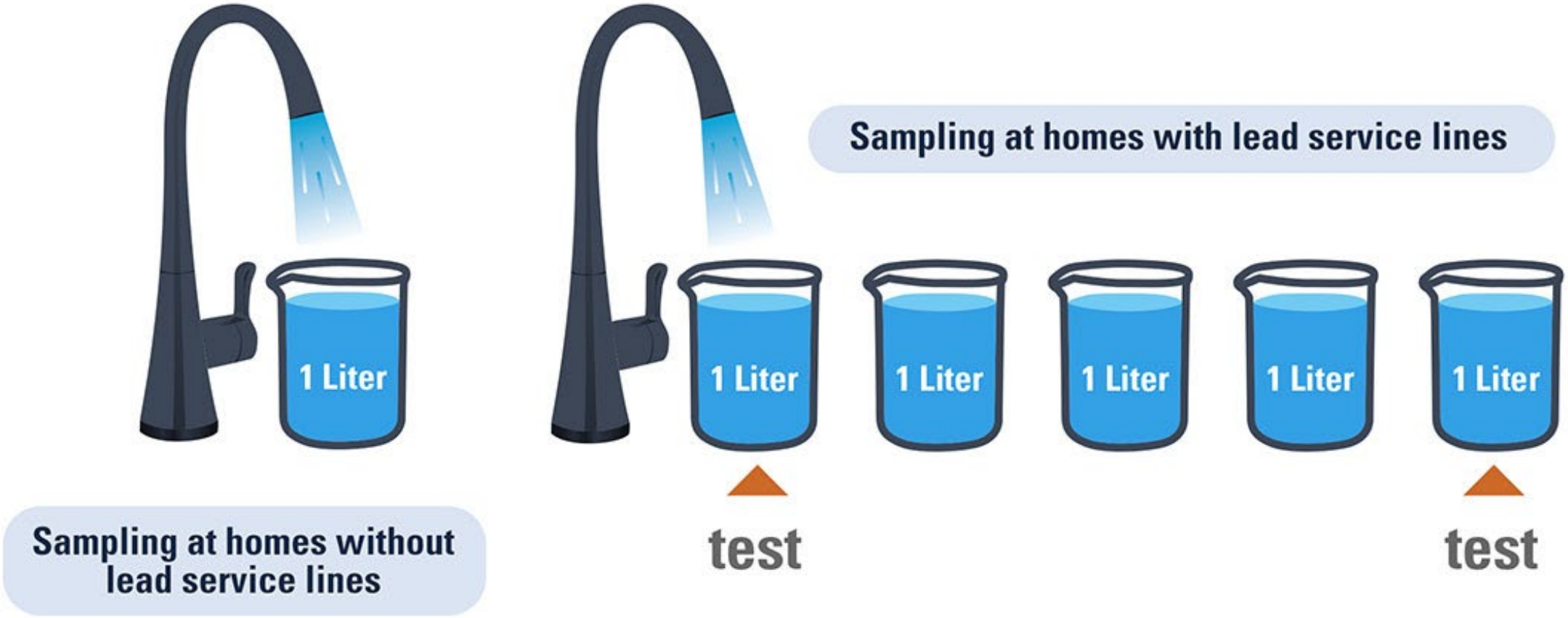
LCRR Sampling Limits

	LEAD	COPPER
Action Level	0.015 mg/l	1.3 mg/l
Trigger Level	0.010 mg/l	none

https://www.sehinc.com/hs-fs/hubfs/Website/Blog-News/Lead-Copper.png?width=679&height=488&name=Lead-Copper.png

Tap Sampling Procedure



https://graham.umich.edu/media/images/lc-q51-01.jpg

Lead and Copper Results

- The lead **trigger level** is exceeded if the 90th percentile concentration of lead is greater than 10 µg/L or 10 ppb

- The lead **action level** is exceeded if the 90th percentile concentration of lead is greater than 15 ug/L or 15 ppb

