

# Summary of 2010 Lead Monitoring Revisions

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# Outline

- Background
- Source-oriented monitoring
- Monitoring at airports
- Non-source-oriented monitoring
- Monitor deployment schedule

## Background

- We finalized new Pb monitoring requirements on October 2008 along with the revised Pb NAAQS
  - Pb NAAQS lowered by a factor of 10 from 1.5 ug/m<sup>3</sup> to 0.15 ug/m<sup>3</sup> (3-month rolling average)
- Environmental groups petitioned for reconsideration of the emission threshold noting EPA draft packages and analyses suggested 0.50 tpy was the appropriate level
- On December 30, 2009, we proposed revisions to the Pb monitoring requirements to address the petition to reconsider
- Comment period closed on February 16, 2010
  - We received over 600 comments on the proposed revisions
- Final revisions published December 27, 2010

# Source Oriented Monitoring

- The existing requirements contained an emission threshold at which source-oriented monitoring would be required of 1.0 tpy
  - Pb-TSP is the default, but provisions to allow for Pb-PM10 in some situations
- We proposed to lower the emission threshold to 0.50 tpy
- Final requirement sets emission threshold at 0.50 tpy as proposed (except for airports)
  - Consistent with supporting analyses
  - Will improve our ability to identify areas exceeding NAAQS
- Monitoring agencies are allowed to request a waiver if they can demonstrate maximum Pb concentration less than 50% of the NAAQS on rolling 3-month average.
  - Waivers are not needed if monitoring agencies can demonstrate (to RA satisfaction) that emissions are less than 0.50 tpy.
- If monitoring agencies had previously had obtained a waiver for a 1 tpy source, a new waiver is not required
  - A 2<sup>nd</sup> round of emission estimates (from >1tpy to less than 1 tpy, and then less than 0.50 tpy) should be given extra scrutiny.

# Monitoring at Airports

- We treated airports the same as industrial sources in both the existing rule and in the proposed revisions
  - Existing requirements require monitoring at airports that are estimated to emit 1.0 tpy or more (initial set of monitors were scheduled to be operational January 1, 2010)
  - Proposed requirements would require monitoring at airports that are estimated to emit 0.50 tpy or more
- Final requirement
  - Leave emission threshold for airports at 1.0 tpy
  - Require 1-year of Pb monitoring at an additional 15 airports where concentrations are likely to approach or exceed the Pb NAAQS
    - Airports were selected based on three criteria which lead to higher ambient Pb concentrations
      - Pb emissions  $\geq 0.50$  tpy
      - Ambient air within 150 meters of runway end or ramp-up area
      - Meteorology and airport layout that leads to majority of take-offs from one runway end
    - Pb-TSP is required to assure comparability to the NAAQS.

## Monitoring at Airports – Key Elements of Monitoring Study

- Select airports that have the highest risk factors for high ambient concentrations based on available information, in partnership with OTAQ and NACAA
- Deploy FRM/FEM's at these airports to meet objectives including:
  - Assessment of ambient concentrations relative to NAAQS
  - Evaluation of emissions threshold concept for airports
  - Comparison of modeled and monitored concentrations (values, point max locations) to help refine airport “risk” factors
- Conduct monitoring for limited time frame (12 months) but convert specific study monitors to required SLAMS if levels indicate concern (i.e., any 3 month period > 50% NAAQS)

## List of Airports to be Monitored

<b>Airport</b>	<b>County</b>	<b>State</b>
Merrill Field	Anchorage	AK
Pryor Field Regional	Limestone	AL
Palo Alto Airport of Santa Clara County	Santa Clara	CA
McClellan-Palomar	San Diego	CA
Reid-Hillview	Santa Clara	CA
Gillespie Field	San Diego	CA
San Carlos	San Mateo	CA
Nantucket Memorial	Nantucket	MA
Oakland County International	Oakland	MI
Republic	Suffolk	NY
Brookhaven	Suffolk	NY
Stinson Municipal	Bexar	TX
Northwest Regional	Denton	TX
Harvey Field	Snohomish	WA
Auburn Municipal	King	WA

# Non-Source-Oriented Monitoring

- Existing rule requires non-source-oriented monitoring in each CBSA with a population of 500,000 or more
  - Objective is to “to measure ... Pb concentrations in urban areas impacted by re-entrained dust from roadways, closed industrial sources which previously were significant sources of Pb, hazardous waste sites, construction and demolition projects, or other fugitive dust sources of Pb”
- We proposed to require Pb monitoring at NCore multi-pollutant network to meet original objectives for non-source-oriented monitoring (trends, data on typical urban concentrations)
  - Requested comments on requiring only at urban NCore sites
  - Proposed to rely on EPA RA authority to meet need for monitoring of non-inventoried fugitive dust sources (objective identified in existing requirements)
  - Proposed to revoke current population-based requirement

# Non-Source-Oriented Monitoring (continued)

- Final Requirement
  - Require Pb monitoring at NCore sites in CBSA with a population of 500,000 people or more (total = 63)
    - Minimizes monitoring (and burden) in rural areas where Pb concentrations are expected to be very low
    - IMPROVE and rural Chemical Speciation Network (CSN) sites already provide information on Pb-PM<sub>2.5</sub> concentrations in rural areas that is useful for tracking trends
  - Provided guidance in preamble for identifying fugitive Pb sources
  - Revised RA authority to clarify that it applies to re-entrained dust sources
  - Changed collocation requirement for Pb at NCore to be based on the entire NCore network rather than per PQAQO
  - Pb-PM<sub>10</sub> is allowed (and expected) at NCore

