October 31, 2024

William Longley, Remedial Project Manager
Janetta Coats, Community Involvement Coordinator
U.S. Environmental Protection Agency

Re: Comments on Upcoming 5-Year Review of Record of Decision for Tar Creek Superfund Site in Ottawa County, Oklahoma

Submitted by email to Longley.William@epa.gov and coats.janetta@epa.gov.

Mr. Longley and Ms. Coats:

Unleaded Kids appreciates the opportunity to comment on the upcoming five-year review of the Record of Decision (ROD) for Tar Creek Superfund Site in Ottawa County, Oklahoma. The National Center for Healthy Housing supports these comments submitted by Unleaded Kids.

Unleaded Kids is the only national organization focusing on reducing the cumulative impact of all sources of children's exposure to lead. For more information see www.unleadedkids.org.

Our comments are based on our review of:

- EPA's webpage for the site;[1]
- EPA's Sixth Five-Year Review Report released in July 2020;[2]
- Participation in 26th National Tar Creek Conference on October 9, 2024 at Northeast Oklahoma College in Miami, OK and related activities; and
- Discussions with Rebecca Jim of LEAD Agency.

Our review covers the three operating units addressed in the Sixth Five-Year Review Report. Those units are:

- Operating Unit 1 (OU1) for surface water and groundwater;
- Operating Unit 2 (OU2) for soils at residential properties and high access areas (HAAs) including childcare facilities, schoolyards and other areas where children may congregate; and
- Operating Unit 4 (OU4) for mining waste, milling waste piles (also known as chat) and smelter waste.

Regarding the planned five-year review, we ask that EPA address the following issues:

Comment 1: Evaluate Deteriorated Ductwork

We understand that many of the buildings in OU2 had heating and air conditioning ducts installed under the slab. If chat were used under the slab, the ductwork would be in direct contact with chat.

The chat under the slab can get wet from flooding or a rising groundwater table, When this happens, the sulfur in the chat can generate acidic conditions that corrodes the steel ducts. When the corrosion eats all

[1] See https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0601269.
[2] See https://semspub.epa.gov/work/06/100021610.pdf.

the way through the duct wall, chat can intrude and release fine particles that get entrained in the air being moved through the ducts. The corrosion can occur even when the ducts are made of stainless steel. It is worse when the steel is only galvanized.

The LEAD Agency can share with EPA examples where the corrosion has been so severe that there is little of the steel duct remaining and water routinely intrudes into ductwork and, occasionally, homes and occupied areas. While subslab ductwork is not unusual, the damage we have understood has occurred in the Tar Creek area appears extreme, especially given the age of the housing.

The damaged ductwork can pose a significant health threat to occupants because these fine particles from chat can contain lead that harms occupants when they inhale the particles or ingest them from hand-to-mouth activities after the particles settle on horizontal surfaces. The risk is greatest for young children who play on the floor and tend to put their hands in their mouth. The lead contaminated dust may also get into children's stuffed animals, blankets, or other toys that they play with on the floor. These items often are moved around the house including to the child's bed where they can spread dust.

As part of its five-year review, EPA should closely evaluate the situation. Specifically, the agency should:

- Inspect the subslab ducts for corrosion that may result in dust from chat entering the ventilation system. The inspection should be conducted with a camera that can go into the ductwork.
- If there has been significant damage to the ductwork, arrange for an Oklahoma-certified lead risk assessor to take floor dust samples and compare them to the 5 microgram per square foot ($\mu g/ft^2$) action level that EPA finalized on October 24, 2024. It is important to have someone take the samples who has experience properly collecting the samples. Note that federal rules require the person be certified by Oklahoma since EPA has delegated authority to the state for implementation.
- If the levels are over the action level, EPA should consider remediating the situation by:
    - Replacing the ventilation system so that the ducts are not contacting chat;
    - Sealing the ducts where they enter the building; and
    - Cleaning the home and occupied areas so the levels are below the action level throughout.

We recognize that EPA's Superfund program is not permitted to use the funds to cleanup lead contamination that is attributable to lead-based paint. Where the subslab ductwork is damaged by corrosion, EPA should presume that the contaminated dust is from the chat, not any lead-based paint that might be present in the building.

If EPA determines that it cannot repair the damaged ventilation systems under the ROD, it should:

- Work with the weatherization program in the Oklahoma Department of Commerce.[3] They may have funding available to provide this type of repair.
- Encourage efforts by Oklahoma or a local unit of government to secure a lead-hazard reduction grant from the U.S. Department of Housing and Urban Development that can abate lead-based paint in eligible homes. Those grants should also include supplemental funding to fix healthy homes issues that may be present.
- Evaluate similar opportunities for other child-occupied facilities such as childcare operations and schools.

[3] See https://www.okcommerce.gov/weatherization/.

