

Overview of Lead NAAQS Revision and Monitoring Issues

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Outline

- Revised Pb NAAQS
- Summary of Revised Monitoring Requirements
- Take Home Messages
- What Should Monitoring Agencies be Doing Right Now?

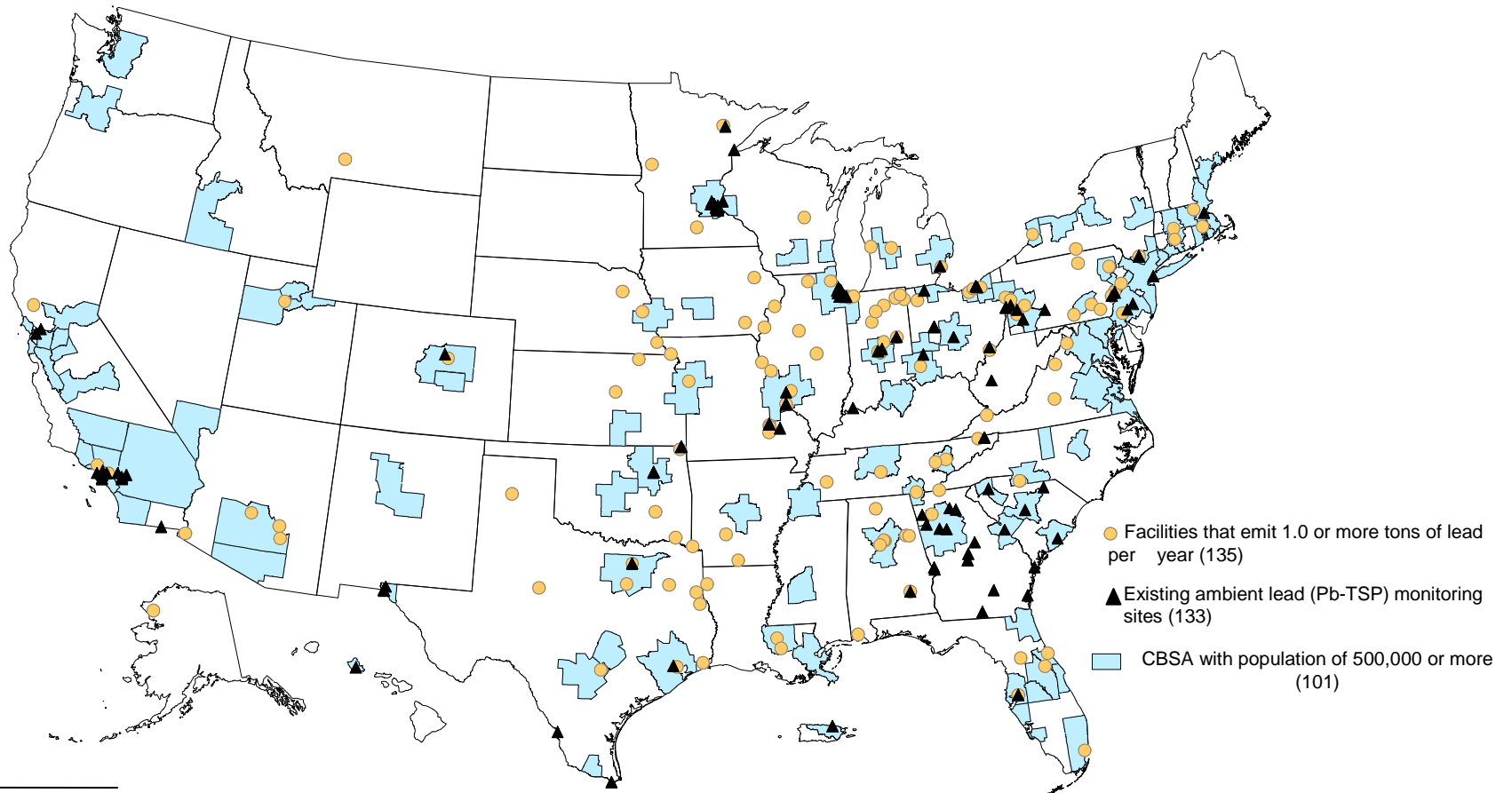
Revised Pb NAAQS

- Level
 - 0.15 $\mu\text{g}/\text{m}^3$
- Indicator
 - Pb in total suspended particulate
- Averaging time
 - Rolling 3-month average
 - Averages each month separately, then averages the three monthly averages.

