

**Response to Comments on the State and Tribal Designation
Recommendations for the 2008 Lead (Pb)
National Ambient Air Quality Standards (NAAQS)**

Docket Number OAR-2009-0443
U.S. Environmental Protection Agency

October 2011

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List of Acronyms

AERMOD	Atmospheric Dispersion Modeling System
CAA	Clean Air Act
EPA	Environmental Protection Agency
FR	Federal Register
mg/dscm	Milligrams per Dry Standard Cubic Meter.
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standard
NFR	Notice of Final Rulemaking
OAQPS	EPA Office of Air Quality Planning and Standards
Pb	Lead
SIP	State Implementation Plan
$\mu\text{g}/\text{m}^3$	Micrograms per cubic meter
TPY	Tons Per Year
TSD	Technical Support Document

1.0 Introduction

This document, together with the preamble to the final rule and the Technical Support Documents (TSDs) for the designations, presents the responses of EPA to the significant comments we received on our proposed designations. The responses presented in this document are intended to augment the responses to comments that appear in the preamble to the final rule and the TSD or to address comments not discussed in those documents.

2.0 Background

On October 15, 2008, EPA revised the NAAQS for lead by significantly strengthening the standard from 1.5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to 0.15 $\mu\text{g}/\text{m}^3$. In conjunction with strengthening the lead NAAQS, EPA also established new criteria for siting ambient lead monitors. The preexisting ambient lead monitoring network was not adequate to determine whether many areas are meeting the revised lead NAAQS. Monitors meeting the new network requirements came online in January 1, 2010.

Because EPA had data from existing monitors indicating violations of the standards, and began collecting data from new monitors that began operation in January 2010, EPA designated areas as meeting or not meeting the standards in two rounds. EPA completed the first round of designations in November 2010. At that time, EPA designated 16 areas across the country as “nonattainment” because their 2007 to 2009 air quality monitoring data showed that they did not meet the Agency’s health-based air quality standards for lead.

On June 15, 2011, the Environmental Protection Agency (EPA) sent letters to state and tribal representatives responding to their recommendations on which areas would not meet the National Ambient Air Quality Standards (NAAQS) for lead (Pb). The letters indicated either agreement with the state and tribal recommendations, or EPA’s intent to modify those recommendations. States and tribes had the opportunity to comment on EPA’s modifications to their recommendations, and to provide new information and analyses to EPA if appropriate. The public was invited to comment on the recommendations. Following are summaries of significant comments received on the 2008 lead designation recommendations and EPA’s responses to those comments

3.0 Responses to Comments on the State and Tribal Designation Recommendations for the 2008 Lead (Pb) National Ambient Air Quality Standards (NAAQS)

The following sections address the comment letters received by EPA on the state and tribal lead designation recommendations for the 2008 lead NAAQS. The majority of

comments addressed the Region 5 designation of Cooke County in Illinois. Comment summaries and responses are presented below sorted by EPA region.

US EPA Region 3

Comment: Commenter believes that the proposed lead NAAQS nonattainment designations for the Lyons Area is premature and does not reflect the actual status of air quality in the area. Commenter notes that the historic lead data (used for this designation) are not as refined as lead data collected in accordance with the requirements of the recently revised final lead NAAQS which was promulgated on November 12, 2008. Commenter states that current lead measurements clearly show concentration levels that are much lower when compared to pre-2009 monitoring data and are in attainment with the lead NAAQS. Therefore commenter believes that until sufficient ambient lead data are collected that meet the requirements of 40 CFR Part 50, Appendix R and 40 CFR Part 58, Subpart A, an unclassifiable designation rather than a nonattainment designation is more appropriate for the Lyons area.

EPA Response: EPA finalized the 2008 lead national ambient air quality standard (NAAQS) designations for the Lyons Nonattainment Area in Berks County, Pennsylvania in the Federal Register on November 22, 2010, which became effective on December 31, 2010. (see 75 FR 71033) EPA did not propose to revise this designation in the June 21, 2011 federal register notice. This notice soliciting public comments is specific to responses to designation recommendations that EPA sent on or around June 15, 2011 concerning new and revised 2008 lead NAAQS designations. (see 76 FR 36042) EPA did address these comments when submitted in response to the July 8, 2010 solicitation for public comments, when the Lyons Nonattainment Area was identified, and our response can be found in docket ID number EPA-HQ-OAR-2009-0443.

