EPA Region 7

Lead Portfolio

A compilation of the lead work being done across the region.

March 2018

Table of Contents *(click each title to jump to that section)*

Regulatory Work 1
- Comprehensive Environmental Response, Compensation, and Liability Act 1
  - Superfund Residential Lead Cleanup 1
  - Superfund Large Area Mine Waste Cleanup 1
  - Statutorily Required Community Engagement at Lead Superfund Sites 3
- Cleanup Sites of Note 4
  - Omaha Lead 4
  - Doe Run Resources Corporation 4
- Cleanup Pilots 5
  - Superfund Watershed Restoration Pilot Projects on Big River in the SEMO Mining District 5
  - Redevelopment Navigation Pilot Projects in Southeastern Kansas and St. Francis County, Missouri 6
- Clean Air Act 6
  - Compliance with Regulations and Permits at Lead Air Emission Sources 6
  - Lead National Ambient Air Quality Standard Compliance 7
- Resource Conservation and Recovery Act 9
  - Compliance with RCRA Regulations Including Cleanup of Lead Contaminated Sites 9
- Safe Drinking Water Act 10
  - Lead and Copper Rule Implementation 10
  - National Implementation Workgroup to Assist Understanding of the Current Lead and Copper Rule 11
  - National Workgroup to Develop Updated Lead and Copper Rule 12
- Toxic Substances Control Act 12
  - Lead-Based Paint Abatement Program and Renovation, Repair, and Painting Rule Implementation 12
  - Lead Disclosure Rule Implementation 13
  - Lead Disclosure and Renovation, Repair, and Painting Rule Outreach Events 14

Scientific Support 15
- Ambient Air Monitoring Studies 15
- Risk Assessment 15
- Lead Bioaccessibility Sample Analysis 15
- Office of Superfund Remediation and Technology Innovation's Lead Committee Co-Chair 15

Outreach and Education 16
- Lead Poisoning Prevention Community Initiative 16
- Healthy Environments Coalition 17
- Superfund Job Training Initiative in Missouri Lead Belt at Madison County Mines Superfund Site 17
- Outreach and Education 18
- Healthy Schools Toolkit 18
- Environmental Justice Small Grants 19
- Environmental Education Grants 19
- [Pending] Pediatric Environmental Health Specialty Unit Project 19

REGULATORY WORK

Rule Implementation, Cleanups of Note, Cleanup Pilots

➢ COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA):

Superfund Residential Lead Cleanup

Responsible Unit: Superfund Division
POC: Gene Gunn

As of the end of FY2017, over 23,000 residential properties have had lead contaminated yard soil removed and replaced at 20 Superfund sites, some of which are countywide (in Omaha, Nebraska; the Tri-State Mining District in Southwest Missouri and Southeast Kansas; the Old and New Lead Belts in Southeast Missouri; and the Central Mining District in Central Missouri). The Superfund work included the excavation and replacement of approximately 3.7 million cubic yards of residential soil and revegetation of the surface. Extensive health education and outreach has accompanied the cleanup efforts and significant reductions in blood lead levels have been documented. In addition, alternate drinking water has been provided to over 3,600 homes.

For More Information:
View the Superfund site profile pages for or contact the POC about the Superfund Electronic Management System Documents for residential investigative or response activities for any of the following sites: Omaha Lead Site, Madison County Lead Site, Herculaneum Smelter Site, Big River Site, Potosi Site, Old Mines Site, Richwoods Site, Furnace Creek Site, Southwest Jefferson County Site, Viburnum Haul Roads, Viburnum St. Joe Site, Former United Zinc Site, Pittsburg Zinc Site, Oronogo-Duenweg Site, Cherokee County Site, Newton County Site, Lawrence County Site, Annapolis Lead Site, Washington County Sites, Central Missouri Mining District Sites, and Caney Kansas site.

Superfund Large Area Mine Waste Cleanup

Responsible Unit: Superfund Division
POC: Gene Gunn

As of the end of FY2017, over 9,800 acres of land impacted by historic disposal of mine waste at large area lead sites has been consolidated and capped at 11 sites in the Tri-State Mining District in Southwest Missouri and Southeast Kansas and in the Old Lead Belt in Southeast Missouri. The Superfund cleanup efforts have addressed over 36 million cubic yards of mine waste through a combination of excavation, consolidation, capping, and sub-aqueous disposal.

For More Information:
View the Superfund site profile pages for or contact the POC about the Superfund Electronic Management System Documents for mine waste investigative or response activities for any of the following sites: Madison County Lead Site, Big River Site, National Lead Site, Leadwood Tailings Site, Desloge Tailings Site, Elvins Tailings Site, Bonne Terre Tailings Site, Federal/St. Joe State Park Tailings Site, Oronogo-Duenweg Site, Cherokee County Site, Newton County Site, Annapolis Lead Site, and Washington County Sites.

ED_002434_00005129-00003

Region 7
Superfund Division

Cleanup Accomplishments

Action	FY2017	R7 Cumulative
Lead Contaminated Residential Soil Replaced	664 Properties 159,000 yds^3	**23,660 Properties** **3,610,259 yds^3**
Mine Waste Addressed Acreage	2,600,000 yds^3 300 Acres	**36,156,703 yds^3** **9,512 Acres**
Alternate Water Provided	? Residences*	**3,670 Residences***
Exterior Lead-Based Paint Stabilized	1 Home*	**6,250 Homes***
Interior Dust Addressed	722 Homes*	**5,226 Homes***

