



Illinois' Lead Rulemaking Factsheet, May 2013

The Illinois Environmental Protection Agency is preparing a new regulation to improve air quality in the two areas of the state that do not meet the federal standard for the amount of lead in the ambient air.

Background

Lead is an elemental metal that has historically been used in numerous industries including metal alloying and battery manufacturing, and formerly in gasoline, paint formulation, and piping including water pipes. Lead is persistent in the environment and if ingested or inhaled can potentially cause a number of detrimental health effects in humans, particularly for children and for women of childbearing age.

Lead concentrations in the ambient air have been declining steadily for the past 15 years.

- Lead in gasoline was banned in 1996.
- Manufacturing and industrial facilities have had to meet tougher regulatory requirements.

Lead concentrations in the air in Illinois have decreased by 42 percent over the last 10 years.

The United States Environmental Protection Agency (USEPA) develops National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The NAAQS provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children and the elderly. The NAAQS are reviewed periodically to determine if the levels that are set are still appropriate based on current science. In 2008, USEPA lowered the NAAQS for lead to be more protective of human health. The new NAAQS, which became effective January 2009, is much more protective than the pre-2008 NAAQS for lead, essentially lowering the standard to a tenth of the previous standard.

The Illinois Environmental Protection Agency (Illinois EPA) is required to monitor ambient air quality and bring areas that don't meet the NAAQS back into attainment of the standard. After the new NAAQS became effective, in addition to the lead monitors that the Illinois EPA already operated, the Illinois EPA established new lead monitors near facilities in the state that emitted more than ½ ton of lead in a year. In January 2010, a lead monitor was also established in the

Pilsen neighborhood of Chicago because of the Illinois EPA's knowledge of lead emissions from local sources and concerns expressed by the community.

Through this monitoring, the Illinois EPA identified two areas of the state in which monitored results exceeded the NAAQS, the Granite City area and the Pilsen neighborhood of Chicago. The Illinois EPA began modeling and monitoring efforts to determine the cause of the exceedances at the two monitors.

In January 2009, the USEPA's standard for lead in the ambient air (National Ambient Air Quality Standard) was reduced from 1.5 $\mu\text{g}/\text{m}^3$ (micrograms per cubic meter) to 0.15 $\mu\text{g}/\text{m}^3$ averaged over three months.

- Roughly a tenfold decrease
- Illinois EPA established new air monitors around the state.



Unlike pollutants such as ozone that are formed as complex chemical reactions in the atmosphere and are caused by many sources over a large area, ambient lead levels are usually impacted by local sources.

After monitors indicated that the Granite City area and the Pilsen area were in nonattainment, the Illinois EPA began modeling to determine the cause of the exceedances at the monitors. The modeling review indicated that H. Kramer, a brass and bronze foundry, was the primary contributor to the exceedances in the Pilsen area, and Mayco Industries, Inc., a manufacturer of lead products, was the primary contributor to the exceedances at the Granite City monitor.

Rulemaking

The Illinois EPA will be proposing a new regulation to limit emissions of lead from sources in two areas of Illinois that currently do not meet the lead NAAQS. The regulation will require Mayco Industries and H. Kramer to improve their facilities' physical structures, operate pollution control equipment that meets stringent limits, and significantly reduce the amount of lead emitted. In addition to establishing stringent emission limits, the regulation will establish emission limits for Mayco Industries and H. Kramer. In addition, the rulemaking will establish monitoring, recordkeeping, and reporting requirements for the facilities. It is expected that the regulation will provide a basis for permit conditions and will establish requirements necessary to attain and maintain the lead NAAQS in both nonattainment areas. The regulation will also form the basis for revisions to the State Implementation Plan demonstrating attainment with the NAAQS for lead.