Comment: Commenter suggested that for lead data, the pre-NAAQS revision data and post-revision NAAQS data are not equivalent due to the differences in the reference method detection limits. Commenter believes that the uncertainty associated with the pre-NAAQS revision data is great enough to make the existing nonattainment designation for the Lyons Area questionable and premature

EPA Response: EPA finalized the 2008 lead national ambient air quality standard (NAAQS) designations for the Lyons Nonattainment Area in Berks County, Pennsylvania in the Federal Register on November 22, 2010, which became effective on December 31, 2010. (see 75 FR 71033) EPA did not propose to revise this designation in the June 21, 2011 federal register notice. This notice soliciting public comments is specific to responses to designation recommendations that EPA sent on or around June 15, 2011 concerning new and revised 2008 lead NAAQS designations. (see 76 FR 36042) EPA did address these comments when submitted in response to the July 8, 2010 solicitation for public comments, when the Lyons Nonattainment Area was identified, and our response can be found in docket ID number EPA-HQ-OAR-2009-0443.

US EPA Region 5

Comment: One commenter submitted a mass comment campaign comprised of survey questions about the proposed nonattainment area. Residents living in the proposed nonattainment area were asked to describe their experiences and observations concerning pollution in the area, e.g., smells, tastes, and visual observations. People who completed the survey were also asked to describe the Kramer facility and the area immediately surrounding the facility. Lastly, the survey asked about health problems that might be pollution-related. A total of 46 completed surveys were submitted as part of the mass comment campaign.

Response: EPA appreciates the time and effort from residents living in the proposed nonattainment area to complete the survey. Reducing levels of lead pollution is an important part of EPA's commitment to a clean and healthy environment, and the nonattainment designations and state implementation plan process under the Clean Air Act (CAA) will ensure that monitored lead levels in the area will decrease to a level sufficient to attain the 2008 lead NAAQS in a timely manner as prescribed by the CAA. Specifically, by June of 2013, Illinois EPA is required to submit a plan to EPA detailing how sources in the nonattainment area will reduce their lead emissions sufficient to attain the 2008 lead NAAQS as expeditiously as practicable, but no later than December 31, 2016.

Comment: Two commenters generally supported the proposed nonattainment area, but urged EPA to include the Crawford Electric Generating Station, located at 3501 S. Pulaski Rd. The Crawford facility is approximately 2.4 miles away from the southwestern edge of the proposed nonattainment area. The two commenters cited that the reported emissions from the Crawford facility are identical to those from the Kramer facility and the Fisk Electric Generating Station, located at 1111 W. Cermak Rd, both of which are in the proposed nonattainment area. The two commenters also asserted that further evaluation of the emissions from the Crawford facility is necessary, specifically with respect to an analysis of air quality data in the immediate area surrounding the Crawford facility.

Another commenter also generally supported EPA's proposed nonattainment designation, but questioned whether the proposed boundaries were expansive enough. Specifically, the commenter asserted that: an additional monitor should be installed to the southwest of the southwest boundary of the proposed nonattainment boundary; 2010 data collected at the Harrison monitor be evaluated as part of establishing the northern and eastern boundaries of the nonattainment boundary; and testing of lead emissions should be performed not only at sources in the proposed nonattainment boundary, but also from the Crawford Electric Generating Station in tandem with deposition modeling of lead emissions from these sources.

This commenter claimed that because of the prevailing winds from the southwest direction, the height of the Crawford facility's stacks, and the plume height of its

emissions, the deposition pattern of lead from the Crawford facility will impact ambient lead air concentrations in the neighborhood contained by the proposed nonattainment boundary. In support of more extensive evaluation of lead emissions from the Crawford facility, the commenter included a study indicating that lead from a tall stack coal-fired power plant can occur several kilometers from the facility.¹ Amongst other findings, the study included the levels of lead in the soil at various distances from the Mohave Power Plant in Laughlin, Nevada.