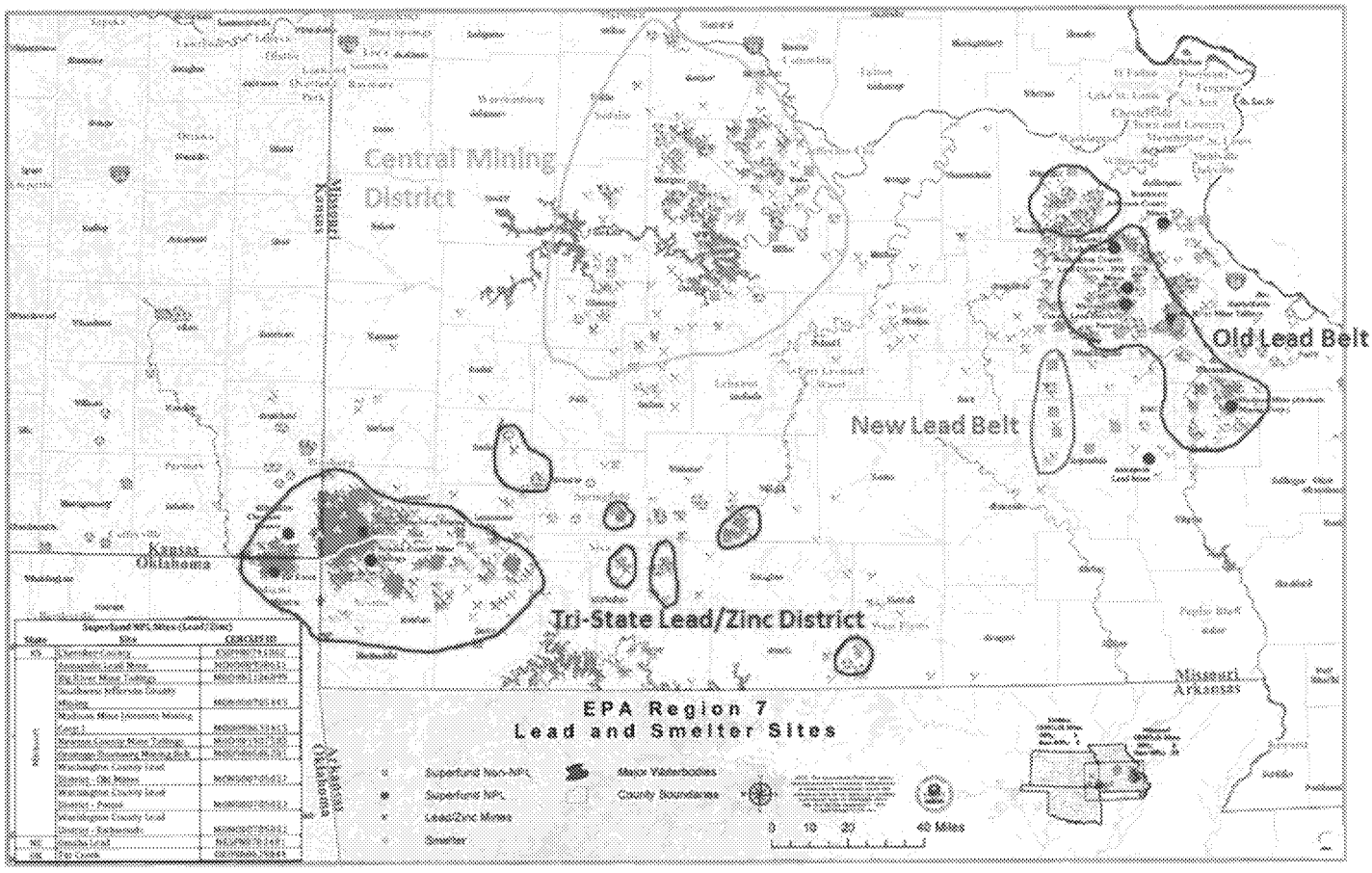
**FY2017 data incomplete*

Region 7
Superfund Division

R7 NPL Lead Sites

		#OUs	Size *(sq miles)*
KS	Cherokee County	9	115
	Former United Zinc & Associated Smelters	2	4.5
MO	Annapolis Lead Mine	3	0.5
	Big River Mine Tailings	3	110
	Southwest Jefferson County Mining	8	671
	Madison Mine (Anschutz Mining Corp)	7	516
	Newton County Mine Tailings	2	110
	Oronogo-Duenweg Mining Belt	5	250
	Washington County Lead District – Furnace Creek	4	533
	Washington County Lead District – Old Mines	4	90
	Washington County Lead District – Potosi	4	47
	Washington County Lead District – Richwoods	4	45
NE	Omaha Lead	2	27
	13 sites	*57 OUs*	*2519 sq mi*

Equivalent to cleaning up the island of Manhattan in NYC 100 times



Statutorily Required Community Engagement at Lead Superfund Sites
Responsible Unit: Enforcement Coordination Office
POC: Althea Moses

Overview:
EPA Staff enhance statutorily required community involvement at Superfund sites where large numbers of residents are impacted by lead contaminated soil. These actions are taken to ensure communities understand the potential impacts of lead on health, particularly in young children. Enhanced public engagement includes working with local health departments, care-givers, educational institutions, local, state, and federal entities to leverage resources ensuring that the needs and concerns of the community are addressed.

Region 7 Actions:
Staff attend school events, county fairs, and other community activities to provide information and educate the public. Partnering organizations provide health screenings and other health-related services, resulting in a holistic or one-stop-shop approach to addressing lead concerns. Examples: Former United Zinc in Iola, KS and Madison County Mines in Fredericktown, MO.

➢ Cleanup Sites of Note:

Omaha Lead

Responsible Unit: Superfund Division
POC: Gene Gunn

The Omaha Lead Superfund Site (OLS), which encompasses the eastern portion of the metropolitan area in Omaha, NE, includes residential properties and other locations where children may be exposed such as child care centers, schools, and parks where the soil was contaminated with lead. The lead was attributed to deposition of 125 years of particulate matter emitted from lead smelting and refining facilities. Secondary sources of lead contamination at these sites include the operation of a lead battery recycling plant, use of leaded gasoline, and the use of lead-based paint, among others.

Since 1999, EPA Region 7 has been involved in cleaning up more than 13,000 contaminated properties which includes removal of lead contaminated soil, stabilization of lead-based paint, increasing awareness of the impacts of lead on public health in the affected areas, and taking other actions to mitigate the associated risks. In support of the Omaha Lead residential cleanup, the Region 7 laboratory analyzed over 10,000 soil samples and provided oversight for the contract analysis of an additional 15,000 soil samples.

The Office of Research and Development's Superfund Technical Support Centers were asked to evaluate the effects of the cleanup efforts by EPA Region 7 on the societal consequences in the impacted areas in terms of scholastic achievement and lower blood lead levels in children. To support this request, ORD is utilizing existing or secondary health and socio-economic data provided by state agencies in Nebraska including the Omaha Public Schools system, the Nebraska Department of Human and Health Services, Douglas County Health Department, as well as EPA Region 7's Superfund Division.