Comment 2: Update Soil Cleanup Provisions Based on EPA's Relevant Guidance

Based on EPA's updated soil lead guidance[4] that was issued on January 17, 2024, the agency needs to tighten the soil cleanup requirements in the ROD for OU1 and OU2 because it does not use the current version of the IEUBK blood lead level that are not consistent with revised target blood lead levels outlined in the guidance of 5 µg/dL or 3.5 µg/dL 95th percentile target blood lead level.

In addition, EPA should ensure that its analysis of soil samples conforms with its 2016 guidance.[5] That guidance called for dried samples to be sifted so the analysis is based on the fine particles that pass through 150 µm sieve, more commonly known as a No. 100 sieve. From 2000 to 2016, the recommendation was to use a 250 µm sieve. The difference is significant the particles under the revised guidance would be like fine-ground flour or coarse powdered sugar. Under the old guidance, the particles would have be like coarse corn meal. We are not clear what size of sieve is currently required in the ROD.

By sieving the samples and analyzing the fine particulate for lead, EPA will focus on those lead exposures that are most likely to adhere to skin and shoes or become airborne when the soil is dry. The airborne component is particularly important when the lawn is mowed, or leaves are blown away for collection.

Note that the 2016 guidance on sifting applies to all soil samples. Therefore, it would also apply to the chat piles in OU4. Research by Dan Brabander at Wellesley College and his colleagues have shown the importance of analyzing fine dust because it is most likely to have much higher lead levels than the larger size and will be carried much further by the wind. While the fine dust can be released without a disturbance to the chat pile, it is especially significant when the remediation is underway, or the chat pile is prone to subsidence. For more information, we attach his Power Point Presentation from the October 9, 2024, conference in Miami, Oklahoma.

Comment 3: Impacts of Flooding and Soil Erosion

It is not clear that the ROD adequately considers the impacts of soil erosion and flooding. These events may disturb protective soil covers and allow highly contaminated soil to be exposed to human contact or to contaminate the environment.

EPA should consider the impacts from more extreme weather events than were contemplated in 1994 when the ROD was finalized.

Comment 4: Worker Protection

In the past year, EPA has quantified the impact of adult exposure to lead on their increased risk of dying from cardiovascular disease. The numbers are huge, sufficient for the agency to justify its improvements to the Lead and Copper Rule for drinking water that the Administrator signed on October 8, 2024.[6]

Based on this analysis, EPA should consider whether stronger protections are needed for workers who are conducting remediation projects. Because the OSHA standards have not been updated for more than a quarter century, EPA should consider those worker protection practices adopted by states such as California[7] that have carefully considered the risks based on what we now know about the harms posed by exposure to lead.

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[4] See https://www.epa.gov/superfund/updated-soil-lead-guidance-cercla-sites-and-rcra-corrective-action-facilities.
[5] OLEN Directive 9200.1-128 dated July 1, 2016 at https://semspub.epa.gov/src/document/HQ/100000133.
[6] See https://www.epa.gov/ground-water-and-drinking-water/lead-and-copper-rule-improvements.
[7] See https://www.dir.ca.gov/oshsb/documents/Lead-apprvdtxt.pdf.

In addition, any procedures must also protect families of the workers from lead carried home from the worksite on their clothes and vehicles.

Finally, we encourage EPA to

- Move forward with a ROD on Operating Unit 5 for sediment and surface water after addressing concerns raised by LEAD Agency. It has been three years since EPA released the preliminary remediation goals memorandum.[8]
- Closely coordinate the review with related cleanups in Southeast Kansas and Southwest Missouri.[9]

At Unleaded Kids, we appreciate the opportunity to comment on EPA's planned review of the ROD. For more information, please contact Tom Neltner at tneltner@unleadedkids.org or 317-442-3973.

Sincerely,

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About the National Center for Healthy Housing
The mission of the National Center for Healthy Housing (NCHH) is to secure healthy homes for all. NCHH is a national technical and scientific nonprofit organization dedicated to developing and promoting practical measures to protect children from residential environmental hazards, including lead poisoning while preserving affordable housing. NCHH develops scientifically valid and practical strategies to make homes safe from hazards, to alert low-income families about housing-related health risks, and to help them protect their children.

cc: Rebecca Jim, L.E.A.D. Agency at https://www.leadagency.org/.

[8] See https://semspub.epa.gov/work/06/90044716.pdf.
[9] The sites include: 1) Cherokee County, KS site described at https://www.epa.gov/superfund/cherokeecounty which is also undergoing a five-year review in 2025; 2) Oronogo Duenweg Mining Belt (Jasper County), MO site described at https://www.epa.gov/superfund/oronogoduenwegmining which is due for a five-year review in 2027; and 3) Newton County Mine Tailings, MO site described at https://www.epa.gov/superfund/newtoncountymine which appears to be undergoing a five-year review in 2024.