



REGION 3

PHILADELPHIA, PA 19103

Questions:

1. Are there any long-term health monitoring programs planned for residents exposed to lead contamination?

When a Site is listed on the National Priorities List (NPL), the Agency for Toxic Substances and Disease Registry (ATSDR) is mandated to conduct a public health assessment on the community of the Superfund Site. EPA is in discussions with ATSDR and Pennsylvania Department of Health (PA DOH) regarding community events for residents who are concerned about lead contamination from the former Exide Technologies facility historic activities. We hope a community event (e.g., "soil shop" where people can bring a soil sample from a yard/garden for metal analysis; health fair including blood lead level testing; and health education seminars) can be planned for a future date once this Site is listed on the NPL to identify contamination exposure within the Laureldale community.

2. What role does the Pennsylvania Department of Environmental Protection (PADEP) play in overseeing the cleanup efforts?

Before a Site can be listed by EPA on the NPL, the agency seeks concurrence (i.e., agreement) from the Pennsylvania Department of Environmental Protection (PADEP) that the proposed Site area is acceptable for listing. Once the state concurs and a Site is listed on the NPL, a Project Officer representing PADEP is assigned to the newly listed Superfund Site. The EPA Remedial Project Manager (RPM) and the PADEP Project Officer maintain collaboration as the Site moves through the Superfund process. Specifically, the PADEP Project Officer will review technical documents and provide comments to EPA to ensure a consensus as decisions are made on the Site.

3. Are there any plans to remediate properties with average lead levels that may present a risk, as mentioned in the presentation?

The properties that are to be included in the cleanup will be those that exceed the protective levels for contaminants of concern that may adversely affect human health and the environment. Current scientific literature on lead toxicology and epidemiology provides evidence that adverse health effects are associated with blood-lead levels less than 10 µg/dL. Concurrent with the acknowledgement that lead exposure in young children can cause harm at lower levels than previously targeted, EPA is evaluating its existing policy on human health risks from lead contamination in soil. Should the lead policy change, EPA will evaluate the Former Exide Technologies – Laureldale Site in context of the policy change.

4. Can you explain the potential implications of a prospective purchaser buying the Exide Facility?

EPA understands that a prospective purchaser has expressed interest in buying the former Exide facility to lease space to other commercial entities for possible light manufacturing and/or product distribution that may require demolition and/or retrofitting of existing buildings. The prospective purchaser has not expressed an interest in continuing a lead-smelting or battery manufacturing operation at the facility. With respect to the implications of re-using a contaminated property, EPA and PADEP anticipate that any buyer of the facility will address legacy contamination at the facility under oversight of PADEP's Land Recycling Program (a voluntary cleanup program commonly known as Act 2) and EPA's RCRA Corrective Action Program, as applicable. PADEP and EPA's oversight will ensure the cleanup of the property is protective human health and the environment while facilitating the appropriate reuse.

5. What safeguards are in place to prevent future contamination in the Laureldale area?

Prior to the Clean Air Act of 1970, Exide lead smelter operations contributed to lead emissions and releases that impacted the soils in the surrounding community. Since the enactment of the Clean Air Act, Exide installed air pollution controls that significantly reduced lead emissions from the smelter operations. In 2010, Exide discontinued the battery manufacturing operations. In 2013, Exide ceased all lead recycling operations. In May 2020, Exide filed Chapter 11 bankruptcy and liquidated its North American operations. There is no longer a source of lead emissions from the former Exide facility that can potentially pose future contamination to the community.

Since the bankruptcy, the EPA Superfund Removal Program has secured the former Exide facility and removed a significant volume of hazardous wastes that can potentially pose a risk to the community. The hazardous wastes consisted of and are not limited to lead and heavy metal wastes. The former Exide facility is currently stabilized and does not pose a significant threat to the community.