Cleanup efforts to date have been very successful for the Omaha community. In 1998, 25% of the children tested in within the seven-zip code OLS Site had blood lead levels higher than the then 9.5 micrograms per deciliter (µg/dL) level of concern, which is above the current 5 µg/dL reference level that the CDC considers to represent an elevated blood lead level in children. In 2017, more children were tested (over 17,000) than ever before, and the percentage of children with blood lead levels higher than 9.5 µg/dL dropped significantly from 25% to <1%.

To date 1,448 residential parcels have been delisted under this process in two batches for years 2013 and 2017. The 2018 planned delisting will include 101 residential parcels. The process had been temporarily halted due to uncertainty in the preliminary remediation goals (PRGs) for residential cleanup.

Doe Run Resources Corporation

Responsible Unit: Office of Regional Counsel
POC: Dave Cozad

Doe Run is a mining company headquartered in St. Louis, Missouri. For most of its history, Missouri has been the largest lead producer in the United States. Doe Run is the successor to much of the historic lead mining in Missouri, and as a result is a responsible party for many large Superfund cleanups. Doe Run is the primary responsible party at several mining superfund sites in Southeast Missouri, including

the Big River Mine Tailings site, the Southwest Jefferson Mining site, the Madison County Mines site, the Viburnum Trend Lead Haul Roads site, and the Herculaneum Lead Smelter site. Doe Run is a contributing responsible party at other Missouri sites including the Washington County Lead District, and the Oronogo-Duenweg Mining Belt site (aka Jasper County). Doe Run is also a responsible party at the Cherokee County Site in Kansas and at sites in other Regions, including the Tar Creek (Ottawa County) site in Oklahoma (Region 6) and one site in Region 8 (Montana). The work at these various sites involves the cleanup of thousands of residential properties as well as addressing numerous large tailings piles and other areas of former mining wastes. For Region 7, Doe Run has completed most of their Superfund responsibilities with the exception of the sites in Southeast Missouri, which will require decades of work.

Mining continues today by Doe Run in an area in southeastern Missouri known as the Viburnum Trend. The Viburnum Trend encompasses mining and milling facilities operated by Doe Run in Iron and Reynolds Counties; two primary lead smelters (both are no longer operational); a secondary lead smelter; and concentrate shipping operations from the Southeastern Missouri Port Authority in Scott City on the Mississippi River. Lead regulatory work, such as Clean Air Act and Resource Conservation and Recovery Act compliance, continues at Doe Run facilities still in operation.

➢ CLEANUP PILOTS:

Superfund Watershed Restoration Pilot Projects on Big River in the SEMO Mining District
Responsible Unit: Superfund Division
POC: Gene Gunn

Historic lead and zinc mining took place in the Old Lead Belt which covers a four-county area in southeastern Missouri. The first recorded mining occurred in the Old Lead Belt in about 1721 and mining continued until 1972. Mining and milling of ore produced about 250 million tons of waste in the Old Lead Belt. Much of the waste has been removed and used for sundry purposes over the years. Today, approximately 60 million tons of mine waste remain in the Old Lead Belt. These mining activities have also released large amounts of lead contaminated mine waste to the local streams and rivers. As a result, over 100 miles of Big River watershed sediments, stream banks, and floodplains are contaminated with lead and other metals.

The removal of the contamination in the Big River and its tributaries and floodplains would be very costly and would result in the destruction of much of the remaining value of the resource. Therefore, Region 7 is implementing a range of direct and passive technologies to address the contamination in an iterative approach that will result, over time, in a cleanup that is both protective of human health and the environment and maintains the remaining valuable resource features in the watershed. Significant cost savings will also be realized as a result of this approach.

The five treatability studies underway will aid in the finalization of the remedial investigation and the development of the feasibility study for Operable Unit (OU) 4 of the SW Jefferson Co Mine Site, OU4 of the Washington Co Site and OU2 of the Big River Site. Other activities will include a requirement to present the findings and participate in technical discussions with members of the public, other agencies, and potentially responsible parties (PRPs) to secure additional work and private landowner participation.

1. Newbury Riffle: This structure at the confluence of Big River and Flat River Creek in St. Francois County is fully constructed and includes in-stream grade control and in-stream and side channel overbank sediment traps with a combined capacity of approximately 6,000 cubic yards. Portage

for river float activities is also included. The Riffle structure is undergoing the first round of trapped sediment removal.

2. Mineral Fork Bank Stabilization: This study is addressing highly erodible contaminated banks along a tributary to Big River within the Washington County Lead Site using a low-profile stone toe structure. The contamination is contained and the structure has survived flood events.
3. Mammoth Road High Flow Structure: This structure is along Big River within the SW Jefferson County Site. It is a fully constructed side channel overbank contaminated sediment trap using historic river meander. The structure captured migrating contaminated sediments during recent flooding events.
4. Rockford Beach Dam Stabilization: A historic mill dam along Big River at the SW Jefferson County Lead Site has been stabilized preventing the release of historic lead contaminated sediments to immediately downstream mussel beds. A permanent restructure is in design.
5. Owl Creek Dam Stabilization and Low-Water Crossing Sediment Trap: Plans are in place to partially remove and stabilize a dam constructed along Big River in St. Francois County using lead contaminated mine waste and use a low water crossing immediately downstream as a sediment trapping and removal site. The Missouri Department of Natural Resources, as lead, is working with landowners for the Owl Creek work and the cleanout of the low-water crossing sediment trap will be part of future negotiations with PRPs. In addition, a county park adjacent to Owl Creek and the low-water crossing is planned for future development by St. Francois County.

Redevelopment Navigation Pilot Projects in Southeastern Kansas and St. Francis County, Missouri

Responsible Unit: Superfund Division
POC: Tonya Howell or Dave Doyle

Redevelopment Navigation Team Pilot Projects are being developed in Region 7 mining country. Pilot projects will be exploring redevelopment opportunities in the Kansas communities of Iola and Caney and in the Missouri communities of Park Hills, Bonne Terre, Leadwood, and Desloge. All of these communities have been heavily impacted by historic mining, ore processing, or smelting activities and are included in Superfund sites undergoing investigation and removal or remedial cleanup actions.

Region 7 is currently working with Skeo, the headquarters reuse contractor, to finalize the scope of work to be performed. This pilot study will include going into the above communities and meeting with city leaders about their community-wide future redevelopment plans, and then overlaying those plans with Superfund cleanup actions that have been conducted, are being conducted, or are planned. That will allow other lead-impacted parcels (such as commercial properties and vacant lots) to be identified and evaluated for possible cleanup actions through either Brownfields or state cleanup programs. The goal of this pilot study is to help smaller communities that don't have the resources know how to address contaminated properties that fall within large-scale Superfund sites (like many of our lead sites), or know who to contact for assistance.