Response: Based on the factors and information that were analyzed in the technical support document for Cook County, EPA believes that the proposed nonattainment area captures the area that does not meet, or is contributing to ambient air quality in a nearby area that does not meeting, the 2008 lead NAAQS. For example, as discussed in the section entitled “Other Relevant Information,” EPA performed a spatial assessment of the highest monitored 3-month rolling average using a conservative approach. In conjunction with the other factors that were analyzed throughout this document, the result of this conservative approach supported the State’s recommendation. Based on the most recently available data, EPA believes that the proposed nonattainment area encompasses the entire area that does not meet the 2008 lead NAAQS as well as emissions sources that cause or contribute to the violation of this NAAQS.

With respect to evaluating the emissions and associated air quality data from the Crawford Electric Generating Station, the most recent revisions to monitoring requirements for source-oriented monitors were published in the Federal Register on December 27, 2010 (75 FR 81126). This rule changed the emissions threshold that state monitoring agencies must use to determine if an air quality monitor should be placed near an industrial facility that emits lead. The new threshold was reduced from 1.0 tpy to 0.5 tpy. At this point in time, EPA does not believe that the Crawford Electric Generating Station should be included in the nonattainment area either because air quality does not meet the NAAQS or because it contributes to violations elsewhere. Based on the reported emissions from the facility evaluated in the context of EPA’s revised monitoring requirements, there is not a current Federal requirement for a source oriented monitor to be operational in the immediate vicinity of the Crawford Electric Generating Station.

In response to the study provided by the commenter examining lead deposition patterns, EPA observes that the study concluded that lead emissions from the power plant used in the study can travel up to 18 kilometers away from the stack. The study did not include corresponding levels of lead in the air at the same distances. Although EPA agrees that lead emissions from coal-fired power plants may experience limited travel, we believe that the State-recommended nonattainment area captures the area that does not meet the 2008 lead NAAQS as well as emissions sources that cause or contribute to the violation of this NAAQS.

¹ The commenter included a 1999 paper authored by Jessica L. Johnston and Richard D. Foust, Jr., “New Methodology for Monitoring Atmospheric Deposition of Lead at the Mohave Power Plant in Laughlin, Nevada.”

The design value for the monitor located at 735 W. Harrison St. (AQS ID 170310026) has been updated in Table 2 to reflect 2008 – 2010 data. The highest 3-month rolling average collected at this monitor is 0.05 µg/m³. This value supports EPA’s conclusion that the proposed nonattainment area encompasses the entire area that does not meet the 2008 lead NAAQS and includes emissions sources that cause or contribute to the violation of this ambient air quality standard. In other words, EPA does not see a basis for expanding the northern or eastern edge of the nonattainment area.

Comment: One commenter supported EPA’s proposed nonattainment designation for the Chicago area, but went on, “. . .we want to make clear that we want to go further, by immediately demanding that polluters impacting this designation either clean up or shut down.” The commenter cited various violations at the Kramer facility, and raises numerous concerns about the dangers of lead exposure, e.g., lead is a heavy metal that can cause irreparable damage to life, there are no safe levels of exposure to lead, and exposure to lead is particularly detrimental to children under seven years of age. The commenter asserted that, “. . .young children in the community contained by the proposed nonattainment area are at risk of irreparable brain and other types of physical damage, more so than children in other communities of Chicago.”

Response: The effective date of the nonattainment designation for the Chicago area is December 31, 2011. The Clean Air Act requires that Illinois EPA submit to EPA in 2013, after public hearing, a plan with enforceable emission limitations and other control measures to reduce lead emissions sufficiently to attain the 2008 lead NAAQS as expeditiously as practicable, but no later than December 31, 2016. Separate from the nonattainment designations process is enforcement actions against sources for violations of existing Clean Air Act requirements. The commenter is correct in that sources in the proposed nonattainment area such as the Kramer facility have been subject to enforcement actions already.² Both the attainment planning process and enforcement actions can lead to emissions reductions at sources, but it is not possible at this to predict the exact outcome of those processes.

EPA agrees with the commenter that exposure to lead, particularly among young children, can cause a wide range of adverse health effects. Reducing levels of lead pollution is an important part of EPA’s commitment to a clean and healthy environment, and the designations and implementation planning process is an important mechanism to ensure that lead levels in the air attain the NAAQS, which are set by EPA to protect public health with an adequate margin of safety.