6. How can residents actively participate in the creation of a Community Advisory Group (CAG)?

A CAG can assist EPA in making better decisions on how to clean up a Site. It offers EPA a unique opportunity to hear and seriously consider community preferences for Site cleanup and remediation. However, the existence of a CAG does not eliminate the need for the Agency to keep the community informed about plans and decisions throughout the Superfund process. Since interest in a CAG has already been expressed by residents, EPA will host an informational meeting to introduce the CAG concept to the public. This meeting will serve to educate the community about a CAG's purpose, their relationship with EPA, how CAGs are generally structured and how they operate, and to discuss potential membership models. The meeting is also an opportunity to address questions from the community about CAGs and to explain what assistance EPA can provide if the community decides to move forward and form a CAG. For more information, please see the Guidance for Supporting Community Advisory Groups at Superfund Sites by clicking here: <https://semspub.epa.gov/work/HQ/100002540.pdf>

7. What lessons have been learned from similar cleanup efforts, and how will they be applied in Laureldale?

Please see response to Question #16 for an example of a successful cleanup project similar to Exide.

8. What strategies are in place to educate Laureldale residents, particularly parents and caregivers, about the risks of lead exposure and preventive measures?

EPA has several informational materials about lead on the Site website at www.epa.gov/superfund/exide-laureldale. EPA works closely with federal, state and local partners on lead outreach. For instance, the Agency for Toxic Substances and Disease Registry (ATSDR), and the Pennsylvania Department of Health (PADOH) are two partners that work very closely with EPA in educating the public about the risks of lead exposure and preventive measures. The PADOH has a hotline for information about lead poisoning and related environmental health issues 1-800-440-LEAD. EPA also has a lead educational workshop that can be conducted for the residents of Laureldale upon request.

9. Are you aware of any community-based programs for other NPL sites that have had success in educating the community on the dangers of lead and other heavy metals and did they see an increase in participation of parents getting their children evaluated?

Over the years EPA's Superfund Program has conducted a number of investigations in communities where lead is a contaminant of concern. In some of these communities, EPA has worked with its partners to conduct soil shops, which involves a free lead screening of soil gathered from yards. At some of those events, health partners were available to conduct blood-lead level screenings of children. If this is something of interest to the community around the Former Exide Laureldale Site, EPA can work with its partners to explore the possibility of a similar event in the future.

10. How will the EPA ensure that all potentially affected properties are thoroughly assessed and remediated, especially those that may not have been previously identified?

The Site team will employ a sampling strategy during Remedial Investigation designed to thoroughly evaluate the nature and extent of contamination of the area that has been impacted by the past operations at the former Exide facility. Properties that have already been sampled and/or remediated by Exide during EPA's RCRA program oversight may be resampled. The definition of a Superfund Site is the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action. Per this definition, the estimated extent of the area of the Superfund Site will likely be adjusted based on sampling results.

11. What types of monitoring and testing will be conducted to track the progress of the cleanup efforts and verify the effectiveness of remediation?

Residential soil sampling will be completed to identify properties that will need remediation. These homeowners will be notified of this and updated when a remedy has been selected and remedial actions are due to begin. There will be many opportunities for community involvement between the Remedial Investigation and Remedial Action. EPA encourages attendance at public meetings and information sessions regarding the Site progress. The types of monitoring and testing will be determined based on the findings of the Remedial Investigation.

12. Can you explain the role of the Agency for Toxic Substances and Disease Registry (ATSDR) in evaluating public health risks and providing recommendations?

ATSDR will be conducting a public health assessment (PHA) for the Exide Site. A PHA evaluates a hazardous waste Site for hazardous substances, health outcomes, and community concerns. A PHA also looks at whether people could be harmed by encountering Site-related substances. Public health assessments are often the evaluation tool of choice when a Site contains multiple contaminants, and multiple potential pathways of chemical exposure. PHAs are used to identify whether a health study is appropriate or whether some other public health action is warranted, such as community health education. But for every Site that is on or is proposed for the National Priorities List, the Superfund law requires that ATSDR conduct a public health assessment. Public health assessments evaluate:

- Levels (or concentrations) of hazardous substances
- Whether people might be exposed to contamination and how they may come in contact with it (that is, through "exposure pathways" such as breathing, eating, or skin contact with contaminated air or soils)
- What levels of a toxic substance might cause harm to people
- Whether working or living near a hazardous waste site might affect people's health
- Other dangers to people, such as unsafe buildings, abandoned mine shafts, or other physical hazards

To learn more about public health assessments, please click here:

<https://www.atsdr.cdc.gov/hac/products/pha.html>.