- The copper **action level** is exceeded if the 90th percentile concentration of copper is greater than 1.3 mg/L or 1300 ppb

90th Percentile Calculation for Lead

Sample #	Sample ID	Lead (mg/L)
1	123 Main St.	0.002
2	123 Oak St.	0.003
3	123 Elm St.	0.004
4	123 Bond St.	0.007
5	123 Maple St.	0.009
6	123 Aspen St.	0.010
7	123 Cherry St.	0.011
8	123 Walnut St.	0.012
9	123 Pine St.	0.013
10	123 Poplar St.	0.030

- Arrange in ascending order
- Multiply number of samples by 0.90 to find which sample is your 90th percentile sample
- 10 samples (0.90)= 9
- Your 90th percentile concentration for lead is 0.013 mg/L or 13 ppb

Compliance Flexibility (≤10,000 people)

- A NTNCWS or small system that exceeds the lead **trigger level** but does not exceed the lead and copper **action levels**, must collect water quality parameters (WQP) and evaluate compliance options.
- A compliance option must be recommended to the state within six months of the end of the tap sampling period in which the exceedance occurred.
- The state must approve this option or designate an alternative compliance option within six months of the water system recommendation.
- If the water system subsequently exceeds the lead **action level,** it must implement the approved compliance option.

Water Quality Parameters (WQP)

- Lead
- Copper
- pH
- Alkalinity
- Orthophosphate as PO_4 (when an orthophosphate-based inhibitor is used)
- Silicate (when a silicate-based inhibitor is used)

https://www.gopracticals.com/chemical/basic-chemical/alkalinity-water-titrating-sulphuric-acid/

https://www.alsglobal.com/en/geochemistry/generative-exploration/conductivity-ph-and-neutralisation

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Compliance Options

- Lead service line replacement
- Corrosion control treatment
- Point of Use (POU) devices
- Replacement of lead-bearing plumbing

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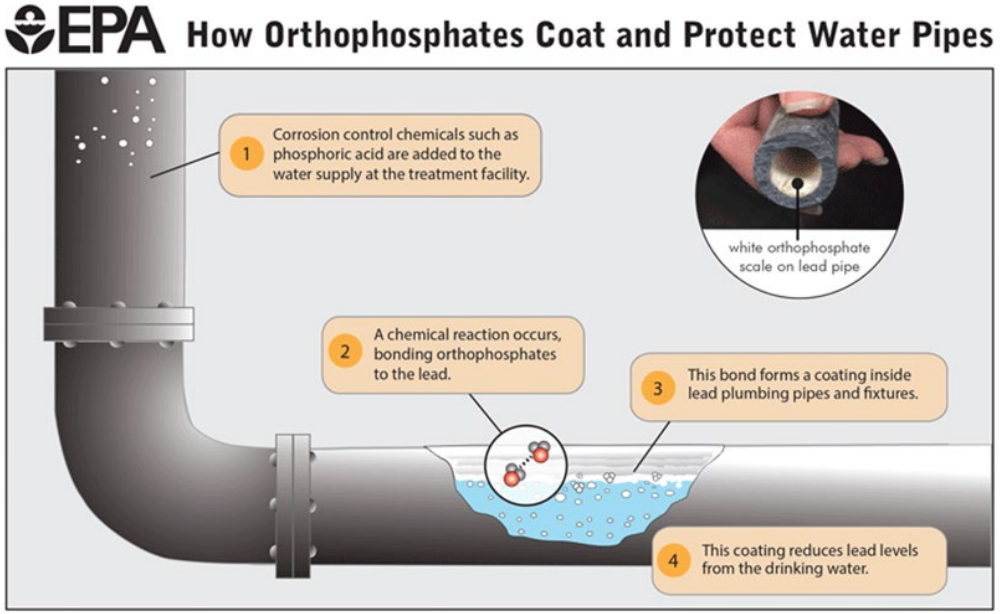
https://www.bridgemi.com/sites/default/files/styles/full_width_image/public/hero_images/jackson_lead_replacement_4.jpg?itok=m_emUUsA