Comment: One commenter contended that “U.S. EPA’s proposed designation of the Pilsen neighborhood as nonattainment for lead is arbitrary and capricious for at least two reasons: (1)U.S. EPA relies entirely on data from monitoring stations sited next to a minor lead source, in violation of EPA’s own requirements for siting ambient air monitoring stations; and (2) U.S. EPA has incorrectly concluded, without reviewing or considering the 2011 stack test sampling data ordered by the Illinois EPA, that Kramer’s stack emissions are a source of lead at the ambient air quality monitoring station located

² <http://www.epa.gov/reg5oair/enforce/pilsen/>

at the Perez Elementary School, 1241 West 19th Street, Chicago, Illinois (the “Perez Monitor”). That stack test data shows that Kramer’s emissions cannot be contributing to national ambient air quality non-attainment.”

The commenter argued that the data collected at the Perez Elementary School and the Juarez High School monitors cannot be used to show that there has been an exceedance of the 2008 lead NAAQS because the monitoring station was sited in violation of the requirements established in 40 CFR Part 58, Appendix E, which mandate the proper locations of all ambient air quality monitors so that accurate and uniform data is collected. The commenter also observed that there is no data from the Juarez High School monitor showing a violation of the 2008 lead NAAQS. The commenter continued that because the Perez Elementary School monitor was set up and designed to be source specific monitor, the data cannot be used to determine air quality over a much larger area, namely the Pilsen neighborhood. The commenter also insisted that the height of the Perez Elementary School monitor does not comply with 40 CFR Part 58, Appendix E – and the data collected at the monitor “. . . is invalid and unreliable for any purpose under U.S. EPA’s own rules.”³ Lastly, the commenter observed that if other sources in Cook County were monitored using the same “flawed” monitoring method as Illinois and U.S. EPA used on Kramer, those sources would also “show-up as non-attainment.” The commenter ended with the assertion that Illinois EPA and EPA have created inconsistent and flawed data because Illinois EPA evaluated data from area wide population monitors in other locales in Cook County, while evaluating a source specific monitor in the proposed nonattainment area.

The commenter included recent stack testing results performed at the Kramer facility, which show that all emissions release points at the facility are well below the 1.0 milligrams per dry standard cubic meter (mg/dscm) and 0.20 mg/dscm thresholds being proposed by EPA to address the results of the residual risk and technology review for secondary lead smelters that EPA is required to conduct by the CAA.⁴ The commenter observed that if the proposed rules were finalized, they would not apply to the Kramer facility because Kramer is not considered to be a major source for lead, nor is it a secondary lead smelter. However, the commenter argued that in the proposal, EPA stated that, “. . . we conclude that the actual and MACT-allowable lead emissions from this source category would be reduced to the point that they would not result in off-site concentrations above the NAAQS.” The commenter also included air dispersion modeling performed by a meteorologist, aimed to demonstrate that the stack emissions at the Kramer facility are not responsible for the measured lead concentrations at the Perez Elementary School monitor, or the Juarez High School Monitor.

³ Whereas the Perez Elementary School monitor is 7.5 meters above the ground, the commenter stated that microscale source monitors must be installed 2 to 7 meters from the ground.

⁴ National Emissions Standards for Hazardous Air Pollutants: Secondary Lead Smelting (76 FR 29032). The proposed rule sets a facility-wide emission limit of a flow-weighted average of 0.20 mg/dscm and a limit of 1.0 mg/dscm for any one stack a facility.

Response: The monitor located at 1241 W. 19th St., (AQS ID 170310110) is classified as a middle scale monitor, and according to Table E-4 of 40 CFR Part 58, Appendix E – Summary of Probe and Monitoring Path Siting Criteria, the probe height should be between 2 and 15 meters. EPA observes that the probe height at the monitor in question is 7.5 meters, and is therefore in the prescribed range. In response to the commenter’s claim that data from a source specific monitor cannot be used to determine air quality over a much larger area, EPA believes that the siting requirements under 40 CFR Part 58 Appendix E must be viewed from the perspective of the monitoring scale as described in 40 CFR Part 58 Appendix D (Network Design Criteria for Ambient Air Quality Monitoring). The lead monitoring requirements prescribed in section 4.5(d) state, “The most important spatial scales for source-oriented sites to effectively characterize the emissions from point sources are microscale and middle scale.” The description of middle scale for lead monitoring is as follows:

“This scale generally represents Pb air quality levels in areas up to several city blocks in size with dimensions on the order of approximately 100 meters to 500 meters. The middle scale may for example, include schools and playgrounds in center city areas which are close to major Pb point sources. Pb monitors in such areas are desirable because of the higher sensitivity of children to exposures of elevated Pb concentrations (reference 3 of this appendix). Emissions from point sources frequently impact on areas at which single sites may be located to measure concentrations representing middle spatial scales.”