➢ Clean Air Act (CAA):

Compliance with Regulations and Permits at Lead Air Emission Sources

Responsible Unit: Air and Waste Management Division
POC: Lisa Hanlon (APCO) or Stephanie Doolan (APDB)

Overview:
Section 107 of the Clean Air Act establishes lead as one of the six Criteria Pollutants, however, lead is the only Criteria Pollutant that is also a Hazardous Air Pollutant under Section 111 of the Act. Thus, lead has a National Ambient Air Quality Standard (NAAQS) and lead-emitting facilities are also regulated under process specific National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for primary and secondary lead smelters and battery manufacturing facilities.

EPA developed the Community Air Protection Strategy (CAPS) to verify compliance with both the NAAQS and NESHAP requirements for lead due to its known public health threat, especially to children. CAPS is a regional enforcement initiative and targeting strategy in which six of the ten regional offices are participating to protect public health by identifying and quickly remedying single source-oriented CAA regulatory compliance issues in areas where the public is exposed to air pollution levels exceeding the NAAQS. It focuses enforcement resources on areas with known and unknown monitored, modeled, or designated exceedances of the NAAQS. CAPS increases coordination between enforcement, permitting, and State Implementation Plan (SIP) staff to ensure accurate emissions are utilized for SIPs.

Region 7 Actions:
The Air Waste and Management Division's Air Planning and Development Branch (APDB) ensures attainment of the NAAQS and the Air Permitting and Compliance Branch (APCO) oversees state permitting of lead-emitting facilities and ensures compliance with the NESHAPs. All four Region 7 states have the primary responsibility under the CAA for air monitoring, working with facilities to develop the plan to comply with the NAAQS, and permitting of lead sources. Region 7 Environmental Sciences and Technology Division staff provide on-going technical support, audit support, and expertise to our states as they deploy and field 24 lead monitors designed to evaluate human exposure and compliance with the NAAQS. The data collected from these sites are used to make regulatory decisions designed to improve public health in these areas.

In Region 7, the Air Program has initially targeted two lead-emitting facilities for CAPS inspections, Doe Run's Buick Resource and Recycling Facility and Exide's Salina battery manufacturing facility. It is envisioned that CAPS will be extended to verify compliance at other lead-emitting facilities in the region. CAPS in Region 7 has been implemented with technical assistance from Region 5. An inspector with experience inspecting Region 5 lead-emitting facilities has supported our Region 7 efforts, assisting with the inspections and the development of enforcement referrals, and providing follow up technical assistance. The added benefit of the regional coordination on the CAPS is consistency in EPA's regulation of lead facilities; 12 of the areas in violation of the 2008 Lead NAAQS are located in Regions 5 and 7.

Lead National Ambient Air Quality Standard Compliance

Responsible Unit: Air and Waste Management Division
POC: Stephanie Doolan

Overview:
In 2008, EPA revised the Lead (Pb) NAAQS, lowering it from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$. States reviewed lead emissions and identified facilities that required ambient air monitoring to determine compliance with the 2008 Pb NAAQS.

Region 7 Actions:
Based on monitoring, five areas with one or two lead sources violated the NAAQS. Region 7 is working with the state environmental agencies to bring these areas back into NAAQS compliance. The following is a brief listing and status of these facilities.

Facilities Currently Attaining the Lead NAAQS:
Council Bluffs, Pottawattamie County, Iowa: The nonattainment area includes two facilities, Griffin Pipe Products that manufactured iron water line and Alter Scrap that supplied scrap metal to Griffin. The area began to monitor NAAQS attainment in 2012 and has met the required number of quarters of attaining data to be redesignated to attainment. Region 7 is currently processing the redesignation and maintenance plan.

Exide Technologies, Canon Hollow, Missouri: Exide Technologies owns and operates a secondary Pb smelter subject to the NESHAP in rural northeastern Missouri. The facility recycles batteries and other Pb containing materials for reuse at other facilities, including its Salina battery manufacturing facility described above. The air monitoring data from this area were not available in time for the second round of Pb designations, although the facility was found to be violating the 2008 Pb NAAQS in 2011. The state, EPA and Exide worked together cooperatively to implement emission controls and work practice standards to bring the facility into compliance with the NAAQS and NESHAP as early as possible. The facility began monitoring compliance with the standard in 2014 and has attained the NAAQS. Because the area was not designated as nonattainment, the state and facility entered into a Consent Judgment to formalize the compliance measures which is federally approved as a "SIP strengthening" revision.

Facilities Currently Not Attaining the Lead NAAQS:
Jefferson County, Missouri: The Herculaneum facility was a primary lead smelter owned and operated by the Doe Run Company. Under a multi-media Consent Decree, the facility ceased its smelting operations and began monitoring attainment of the NAAQS in 2014. Recently, the facility violated the NAAQS due to on-site demolition activities. Provided there are no new violations, the area is expected to attain the 2008 Pb NAAQS in January 2021.

Iron, Dent, and Reynolds Counties, Missouri: The Buick Resource Recycling Facility, a secondary Pb smelting facility, and two adjacent mining and milling operations are the sources of the Pb NAAQS violations in this area of southeastern Missouri. After monitoring attainment of the NAAQS for approximately two years, the facility violated the standard in 2016 during upset conditions. Inspections concluded the facility is in violation of the Secondary Pb Smelting NESHAP. Missouri has taken the lead in the enforcement action that is expected to result in compliance with the NAAQS and NESHAP. The facility is expected to attain the NAAQS in 2019.

Salina, Saline County, Kansas: The Exide Technologies facility in Salina, Kansas, contributes the majority of the Pb emissions reported at the compliance air monitor and an adjacent facility, Metlcast, is a minor contributor. The Exide Technologies facility is a manufacturer of auto and marine batteries. The area began monitoring attainment of the standard in 2013, but violated the NAAQS in September of 2016. The state has worked with the facility to install additional emission controls and upgrade work practice standards which have dramatically lowered the Pb results at the compliance monitor. The facility is expected to attain the NAAQS in 2020.

For More Information:
All of the federal register notices and other information pertaining to these facilities may be found at: https://www.epa.gov/green-book/green-book-lead-2008-area-information with the exception of Exide Canon Hollow which may be found here.