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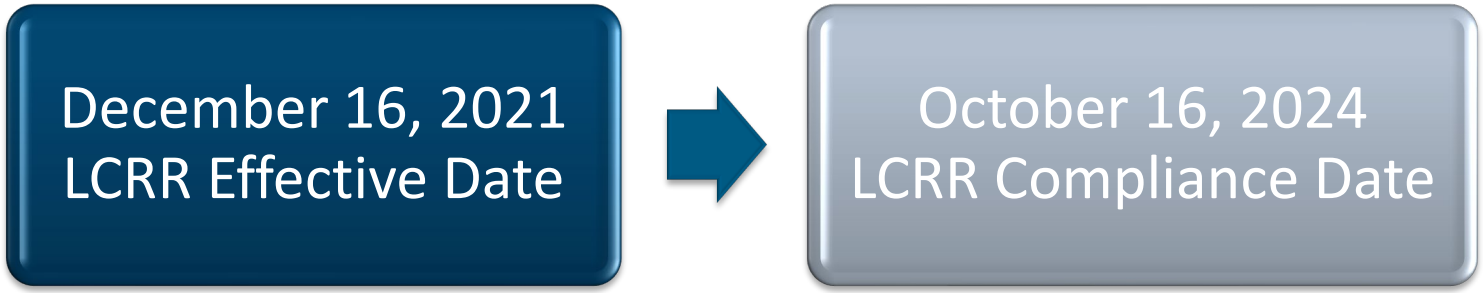
Compliance Timeline

- The compliance date for the LCRR is October 16, 2024
  - An initial **Service Line Inventory** is due to the State by **October 16, 2024**.
  - **Sampling Plans** are due to the State before the start of the first monitoring period of the year.



Reporting Requirements to the State

Report Type	Due Date
Water Quality Parameters	10 days after end of each applicable tap sampling period
Lead and Copper Results	10 days after end of each applicable tap sampling period
Site Sample Plan	By the start of the first applicable tap sampling monitoring period
Consumer Confidence Report (CWS)	Annually by July 1
Initial Service Line Inventory	October 16, 2024
Service Line Replacement Plan	October 16, 2024

Lead and Copper Rule Improvements (LCRI)

- Proposed rule published in the code of federal regulation on 12/6/23
- It will have a compliance date of 3 years after the rule is finalized and published in the CFR

LCRR	LCRI
Action Level for lead 15 ppb	Action Level for lead 10 ppb
Establishes 10 ppb trigger level for lead	Eliminates trigger level
LSLs must be replaced within 15 years	LSLs must be replaced within 10 years
4 compliance options for small systems	Removes replacement of lead service lines as a compliance option for small systems
CCT is a compliance option for small systems	Allows NTNCWS, in lieu of CCT requirements, to choose POU devices or replacement of lead-bearing plumbing
Trigger level exceedance requires goal-based LSLR and steps taken towards CCT installation or re-optimization.	P90 level above lead action level of 10 ppb or copper action level of 1300 ppb requires actions including installation or re-optimization of CCT, and public education and 24-hour public notification (for lead action level exceedances)

Clean Water Act Hazardous Substance Facility Response Plans

(Full Presentation at VMA VEHS Conference in Sept 2024)

General FRP Applicability

Step 1:

- Facility has a maximum quantity onsite of ≥1,000 x Reportable Quantity (RQ) of a Clean Water Act (CWA) Hazardous Substance (HS)
  - There is no de minimis container size exemption
  - Must include CWA HS in mixtures

AND

- Facility is within 0.5 miles of navigable water or conveyance

General FRP Applicability

- **Step 2:**
  - Facility had a CWA RQ discharge in the past 5 years;

    OR
  - Ability to adversely impact a public water system based on modeled planning distance

    OR
  - Ability to cause injury to fish, wildlife, and sensitive environments (FWSE) modeled planning distance