Impacts on a neighborhood scale per section 4.5(d)(3) of Appendix D may occur (0.5 to 4.0 kilometer range), but the highest impact from a source such as the Kramer facility usually occurs over a range of 100 meters to 500 meters.

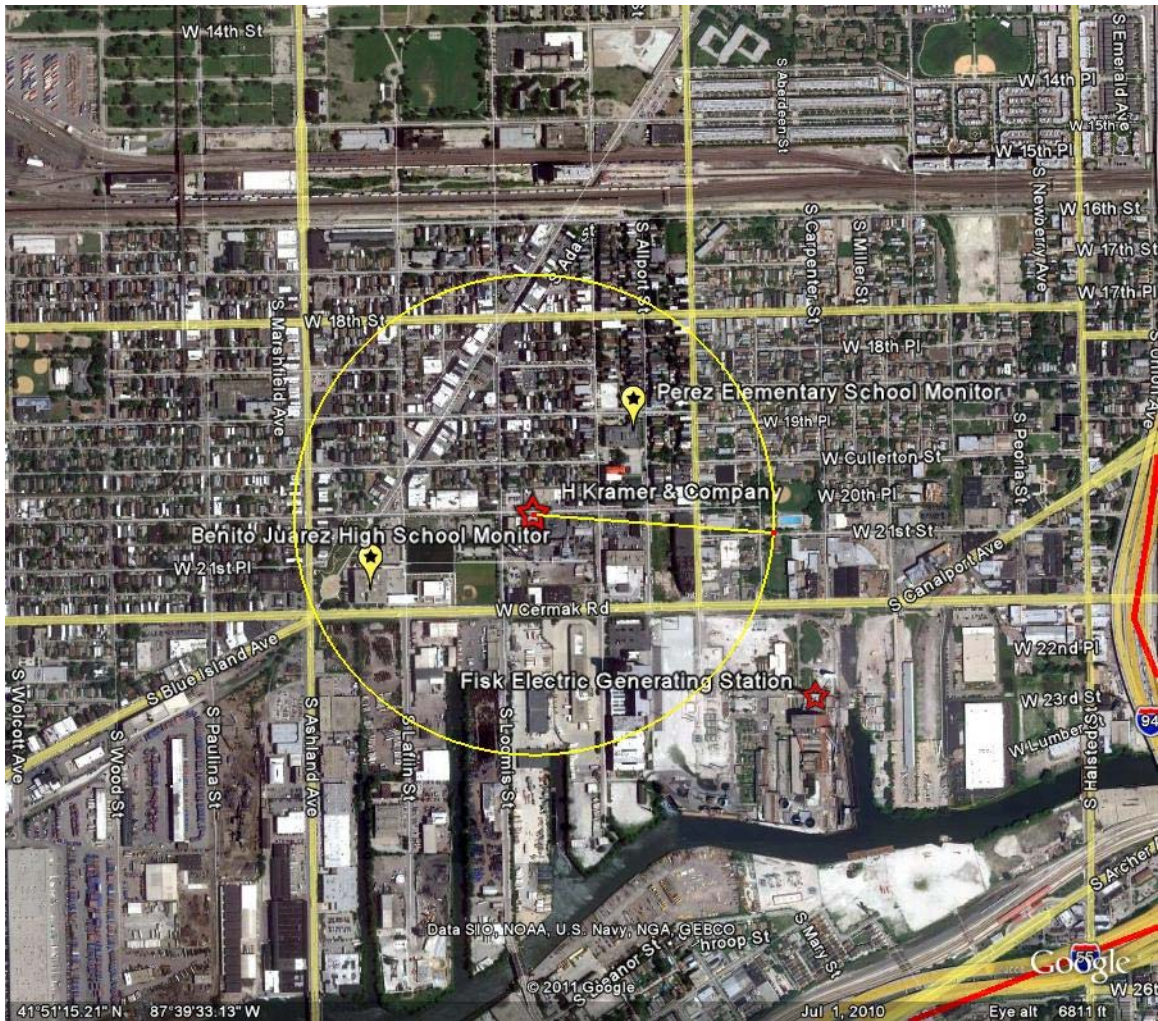


Figure 1: Area Impacted by Kramer, Middle Scale

Figure 1, above, portrays a circle with a radius of 500 meters centered around the Kramer facility. The circle has not been adjusted to reflect the predominant wind patterns that blow from the southwest. This illustration shows that the Perez Elementary School monitor may be impacted by the Kramer facility; however, it must be noted that the area represented by the monitor is different. The area represented by the monitor is depicted by Figure 2, below. Figure 2 also illustrates that the Perez Elementary School monitor may be impacted by the Kramer facility.

adversely affected by the elevated levels of lead emissions. Furthermore, the monitoring requirements for lead in Appendix D clearly state that a monitor sited to characterize the impact of a lead point source "must be sited, taking into account logistics and the potential for population exposure, where the lead concentration from all sources combined is expected to be at its maximum." The Perez Elementary School monitoring site, therefore, fully meets the qualifications for measuring lead concentrations as well as taking into account lead exposures to sensitive populations and provides the information necessary to compare the air quality of the area around the H. Kramer facility to the 2008 lead NAAQS.

It must be noted, however, that monitor siting and its associated scale of representativeness is independent of the extent of the nonattainment boundary. EPA observes in this instance that even though the monitor sited at the Perez Elementary School is middle scale, the nonattainment area does not necessarily have to be confined to an area defined by middle scale. In other words, although a middle scale monitor is considered most representative of an area of approximately 0.30 square miles, the nonattainment area can be much larger. This is due, in part because a nonattainment area includes sources that cause violations of the 2008 lead NAAQS, sources that contribute to a violation of the 2008 lead NAAQS, and any areas where air quality is expected to exceed the standard.