While the two areas will remain designated as nonattainment for several years due to USEPA requirements, the Pilsen nonattainment area no longer has monitored readings above the nonattainment level. The Granite City area should no longer have episodes where the monitor records high readings, causing noncompliance with the NAAQS, once Mayco constructs air pollution control equipment and modifies its operations as required by the rulemaking and for which a construction permit will soon be issued. The Illinois EPA cannot pursue redesignation of an area to attainment until it has three years of monitoring data showing that the area is in compliance with the NAAQS.

What steps will be taken to clean up the air in the nonattainment areas?

Granite City Nonattainment Area

The boundaries of the Granite City nonattainment area are Granite City Township and Venice Township.

The Granite City monitor is at 15th and Madison in Granite City and continues to show nonattainment with the NAAQS. Mayco Industries has been identified as the primary contributor to the high readings at the monitor.

Mayco Industries, located at 1200 16th Street in Granite City, produces lead shot, lead bars, lead wool, and other lead products and alloys from recycled and scrap lead. Mayco melts and alloys lead in kettles and uses various casting and forming methods to produce its products. To address lead emissions that are impacting ambient air quality in the area, Mayco is putting the most significant sources of lead emissions

into a total enclosure which will be controlled by a baghouse, installing a new cartridge filter for control of certain processes, and making other physical improvements to its buildings and operations. The Illinois EPA will soon be issuing a construction permit for these improvements to the facility. Once the permit is issued and the improvements are made, Mayco will be required to perform testing to verify that emissions are controlled to the extent required by the permit and the new regulations.

The rulemaking described above will create a new state regulation that will set limits on emissions from Mayco. The Illinois EPA's modeling indicates that the requirements of the regulation will improve air quality so that the Granite City monitor should meet the lead NAAQS.

A separate factsheet that describes in more detail the requirements of the Mayco permit is available from the Illinois EPA.

Pilsen Nonattainment Area

The boundaries of the Pilsen nonattainment area is the portion of Chicago bounded by Damen Ave. on the west, Roosevelt Rd. on the north, the Dan Ryan Expressway on the east, and the Stevenson Expressway on the south.

The Pilsen monitor is on the roof of Manuel Perez Jr. Elementary School. The Pilsen monitor has not had a violation of the NAAQS since elevated readings occurred in early 2011. The Illinois EPA determined that H. Kramer was the primary contributor to the monitored exceedances.

H. Kramer, a brass and bronze foundry, is located at 1339-59 West 21st Street in Chicago. H. Kramer makes brass and bronze alloys, some of which contain lead. Illinois EPA investigations and modeling determined that H. Kramer was the primary contributor to an exceedance of the lead standard at the Perez monitor in early 2011. Negotiations between the Illinois EPA, the Attorney General's Office, USEPA, DOJ and H. Kramer resulted in an Agreed Preliminary Injunction Order being filed in state court on September 2, 2011. Pursuant to the Preliminary Order, H. Kramer made significant repairs to the facility, including pollution control upgrades, clean-up and paving of the facility's yard, and reduction in the production of two lead alloys. A final Consent Decree was filed in federal court and executed on March 28, 2013.

Importantly, the joint state and federal Consent Decree required installation and operation of two new baghouses to better control emissions from the rotary furnaces located in the south foundry building. A construction permit was issued in January 2012 for H. Kramer to install the two new baghouses. The January 2012 construction permit allows for construction, testing and operation of the baghouse for 18 months from the date of issuance or until approximately the end of July 2013. H. Kramer anticipates that the two new baghouses will be installed and operational by July 18, 2013. However, H. Kramer has recently filed for a revision of the construction permit to extend the effective date of the construction permit. This extension will ensure that the facility will have adequate time to test the baghouse and submit an application to revise their operating permit with the results of the testing. H. Kramer will operate the baghouses in accordance with the conditions of the construction permit until its operating permit can be revised to incorporate the new baghouses.

The improvements at H. Kramer required by the Consent Decree have improved air quality in the Pilsen neighborhood and, as a result, the Perez monitor no longer has readings that are in violation of the NAAQS. The rulemaking described above will create a new state regulation that will set limits on emissions from H. Kramer and will include provisions equivalent to, or better than, those in the Consent Order. The requirements of the regulation should ensure that the Pilsen area will remain in compliance with the lead NAAQS.