    OR
  - Ability to cause injury to public receptors

Next Steps

- Facilities will need to determine the applicability to their facility based on specific criteria within the rule and, if required, submit a FRP by June 1, 2027
- This may seem like a far-off date, but inventorying all your CWA hazardous chemicals, modeling worst case discharges, developing the FRP, forecasting for future facility expansions, and implementing capital projects takes time and planning

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Other Regulations and Resources

Other Regulations / Resources

- **PFAS Drinking Water Regulation**: https://www.all4inc.com/4-the-record-articles/new-pfas-national-primary-drinking-water-regulation-finalized/
- **EGUs**:
  - https://www.all4inc.com/4-the-record-articles/ace-has-been-repealed-what-does-that-mean-for-new-and-existing-fossil-fuel-fired-electric-generating-units/
  - https://www.all4inc.com/4-the-record-articles/u-s-epa-has-finalized-updates-to-the-mercury-and-air-toxics-standards-for-power-plants/
- **Lithium-Ion Battery Safety**: https://www.all4inc.com/insights-webinars/lithium-ion-battery-safety-compliance-2024/
- **Synthetic Organic Chemical Manufacturing**: https://www.all4inc.com/4-the-record-articles/final-revisions-to-socmi-neshaps-and-nsps-and-the-neshaps-for-group-i-and-ii-polymers-and-resins/

Other Regulations / Resources

- **Chemicals/Refineries**:
  - https://www.all4inc.com/4-the-record-articles/enforcement-alert-bwon/
  - https://www.all4inc.com/4-the-record-articles/4c-reconsideration-rule-blog/
    - Ethylene Production (Generic Maximum Achievable Control Technology Standards NESHAP) (EMACT)
    - Organic Liquids Distribution (Non-Gasoline) NESHAP (OLD)
    - Miscellaneous Organic Chemical Manufacturing NESHAP (MON)
    - Petroleum Refinery Sector NESHAP (RSR)
- **SEC Rule on Climate Disclosures**: https://www.all4inc.com/4-the-record-articles/the-secs-final-rule-on-climate-disclosures/
- **Environmental Justice**: https://www.all4inc.com/insights-webinars/environmental-justice-update-2024-approaching-the-crossroads/