➢ Resource Conservation and Recovery Act (RCRA):

Compliance with RCRA Regulations Including Cleanup of Lead Contaminated Sites

Responsible Units: Air and Waste Management Division
POC: Don Lininger (WRAP) or Mary Goetz (WEMM)

Overview:
Lead is regulated as a hazardous waste under Subtitle C of RCRA. Subtitle C ensures that hazardous waste is managed safely from the moment it is generated to its final disposal. These regulations set criteria for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. This includes permitting requirements, enforcement, and corrective action or cleanup.

RCRA Subtitle D includes landfill restrictions that limit the disposal of lead. In Region 7, the Subtitle D-Solid Wastes program is delegated to state agencies in all four states.

Region 7 Actions:
EPA may authorize states to implement RCRA Subtitle C. In Region 7, three states have been delegated the hazardous waste program: Kansas, Missouri, and Nebraska. The Air and Waste Management Division's Waste Enforcement and Materials Management (WEMM) Branch conducts oversight activities, completes program reviews, provides technical support, and works collaboratively with the states, upon request, in the states where the program is delegated.

Iowa is one of two states in the nation (the other being Alaska) where a state program does not exist and EPA directly implements the hazardous waste requirements. In Iowa, WEMM conducts all program implementation activities at transport, storage, and disposal facilities. This includes identification, registration, data tracking, inspections (>100/year), responding to citizen complaints, and site visits to conduct compliance assistance and training.

In a recent example, a single individual speculatively accumulated leaded glass at four illegal storage locations in Iowa and two in Nebraska. WEMM estimated that a total of 16 million pounds of leaded glass is being illegally stored at the six locations. The Region 7 laboratory analyzed samples and provided data that supported taking the needed actions. Region 7 proceeded with an administrative order at the sites, and prioritized the sites for clean-up. As a result, WEMM will be conducting compliance assistance visits to similar sites (electronic recyclers) in Nebraska in 2018 to better understand the extent of this problem.

The Air and Waste Management Division's Waste Remediation and Permitting Branch (WRAP) oversees the investigation and remediation of RCRA facilities subject to the Corrective Action Requirements. Region 7 has four corrective action facilities that are in the Long-Term Stewardship phase, and three that are in the Investigation/Remedy Selection phase in which lead is the primary constituent of concern.

Facilities Currently in Long-Term Stewardship Phase:
Nucor Steel, Norfolk, NE: This is an operating facility that produces steel products from recycled scrap metal. An Environmental Covenant has been developed that includes Activity and Use Limitations for a sub-area of the facility near the former Corrective Action Management Unit that prohibits disturbance of existing monitoring wells, water well drilling, and use of groundwater.

Curtis Metals, Curtis, NE: This site historically operated as a battery recycling facility. A total of 38,180 tons of contaminated material was removed from the site and disposed in an approved landfill. Activity and Use Limitations are in place that restrict the property from being used for residential purposes.

AY McDonald, Dubuque, IA: This site historically operated as a foundry, with waste material being disposed of on-site. An Environmental Covenant is in place that requires that the waste material remain capped. A local utility company has developed and installed a solar panel farm on the capped area.

Blackhawk Foundry, Davenport, IA: This site historically operated as a foundry. An Environmental Covenant is in place that will not allow the property to be used for residential purposes, maintains caps over contaminated areas, and prohibits installation of residential water supply wells.

Facilities Currently in Investigation/Remedy Selection Phase:
Former RV Hopkins, Davenport, IA: This site historically operated as a drum reconditioning facility. Investigations have identified areas with elevated lead that require capping. Activity and Use Limitations will be put into place that restrict residential use of the property and require maintaining the capped areas.

BNSF, West Burlington, IA: This facility is currently inactive, but was historically used to repair locomotives. The investigation activities have been completed and the responsible party is developing a remedy proposal to address soil and groundwater contamination.

AK Steel, Kansas City, MO: The facility historically operated as a steel mill and investigation activities have been completed. Interim measures have been completed at some areas of the property, and a proposed site-wide remedy is in development.

WRAP is currently overseeing the Remedial Action Plan for the remediation of contaminated properties as part of the Doe Run facility. The Missouri Department of Natural Resources will be renewing this RAP in the near future, and will assume lead agency role. See Doe Run entry below for more information about this facility.

➢ Safe Drinking Water Act (SDWA):

Lead and Copper Rule Implementation

Responsible Unit: Water, Wetlands, and Pesticide Division
POC: Doug Brune (Kansas & Tribal Direct Implementation), Ken Deason (Nebraska), Neftali Hernandez-Santiago (Missouri), Gabrielle Thompson (Iowa & Tribal Direct Implementation), or Jay Hua (Data Management)

Overview:
Lead and copper enter drinking water primarily through plumbing materials. Exposure to lead and copper may cause health problems ranging from stomach distress to brain damage. In 1991, EPA published the Lead and Copper Rule (LCR) to control lead and copper in drinking water. The treatment technique for the rule requires systems to monitor drinking water at customer taps. If lead concentrations exceed an action level of 15 ppb or copper concentrations exceed an action level of 1.3 ppm in more than 10% of customer taps sampled, the system must undertake a number of additional actions to control corrosion.

The SDWA's Public Water System Supervision program emphasizes proper LCR sampling, calculating compliance, communicating, public education, and other public information requirements for community water systems, non-transient non-community systems, and simultaneous compliance with other SDWA standards. States that have been delegated primacy for the PWSS program are eligible to receive grant funding from EPA to implement a PWSS program adequate to enforce the requirements of the SDWA and ensure that water systems comply with the National Primary Drinking Water Regulations.

Region 7 Actions:
All four Region 7 states have primacy and implement the LCR requirements. Region 7's Drinking Water Management Branch provides oversight by looking at the lead action level exceedances in each state every quarter, discussing the exceedances with the state agency, and ensuring the state is taking appropriate action.

DRWM conducts direct implementation of the LCR at all public water systems on tribal lands in Region 7. Eight Region 7 tribes (all except Prairie Band Potawatomie Nation) have a public water system. Direct implementation involves ensuring sampling plans are up to date, evaluating sample results, and making sure water systems are taking appropriate actions if there are action level exceedances.