Separate factsheets that describe the clean-up history and enforcement at the H. Kramer site are available from the Illinois EPA, and the USEPA maintains a website about environmental issues in the Pilsen area at: <http://www.epa.gov/reg5oair/enforce/pilsen/index.html>

What happens next?

Rulemaking Process

As noted above, the Illinois EPA is preparing a rulemaking to codify steps that need to be taken in lead nonattainment areas to bring those areas into attainment. The Illinois EPA plans on submitting the proposed regulation to the Illinois Pollution Control Board (Board) this summer.

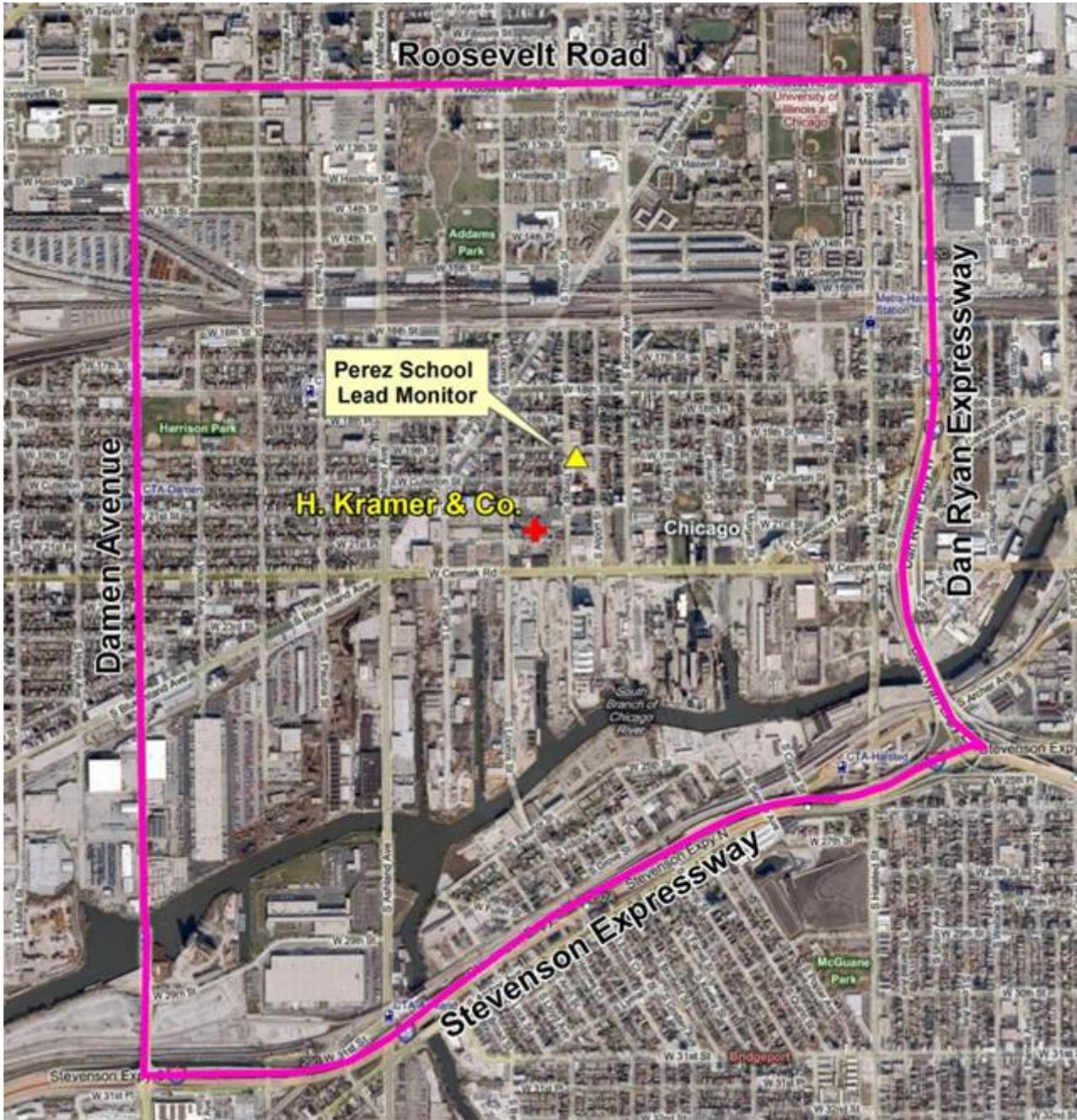
The Board will hold public hearings with Illinois EPA testifying in support of the proposed regulation. Interested parties may contact the Board to be informed of the proceedings, and may also ask questions or provide input to the Board during the required public comment periods and public hearings.