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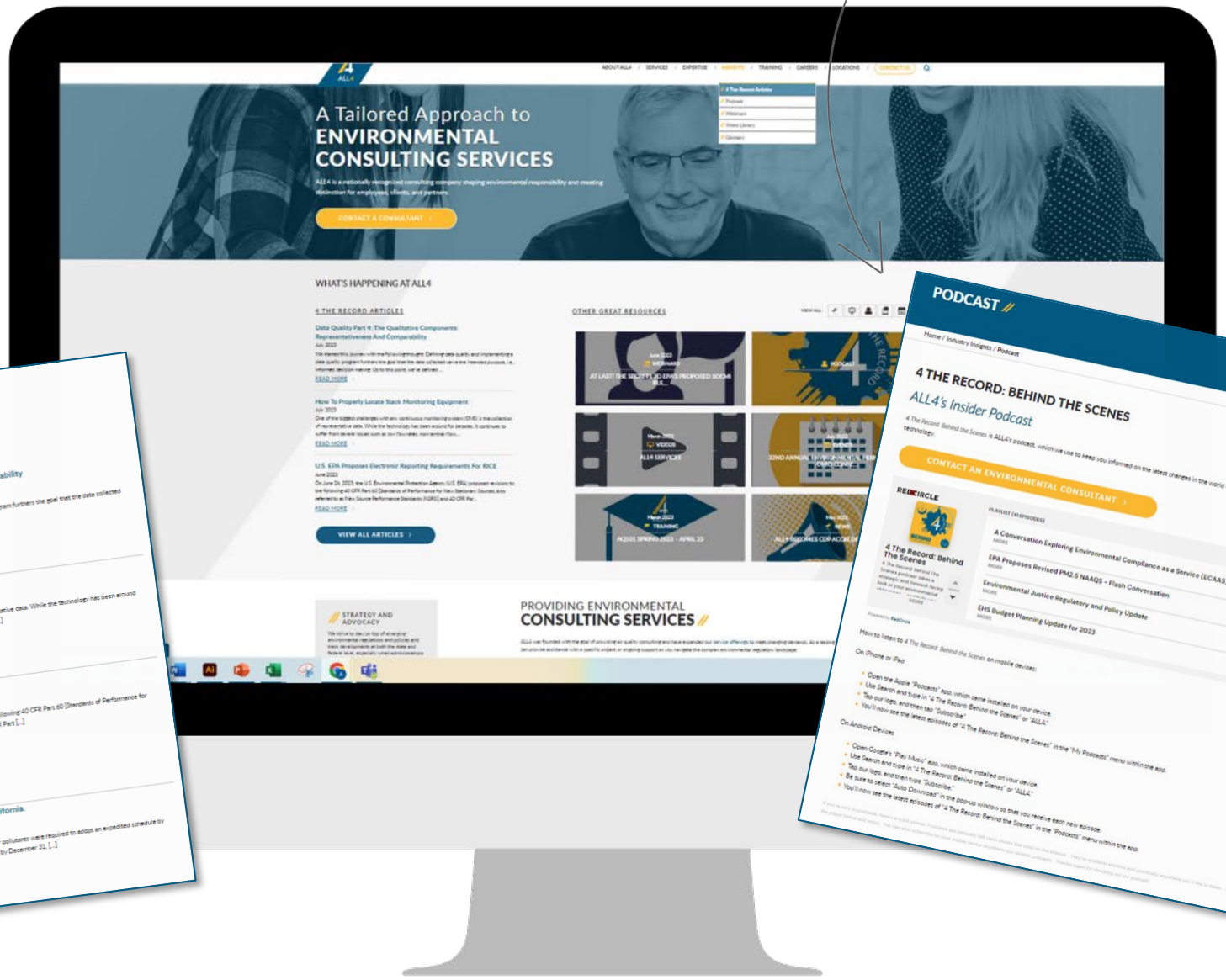

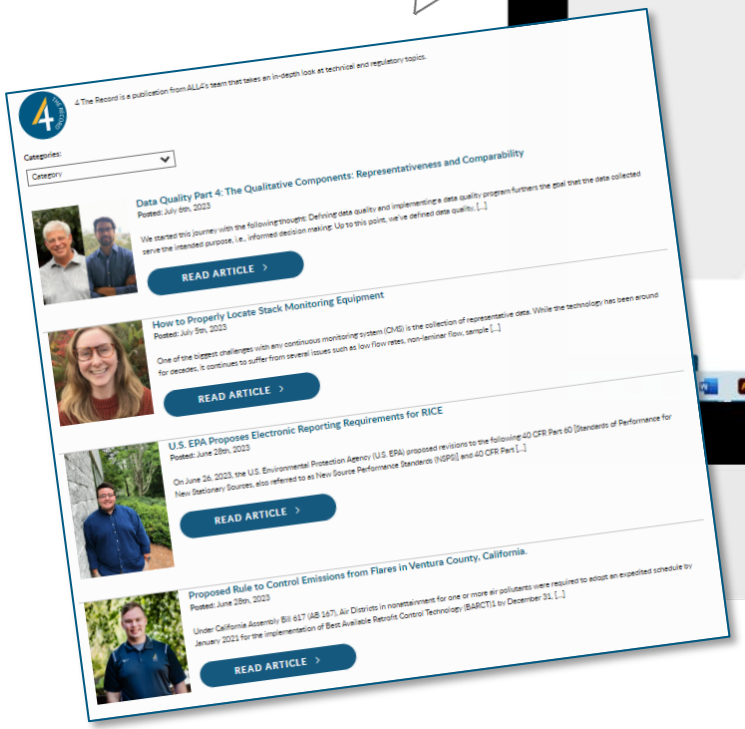

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Questions or Comments?

How Can We Serve VMA Members?

Contact Moderator:

Sharon Sadler, WDC Office Leader // ssadler@all4inc.com

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