For More Information:
https://www.epa.gov/dwreginfo/lead-and-copper-rule
https://www.epa.gov/dwreginfo/lead-and-copper-rule-compliance-help-public-water-systems

---

National Implementation Workgroup to Assist Understanding of the Current Lead and Copper Rule

Responsible Unit: Water, Wetlands, and Pesticide Division
POC: Gabrielle Thompson or Ken Deason

Region 7 participates in this national workgroup. Activities and topics of focus aim to provide clarifying guidance to states and the regulated community. Items include drinking water requirements for states and public water systems, Lead and Copper Rule compliance help for primacy agencies, and the Water Infrastructure Improvements for the Nation (WIIN) Act.

For More Information:
- PWS: https://www.epa.gov/dwreginfo/lead-and-copper-rule-compliance-help-public-water-systems
- States: https://www.epa.gov/dwreginfo/lead-and-copper-rule-compliance-help-primacy-agencies
- WIIN Act: https://www.epa.gov/dwreginfo/strategic-plan-targeted-outreach-populations-affected-lead

National Workgroup to Develop Updated Lead and Copper Rule

Responsible Unit: Water, Wetlands, and Pesticide Division
POC: Mary Mindrup or Ken Deason

Overview:
EPA is considering revisions to the LCR to strengthen its public health protections and clarify its implementation requirements. EPA is consulting with state and local government officials during the development of the proposed revisions to the LCR.

The Lead and Copper Rule Revisions White Paper (2016) provides examples of regulatory options to improve the existing rule. The paper highlights key challenges, opportunities, and analytical issues presented by these options. Options include lead service line replacement, improving optimal corrosion control treatment requirements, consideration of a health-based benchmark, the potential role of point-of-use filters, clarifications or strengthening of tap sampling requirements, increased transparency, and public education requirements

Region 7 Actions:
Region 7 participates as a Tier 1 rule member on the National Regulatory Workgroup working on revisions to the rule.

For More Information:
https://www.epa.gov/dwstandardsregulations/lead-and-copper-rule-long-term-revisions

➢ Toxic Substances Control Act (TSCA):

Lead-Based Paint Abatement Program and Renovation, Repair, and Painting Rule Implementation

Responsible Unit: Water, Wetlands, and Pesticide Division
POC: Jamie Green or Crystal McIntyre

Overview:
The Renovation, Repair, and Painting Rule (RRP) requires those disturbing regulated thresholds of painted surfaces in target housing or child occupied facilities to meet various requirements to minimize the risk that children may be exposed to lead dust resulting from these activities. The primary responsibilities include:

- Firm Certification- All firms conducting renovation, repair, or painting activities in target housing or child occupied facilities must be certified.
- Renovator Certification- Each job site where regulated activity is occurring must have a certified renovator who is trained on lead safe work practices oversee the work and assure it is done in compliance with the RRP.
- Work Practices- All regulated work must be conducted using lead safe work practices.
- Records- Firms must document and retain records of each renovation. Records document the use of lead safe work practices and identify the certified renovator responsible for overseeing the work and clean-up.

ED_002434_00005129-00014

Region 7 Actions:
EPA provides funding to support lead-based paint abatement programs in Kansas, Missouri, Nebraska, and Iowa and provides funding to support implementation of the RRP in Iowa and Kansas. These funds support state efforts to provide compliance assistance to the regulated community; track and certify various lead professionals; and conduct inspections and enforcement related activities. Our state partners frequently work with us by referring tips and complaints or other issues where EPA has direct implementation authority and have also participated in joint outreach/compliance assistance efforts.

Missouri and Nebraska have declined to seek delegation of the RRP and EPA Region 7 is responsible for implementation in these states and in Indian Country.

Region 7 conducts approximately 60 to 70 inspections a year to evaluate compliance with RRP. Given the size of the regulated universe and available resources, the Region has attempted to include a geographic based focus on a particular community during each of the last three years as a component of our overall program approach. The geographic focus dedicates a larger amount of resources to a specific community to promote public awareness, conduct compliance assistance, and to conduct inspections and enforcement. The larger presence is intended to garner greater attention within a given community to achieve greater compliance than might be achieved otherwise.

To date, the Water, Wetlands, and Pesticides Division's Toxics and Pesticides Branch (TOPE) has carried out geographic initiatives in St. Louis and Kansas City, Missouri. During FY18 TOPE hopes to continue its focus on Kansas City and to expand the effort to St. Joseph, Missouri. Pending budget decisions, we anticipate the St. Joseph effort will include collaborative efforts with the Office of Pollution Prevention and Toxics similar to those conducted in Kansas City. This would include various press releases, compliance assistance events, and provision of several renovator training courses. Region 7's Office of Public Affairs is currently working to secure the assistance of health care professionals to help develop videos targeting parents, day care providers, and health care providers for use in this and future geographic focused efforts. TOPE also continues to reach out to other local and federal agencies to discuss opportunities to collaborate and leverage resources for this work.

Region 7 conducts compliance assistance to various groups that may fall within the regulation. The Region has utilized press releases and social media to promote awareness of the regulation. Given the size and scope of the regulated community, the Region has attempted to leverage our messaging through local building officials. The Region also includes discussion of RRP in various outreach events to help inform the public of the requirements to aid in driving demand for compliance through the consumer.

For More Information:
https://www.epa.gov/lead/evaluating-and-eliminating-lead-based-paint-hazards
https://www.epa.gov/lead/renovation-repair-and-painting-program

---

Lead Disclosure Rule Implementation

Responsible Unit: Water, Wetlands, and Pesticide Division
POC: Jamie Green or Crystal McIntyre

Overview:
Implementation of the Lead Disclosure Rule may not be delegated to the states and, as such, Region 7 maintains primary enforcement responsibilities in Iowa, Kansas, Nebraska, and Missouri and Indian Country.

TSCA Section 1018 requires the sellers or lessors of pre-1978 housing to provide the lead hazard information pamphlet and to disclose the presence of any known lead-based paint or lead-based paint hazards to purchasers or lessees prior to their being obligated under contract or lease.

Region 7 Actions:
Region 7 conducts compliance assistance to real estate and other groups representing sellers or lessors of residential properties. Events can include joint presentations with state programs or other federal entities.

Prior to implementation of the RRP Rule, the program conducted approximately 100 TSCA Section 1018 inspections annually. It was not uncommon for formal cases resulting from these inspections to include supplemental environmental projects (SEP) that resulted in the replacement of windows or other improvements to residential properties owned by the respondent as a means of reducing lead hazards. Those respondents choosing to utilize a SEP generally found them to be a means of reducing their actual penalty amount while also realizing some increased property value from the SEP project.