13. What provisions are in place to ensure that the cleanup process does not disproportionately affect vulnerable populations in Laureldale, such as low-income or elderly residents?

As mentioned during the public meetings, community involvement is embedded into every step of the superfund process. Aside from mailings, the Site team is focused on creating collaborative partnerships with community members to ensure that our reach is amplified to all members of the community. At every Site, EPA also conducts an Environmental Justice Screen assessment (EJ Screen) to understand community demographics, but also some of the other environmental factors that could be impacting a specific population. EPA will use the data and reports from the EJ Screen to be transparent about how we consider environmental justice in our work and ensure that vulnerable populations in Laureldale are protected. Learn more about the EJ Screen tool here:

<https://www.epa.gov/ejscreen>.

14. How does the EPA plan to communicate and collaborate with the local government, including the Muhlenberg Township and Laureldale Borough, during the cleanup?

EPA has established a working relationship with both the township and borough through previous work that has been done at the Site. However, EPA looks to strengthen those relationships now that the Site may be listed on to the National Priorities List. EPA will continue to keep the community informed via its website www.epa.gov/superfund/exide-laureldale and will continue to share any key information through the Township and Borough. If the Site is added to the National Priorities List, EPA will conduct community interviews to understand how the community best receives information, etc. This information will be used to develop a Community Involvement Plan for the Former Exide Laureldale Site. The Community Involvement Plan is a Site-specific strategy for how EPA will engage and collaborate with the community throughout the Superfund process. Some of the ways EPA typically engages the community is through public meetings, regular mailings, social media, and participation in community events. Members of the community are also encouraged to reach out the Site Remedial Project Manager and Community Involvement Coordinator at any time, this contact information can be found on the Site Profile Page (link provided in Question #8).

15. What is the EPA's strategy for managing any unexpected challenges or discoveries that may arise during the cleanup efforts?

Superfund Sites are complex, and EPA is accustomed to challenges and unexpected issues as progress is made at these Sites. While we try to anticipate unexpected situations during our scoping, that is not always possible. That said, when an unexpected discovery or challenge does arise, EPA has a team of subject matter experts that work together to address these issues. The Superfund process is designed to allow us to be flexible in our assessment and cleanup of a Site. EPA can partition a large Site into smaller designated areas, known as Operable Units. Discrete actions can be taken at one Operable Unit while investigations proceed with other areas. This allows progress to occur more efficiently rather than waiting to complete the remedial action all at once across the whole Site. A Site as complex as Exide may take several years to fully complete, but EPA will ensure that the progress made on the Site is fully conveyed to the public and community involvement is encouraged.

16. Can you provide examples of successful cleanup projects similar to the Exide proposal, and what key lessons have been learned from those projects that can be applied here?

EPA successfully completed the remediation of 555 residential yards at the Price Battery Superfund Site, Hamburg, PA., in 2014. The Price Battery Site is also a formerly-owned Exide battery manufacturing facility which contaminated residential yards within a 1.2 square mile area within the Borough of Hamburg and nearby areas with lead-contaminated dust from a former secondary lead smelter. The remediation entailed the excavation of lead-contaminated residential soils and specialized residential interior cleaning. More information regarding the Price Battery Superfund Site may be found at www.epa.gov/superfund/pricebattery. Key lessons and successful implementation of the Price Battery residential cleanup included methodologies utilizing field portable equipment to rapidly assess lead concentrations in residential yards and presence of potential lead-based paint co-contamination. In addition, a robust residential communication plan was put into place during the residential cleanup phase utilizing full-time on-Site EPA community involvement support to keep affected residents apprised of cleanup efforts on their respective properties. EPA will bring the lessons learned during the remediation of the Price Battery Site, including any additional resources needed, as necessary, to ensure successful implementation of any cleanup activities to the Former Exide Technologies – Laureldale Site.

17. Will the EPA or PADEP seek to recover funds from the 'Trust' that remains of the former Exide Technologies for properties that were sold after bankruptcy to recoup money spent in cleaning up the site?