Redesignation

Once the new lead regulation is in place and the Illinois EPA has three years of monitoring data showing compliance with the lead NAAQS, the Illinois EPA will submit revisions to the State Implementation Plan to the USEPA to redesignate the areas to attainment of the lead NAAQS. This step will not happen for several years; however, the Illinois EPA will provide outreach to the local communities at that time to keep them informed of Agency actions.

Maps

Pilsen Nonattainment Area



Granite City Nonattainment Area



Lead – Basic Health Facts

Lead is a stable compound which persists and accumulates both in the environment and in the human body. Lead enters the human body through ingestion and inhalation with consequent absorption into the blood stream and distribution to all body tissues. Clinical, epidemiological and toxicological studies have demonstrated exposure to lead has a broad range of health effects. Since 1990, over 6,000 new health studies have been conducted. These studies have shown that children are the most susceptible to the damaging effects of lead because they are more likely to ingest lead

due to hand-to mouth activity and early body development.

Lead poisoning is caused primarily by lead-based paint in older homes. The most common exposure to lead for children is through the ingestion of paint chips and contaminated dust from deteriorated or disturbed lead-based paint in homes built before 1978. Other main sources of lead exposure are dust, drinking water and contaminated soils. The Illinois Department of Public Health recommends that all children 6 months through 6 years old be assessed for their risk of exposure to lead.

The Illinois Department of Public Health recommends taking the following actions to minimize children's exposure to lead:

- Wash your children's hands before they eat.
- Give your child foods high in iron and calcium such as lean meat, eggs, greens, milk, cheese and yogurt. Fruits and fruit juices high in vitamin C such as tomatoes, oranges, grapefruit, tangerines, papaya, mangoes, cantaloupe and strawberries will enhance iron intake, which will prevent the child's body from absorbing lead.
- Prevent chipping and peeling paint inside and outside your home.
- Clean up paint chips and lead dust in window sills and on the floor near windows, doorways and woodwork.
- Use a damp mop or cloth and a cleaning product to clean floors and surfaces.
- Wash your children's toys often.
- Throw away lead-painted toys.
- Do not store food in open cans or pottery.
- If you work with lead, shower and change clothes before coming into the home. Wash your work clothes separately.
- Run cold water for a few minutes before using it for cooking and drinking.
- Do not use water from the hot water tap for cooking, drinking or making formula.
- Leave shoes at the door in order to minimize the tracking of contaminated exterior soil into the home.
- Prevent children from playing in bare soil. It is recommended that children be either provided with sandboxes or that bare soil is covered with grass, mulch or wood chips.
- Use lead-safe work practices during minor renovation and repair.

For More Information:

If you have questions about the rulemaking or would like to be put on a mailing list to be kept informed about Illinois EPA actions in the nonattainment areas, please contact:

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For more information about preventing exposure to lead, lead-safe work practices, and testing children for lead, the Illinois Department of Public Health maintains information and factsheets on their website at <http://www.idph.state.il.us/envhealth/lead.htm>

Other Illinois EPA factsheets available:

Lead Monitoring in the Pilsen Neighborhood - Factsheet #1