Following implementation of the RRP Rule, resources have been shifted away from the disclosure rule and Region 7 currently conducts approximately ten of these inspections annually. The Region continues to include compliance assistance information on the disclosure rule in presentations, as many in the groups we interact with could be subject to both.

For More Information:
https://www.epa.gov/lead/real-estate-disclosure

Lead Disclosure and Renovation, Repair, and Painting Rule Outreach Events

Responsible Unit: Water, Wetlands, and Pesticide Division
POC: Crystal McIntyre (WWPD)

Overview:
Region 7's lead program undertakes some number of general outreach events intended to improve awareness within the communities we serve about the sources and impacts of lead on children's health. These events are intended to help increase consumer demand for compliance with both the disclosure and Renovation, Repair, and Painting rules for regulated entities.

Region 7 Actions:
Examples of events include participation in head start programs' lead screening events, health fairs, home shows, and other community events. Program staff have also conducted presentations, sent direct mailings, and created press releases targeting day care providers, health care professionals, school administrators and nurses, and parents. Events often include other state and federal partners. Staff participate in various workgroups and/or committees to share ideas and coordinate activities.

SCIENTIFIC SUPPORT

Monitoring, Risk Assessment, Sample Analysis, Workgroups

Ambient Air Monitoring Studies

Responsible Unit: Environmental Sciences and Technology Division
POC: Mike Davis

The Environmental Sciences and Technology Division's Monitoring and Environmental Sampling Branch has performed ambient air monitoring studies in the vicinity of a number of lead related facilities including:

- Doe Run; Herculaneum, MO
- ASARCO; Glover, MO
- Exide Technologies (former Schuykill Metals); Canon Hollow, MO

Risk Assessment

Responsible Unit: Environmental Sciences and Technology Division
POC: Mike Beringer

The human health and ecological risk assessors provide technical support on lead-contaminated sites in Region 7. These technical staff evaluate risk assessments to ensure they are conducted in accordance with EPA policy and guidance. The risk assessments are used to determine whether action is necessary to mitigate potential risks to public health and/or ecological receptors. The risk assessors also derive cleanup levels in lead-contaminated environmental media (e.g., soil, sediment, water, etc.).

Lead Bioaccessibility Sample Analysis

Responsible Unit: Environmental Sciences and Technology Division
POC: Tabitha Adkins or Margie St. Germain

EPA Region 7 Science and Technology Center (laboratory) is one of three regional laboratories capable of performing the Relative Bioaccessibility Leaching Procedure on lead contaminated soil samples. This procedure mimics stomach acid if lead contaminated soil were ingested. Soil is dried, sieved to less than 250 um, tumbled in acidified water, and analyzed for lead. The results are used to help develop risk data for Superfund sites. This method is now required to be performed on all Superfund sites with lead contamination. Currently, Region 7 analyzes about 250 samples a year for the Superfund efforts. This method is not commercially available.

Office of Superfund Remediation and Technology Innovation's Lead Committee Co-Chair

Responsible Unit: Environmental Sciences and Technology Division
POC: Mike Beringer

For the last several years, Todd Phillips (Regional Toxicologist), has been a co-chair of the Office of Superfund Remediation and Technology Innovation's Lead Committee. The Committee is comprised of scientists from EPA Regions, EPA's Office of Land and Emergency Management, the Office of Research and Development, and the Agency for Toxic Substances and Disease Registry who are responsible for developing national guidance and ensuring scientifically sound and consistent approaches to lead risk

ED_002434_00005129-00017

assessment. Senior OLEM management often rely on Lead Committee input to help shape program policies.

For More Information:
https://www.epa.gov/superfund/lead-superfund-sites-technical-assistance

OUTREACH AND EDUCATION
Coalitions, Toolkits, Coordination, Grants

Lead Poisoning Prevention Community Initiative
Responsible Unit: Enforcement Coordination Office
POC: Althea Moses

Started in 2008, the Lead Poisoning Prevention Community Initiative (LPPCI) is the result of a joint partnership between EPA Region 7's Lead and Environmental Justice programs and the Kansas City Missouri Health Department. This project was developed as a demonstration pilot to develop and model approaches that might lead to best practices. Materials and approaches were developed and documented in a manner that they might be duplicated in other communities.

Background:

- Currently about 80 percent of the houses in Kansas City could still contain lead based paint. Because of this, the State of Missouri considers Kansas City an area where children are at high-risk for lead poisoning and recommends all children between the ages of six months and six years be tested for lead poisoning once a year.
- As lead poisoning disproportionately affects low income and minority children, prevention of lead poisoning in young children has been identified as a national environmental justice priority.
- The Kansas City Health Department has identified lead as a focus priority under their Neighborhood Improvement Program designed to improve the quality of life of citizens of Kansas City, Missouri.

The purpose of the Kansas City LPPCI is to ensure parents, child care providers, and community members know the dangers of lead poisoning and the negative effects it has on children's learning abilities and their bodies by providing them with the knowledge to protect their child and others from this toxin. In addition, this project aimed to increase the number of children screened for lead poisoning, direct children and their families identified with elevated blood lead levels to the appropriate resources, increase participation in safe practices to remove lead hazards, and decrease the number of EBL children.

The components of the project included:

- Train the Trainer certification for community members,
- Lead awareness activities at pre-schools and daycares
- Lead awareness presentations to parents and care-givers,
- Lead outreach to families (included screenings) during the summer and school events,
- Direct mailings to households in high priority zip codes, and
- Media campaign consisting of bus signs and billboards in the Kansas City Metro area.

Through this project some 15,000 Kansas City residents were reached with lead poisoning prevention information. The Kansas City Health Department reported an increase in lead screening and increased participation in the lead remediation program.

EPA Region 7 continues to partner with the Kansas City Health Department as a primary partner in efforts to reduce lead poisoning in young children. The lessons learned from this project have served as a model to inform community outreach and education regarding lead and many other concerns throughout Region 7.

Healthy Environments Coalition
Responsible Unit: Enforcement Coordination Office
POC: Althea Moses

The Kansas City Healthy Environments Coalition consists of local health and environmental organizations that meet monthly in Kansas City, KS with the goals of working more collaboratively across organizations and developing a strategy to address lead, asthma, and other healthy homes related issues collaboratively, focused on economically disadvantaged families that reside in older housing.