The Exide Environmental Response Trust was created at the direction of the court in the Exide bankruptcy settlement, to which the United States on behalf of EPA was a party. The assets of the Trust were to be used to for the benefit of all the abandoned Exide facilities, including the Exide Facility in Reading, PA. The Trust assets were used to manage the Exide Facility, including cleanup activities and preparation of the property for sale for redevelopment. Unfortunately, the assets in the Trust were not sufficient to complete all of the cleanup activities required at the Exide Facility. As of this date, the vast majority of the Trust assets dedicated to the

Exide Facility have been depleted. The Trust is not a liable party for any claim that EPA or PADEP may have with respect to recovering costs associated with cleanup of the facility or off-facility areas.

18. According to the PA Department of Education, the Muhlenberg school district student enrollment has grown 15% from 2000-2020. Some of these test results provided by Exide were conducted in 2001 on children ages 1-6. I believe the initial evaluation of residences resulted in locating only two children in the affected zone. Exide continued Smelting operations until 2013. More families have moved into this area since 2001, will there be an effort to conduct new tests of children within that age group considering also that the CDC standards (lower ppm) have changed?

EPA will work with ATSDR and PADOH to offer blood lead level testing events for the Laureldale community as stated in the response to Question #1. Opportunities like this will be communicated through the township and borough, as well as on EPA's Site Profile Page. ATSDR's Public Health Assessment will also be a valuable resource to assess how the community has been affected by the activities of Exide at the Laureldale facility. PADOH also publishes annual reports regarding childhood blood lead, which can be found here:

<https://www.health.pa.gov/topics/disease/Lead%20Poisoning/Pages/Lead-Surveillance.aspx>.

19. Several properties were tested during the NPL site inspection. Can you tell us which heavy metals were detected and how those levels compare [higher/lower levels] to the 200+ properties that were remediated in 2009?

The full suite of metals that were analyzed in the 2022 site inspection and the results obtained can be found in EPA's Field Trip Report that is a reference document for the Hazard Ranking System Package and posted on the Former Exide Technologies Laureldale Site Profile Page under 'Site Documents and Data' (Document ID 2355108 - <https://semspub.epa.gov/work/03/2355108.pdf>). Heavy metals detected in residential soil and which are attributable to Exide's lead smelting emissions include arsenic, antimony, lead, and zinc. The most abundant and frequently detected metal in EPA's samples that may pose a health risk is lead. Analysis of soil collected in the 2009 Exide Residential Study was restricted to just lead and the response action of removing and replacing lead contaminated soil also addressed any potentially elevated concentrations of other metals in the soil for those properties where remediation occurred. Regarding comparison of the 2009 sample results to the 2022 sample results, the methods used in both sampling events for collecting and analyzing the soil were not the same and thus the results are not entirely compatible and highly variable. However, for the properties sampled in 2009 that were also sampled in 2022, the range of lead concentrations detected is as low as 314 mg/kg of lead to as high as 3436 mg/kg. The range detected on those same properties or in specific areas that were not remediated by Exide in the 2022 site inspection is as low as 120 mg/kg lead to as high as 4200 mg/kg.

20. Can you provide information on the EPA's efforts to leverage emerging technologies like LoraWAN-enabled lead sensors for real-time monitoring and data collection at NPL sites, and how this technology may enhance the agency's ability to assess and manage environmental risks in communities affected by hazardous waste sites?

EPA utilizes direct sampling and analysis techniques, as well as XRF (X-ray fluorescence) instruments, to evaluate contaminant concentrations in different media. These techniques will be the primary methods of assessment for the soil and sediment contamination at Former Exide Technologies Laureldale. EPA also uses real-time monitors and existing wireless/satellite networks for data collection and transfer at some Superfund Sites. It should be noted that many factors go into determining the use and need of real-time measurement technologies coupled with real-time data telemetry via wireless satellite networks. Considerations include but are not limited to: contaminants or characteristics monitored, required detection/quantitation limits, matrices monitored (water, air, soil, sediment, waste), topography/telemetry, availability of power and wireless/satellite networks, and cost/availability of measurement/monitoring technologies. The goal of the Remedial Investigation is to evaluate the nature and extent of contamination that originated from the Former Exide Technologies facility, and these data will be collected through approved standardized methods, which may include a combination of real-time and laboratory data.