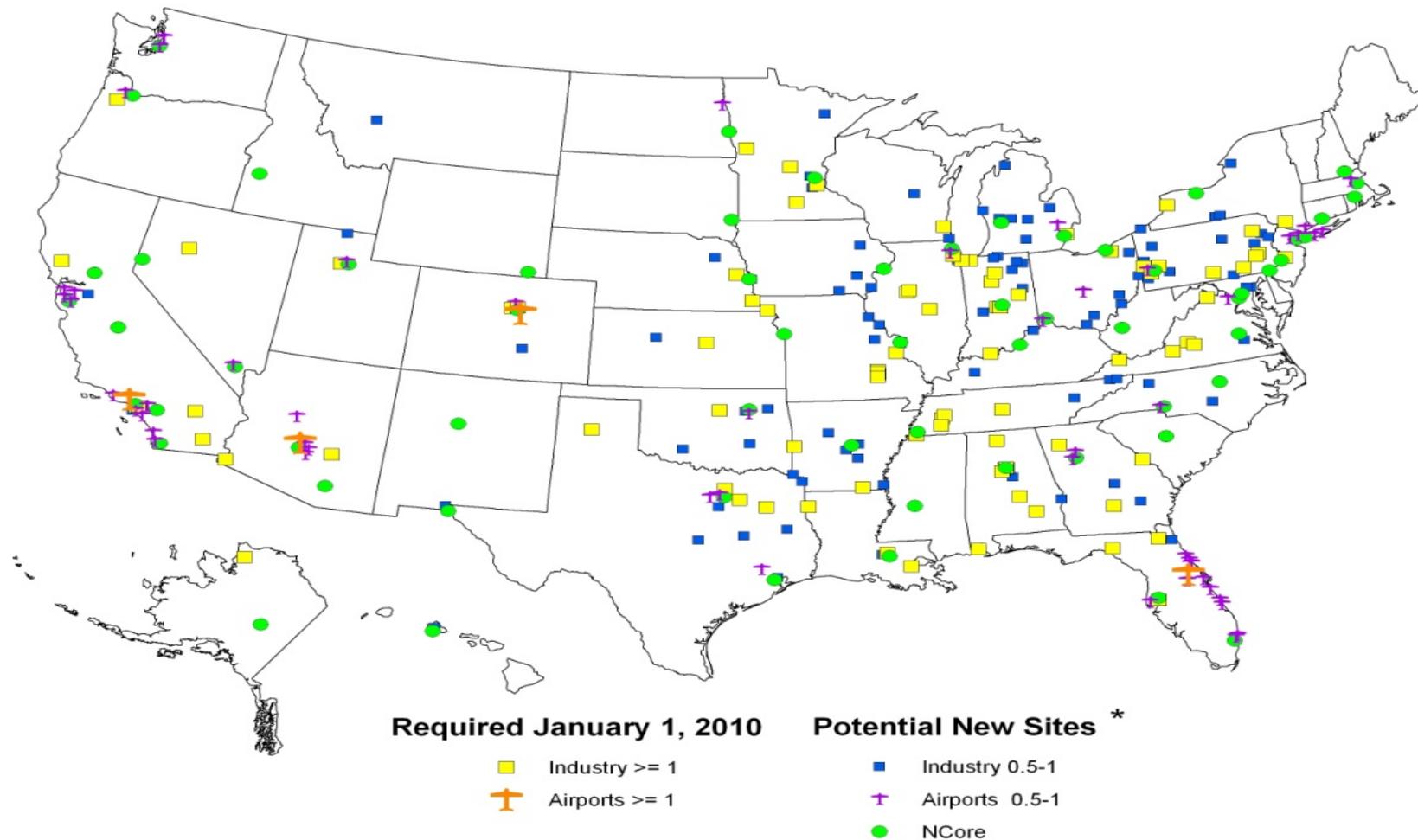
# Monitor Deployment Schedule

- We proposed requiring new source-oriented monitors to be deployed within 1 year of the final rule promulgation
  - We requested comments on staggering deployment over two years
- Final Requirement
  - Require revised Pb monitoring plan by July 1, 2011.
  - Require all new monitors (source and non-source) be operational by December 27, 2011.

## Impacts of Revised Requirements on Network Size

	Previous Requirements	New Requirements
Source-Oriented	100	211 (+111)
Non-Source-Oriented	101	63 (-38)
Total	201	274 (+73)

# Map of Potential Pb Sites



\* Based on 2005 National Emission Inventory estimates as of October 2009.

## Methods Update

- 3 New “generic FEM” for Pb-TSP have been developed
- Not aware of any Pb-PM10 FEM that are in the works at this point
- OAQPS has finalized a national contract with RTI for filter analysis
  - Pb-TSP using ICPMS
  - Pb-PM10 using XRF FRM
  - For information on how to access the contract contact [trinca.laurie@epa.gov](mailto:trinca.laurie@epa.gov)