EPA disagrees with the commenter's point that Illinois EPA and EPA have created inconsistent and flawed data by evaluating data from differently scaled monitors in Cook County. Source-oriented monitors are deployed in areas where there are likely to be elevated levels of lead emissions, and they are required under the new monitoring requirements at sources that emit at, or above, 0.5 tpy, unless EPA grants a waiver. Illinois EPA is in the process of evaluating their options with respect to the need for additional monitors.

EPA does not dispute the recent stack testing results performed at the Kramer facility for lead, but needs to clarify the language presented by the commenter. If finalized as proposed, the new air toxics standards for secondary lead smelters would require that facilities subject to the rule lower their facility-wide emissions to a flow-weighted average of 0.20 mg/dscm, and any one stack to no more than 1.0 mg/dscm. However, a decrease in emissions is not by itself sufficient for EPA to conclude that off-site concentrations of lead would not be above the NAAQS. Instead, EPA has proposed that in addition to the new emissions limits, facilities would be required to either fully enclose their facility and implement comprehensive fugitive work practices, or implement comprehensive work practices and lead air monitoring (at the boundaries of the facility). As the commenter has observed, the Kramer facility would not be subject to these standards, as this particular facility is not a secondary lead smelter; in this response, EPA is only clarifying the language presented by the commenter.

Lastly, the intent of a formal nonattainment designation is to begin the process for which Illinois EPA can submit a plan to EPA showing how the nonattainment area will comply with the 2008 lead NAAQS by a date certain. EPA is neither endorsing nor rejecting the

commenter's claim that stack emissions at the Kramer facility are not the cause of the elevated lead levels captured by the Perez Elementary School monitor. But, because there is a monitored violation of the 2008 lead NAAQS in very close proximity to the Kramer facility in conjunction with the fact that the Kramer facility does indeed emit lead, EPA believes that the facility should be included in the nonattainment area for the 2008 lead NAAQS. The plan that Illinois EPA will submit to EPA in June of 2013, after public comment, demonstrating how the area will comply with the 2008 lead NAAQS will include comprehensive analyses of facilities in the nonattainment area. Facility-wide emissions analyses for sources in the nonattainment area, including emissions not originating from stacks, will be included as part of Illinois EPA's plan.