Network Design Requirements

- Monitor near Pb sources which are “expected to or have been shown to” contribute to ambient Pb concentrations in excess of the NAAQS
 - Minimum requirement of 1 monitor for sources emitting 1 tpy or more
 - Monitor at maximum concentration taking into account logistics and potential for population exposure
 - RA can grant “waivers” where estimated impact < 50% of NAAQS
 - Required to be operational by January 1, 2010
- Non-source oriented monitoring in CBSA with $\geq 500,000$ population
 - Focused on fugitive dust sources in urban areas – roadways, closed facilities, hazardous waste sites, construction and demolition, or other dust sources
 - Required to be operational by January 1, 2011
- RA can require additional monitoring beyond the minimum requirements where “the likelihood of Pb air quality violations is significant”
- Results in a required network of approximately 240 monitoring sites (140 source oriented, 100 nonsource oriented)

Estimated Locations of New Monitors



Notes

1. Ambient lead monitoring sites measure lead in total suspended particulate (Pb-TSP). The 133 monitoring sites shown are those operating in 2008.
2. The current monitoring network for lead is not sufficient to determine whether many areas of the country would meet the 2008 lead standards. EPA is re-designing the nation's lead monitoring network to allow assessment of compliance with the revised standard. EPA is requiring Pb-TSP monitors in areas near lead sources with emissions greater than or equal to 1.0 ton per year, and a monitor in every urban area with population of 500,000 or greater.
3. The emissions estimates used to develop this map are based on EPA's 2002 National Emission Inventory (NEI) with modifications documented in Tom Pace's 05/01/08 memorandum and Marion Hoyer's 05/12/08 and 05/14/08 memoranda to the docket.

Monitoring Methods

- Maintained high volume Pb-TSP sampler as FRM
- Finalized a new Pb-PM₁₀ FRM based on low-volume PM_{10C} FRM coupled with XRF analysis
 - Regions may approve use of Pb-PM₁₀ in areas where Pb concentrations are expected to be less than 0.10 µg/m³ and where ultra-coarse PM (>PM₁₀) is low
 - Monitoring agencies would have to install a Pb-TSP sampler within 6 months if Pb-PM₁₀ concentration exceeds 0.10 µg/m³ on a 3 month average
- Finalized amendments to the FEM requirements to account for potential low-volume FEM and to reduce ambient concentrations for FEM testing
 - Hope to develop FEM for ICP-MS and GFAA analysis methods in FY 2009
 - May develop an FEM for continuous Pb-PM₁₀ with XRF

Other Monitoring Changes

- Maintained 1 in 6 day sampling
- Finalized changes to QA requirements including a new PEP audit program
- Finalized new Appendix R for data handling requirements

Take Home Messages

- Monitoring is required at all facilities where there is the potential to exceed the NAAQS
 - Monitoring agencies should evaluate sources < 1.0 tpy
 - RA has the authority to require monitors where they suspect the potential to violate NAAQS.
- Must use FRM/FEM methods and method codes
- Modeling will be required
 - To get waivers (screening -> refined)
 - To site source oriented monitors (refined)
- Non-source oriented monitors are not “typical” concentration monitors
 - Use to help identify/evaluate non-traditional sources
 - Consider roadways, airports, closed facilities, demolition projects, etc.
 - Some “typical” concentration sites would be acceptable as well
- Go the extra mile and get multi-metals from your samples
- Time line is very tight for source-oriented monitors
 - Must have draft plan ready by June 1, 2009

What Should You Be Doing Now?

- Reviewing emission inventories
 - NEI, TRI, permits
 - Focus on sources > 1.0 tpy
 - Don't ignore sources < 1.0 tpy
- Gather information necessary to model facilities
 - Release points and characteristics
 - Plot plans and fence lines
- Engage your Regional contacts