The group includes:

- Wyandotte County Health Department,
- Children's Mercy Hospital,
- Community organizations (Northeast Midtown Alliance, El Centro, and the Wyandotte County Community Health Council), and
- EPA Region 7 (lead, asthma, and EJ programs).

The group was recently energized by the Wyandotte County Health Department receiving a $1.65 million dollar grant from the U.S. Department of Housing and Urban Development. The link below is to a KC Star article describing the need in Wyandotte County and the goals of the HUD grant.

Short excerpt from July 17, 2017 article: "After years without funding, Wyandotte County wins $1.65 million to tackle child lead poisoning"
Shantae Goodloe, public affairs specialist for HUD, said Wyandotte County will use the grant to address lead hazards in 75 housing units and provide safer homes for vulnerable low-income families with children. Wyandotte County will partner with the Unified Government Public Health Department, Kansas Department of Health and Environment, Children's Mercy Hospital and the Healthy Environment Coalition.

Read more here: http://www.kansascity.com/living/health-fitness/article160909489.html#storylink=cpy

---

Superfund Job Training Initiative in Missouri Lead Belt at Madison County Mines Superfund Site
Responsible Unit: Enforcement Coordination Office
POC: Elizabeth Kramer or Kurt Limesand

In response to the cleanup contractor for the Madison County Mines Superfund site stating an interest in hiring locals, EPA Region 7 worked with EPA headquarters and local government to coordinate job training under the Superfund Job Training Initiative (SuperJTI) in Fredericktown, Missouri.

Nighty-eight residents attended interest meetings and 25 were selected for participation in the program. On Monday, March 3, 2018 a group of 24 residents graduated from the Madison County Lead SuperJTI.

Participants in this training received CPR/First Aid, 40 hour Hazwopper, 10 hour OSHA Construction Outreach, and Pre-employment training certification. These certifications and trainings were identified with input from employers as being qualifications for local cleanup and construction jobs. Completing the training does not guarantee employment but helps to ensure a ready workforce available for local Superfund cleanups as well as other construction related work in the area.

Region 7 staff, contractors, and local partners will support and track the progress of graduates from the program for six months as they seek to enter the workforce. At the time of graduation three graduates had already been hired to work on the cleanup for the Madison County Lead Site.

For More Information:
https://www.epa.gov/superfund/superfund-job-training-initiative

---

Outreach and Education

Responsible Unit: Office of Public Affairs
POC: Emily Albano

Lead is incorporated into the curricula for Healthy Schools and Children's Health outreach. The Office of Public Affairs frequently attends community events and health fairs to provide information about lead poisoning prevention. OPA also provides support and partners with the regional lead program in service to outreach. For example, in 2016, as part of a public outreach and education initiative, OPA sent letters and information to day care providers, schools, and health care providers in Kansas City, Missouri and Omaha, Nebraska.

For More Information:
Daycare and Classroom Outreach Materials

Healthy Schools Toolkit

Responsible Unit: Office of Public Affairs
POC: Emily Albano

In 2013, the Region 7 Healthy School Coordinator created a central database for outreach materials that would be helpful for school districts or parents looking to improve their school's environment. The finalized Healthy School Toolkit contains a vast amount of background and intervention information on more than 15 environmental health topics, including lead.

The Healthy Schools Toolkit is an "evergreen" resource that will be updated yearly with new brochures, studies and regulations. Over 2,100 school superintendents have been notified of the resource, as well as school nurses, school plant managers, the Asthma Coalition, Pediatric Environmental Health Specialty Unit (PEHSU) partners, and associations in the Region 7 area.

For More Information:
EPA Healthy Schools Website

Environmental Justice Small Grants

Responsible Unit: Enforcement Coordination Office
POC: Tamara Freeman or Althea Moses

A significant percentage of EJ Small grants in Region 7 have focused on addressing lead in low income and minority communities. Low income and minority children are disproportionately affected by lead poisoning. EJ Small grants recipients have:

- Developed lead curricula for people of all ages,
- Trained community organizations, parents, care-givers, and even children to identify lead hazards and taught best practices to prevent lead poisoning,
- Developed awareness materials, and
- Hosted lead awareness and screening events

EJ Small grants have provided resources to local governments, particularly county health departments to support educating families and instructing parents and caregivers on approaches to prevent and reduce lead exposure.

Grant recipients also include community based non-profit organizations many of whom provide vital support and assistance to low income residents. These organizations have become educated regarding the hazards of lead and have integrated teaching lead awareness and lead prevention into their programming, towards the goal of reducing lead poisoning in your children.

Strong partnerships with colleges and universities focused on addressing lead contamination and lead poisoning in young children have developed as well. Historical partners include: St. Louis University, Ozark Mountain Center for Environmental Education, and Junior College District of the Mineral Area.

Environmental Education Grants

Responsible Unit: Office of Public Affairs
POC: Emily Albano

The Office of Public Affairs manages the Environmental Education Grant program. Every year approximately $300,000 is awarded to projects which advance environmental education. These grants cover a wide range of environmental priorities. Nine projects that included education about the hazards of lead have been awarded since 1997. A full list of those projects, including the awardee, year awarded, funding received, and scope of the project, is available upon request.

For More Information:
The Environmental Education Grant Webpage

[PENDING] Pediatric Environmental Health Specialty Unit Project

Responsible Unit: Office of Public Affairs
POC: Emily Albano

Overview:
Supported by a collaboration between the Agency for Toxic Substances and Disease Registry (ATSDR) and EPA, Pediatric Environmental Health Specialty Units (PEHSUs) are a network of medical professionals which respond to requests for information throughout North America and offer advice on prevention, diagnosis, management, and treatment of environmentally-related health effects in children. Each PEHSU is academically based, typically at university medical centers, and are located across the United States and Canada. Additionally, through an Interagency Agreement with CDC/ATSDR, each EPA region is able to put money on the PEHSU contract to fund projects of particular interest to that region.

Region 7 Action:
For our 2018 project, OPA is working with the R7 Lead Program and our regional PEHSU, located at Children's Mercy Hospital, to fund an approximately $25,000 project to conduct a lead awareness campaign in St. Joseph, Missouri. The planned campaign will target parents, schools, and daycare providers, as well as pediatricians. Children's Mercy will develop posters for a mailing campaign and create two informational videos – one for parents and care providers and a clinical best practices video for health care professionals. These products will be flexible, evergreen products which can be incorporated in outreach across the region.

Note: this project is still in the planning phase and may be subject to change.

For More Information:
The PEHSU Website