LOWERLINE STREET

New Orleans, Orleans Parish, Louisiana

May 13, 2019

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Background

Radiological sweeps by the Department of Energy (DOE), in 2013 and 2017 for events at the Louisiana Superdome, identified a hot spot on Lowerline Street near the intersection of Coolidge Court in New Orleans, Louisiana. The proposed action includes the removal and offsite disposal of Radium contaminated soil and road base from the site. This action is expected to take less than 1 month to complete.

The Lowerline site is a street in a residential area in the City of New Orleans. Further investigation by Louisiana Department of Environmental Quality (LDEQ) better defined the hot spot as being Radium-226 (Ra-226). The activity registered on meters at the pavement surface indicated a potential source of 1 to 10 milli-Curies (mCi).

Location:

The site is located in the 3400 block of Lowerline Street near the intersection of Coolidge Court. The site is bounded by Olive and Edinburgh streets. The area is known as Gert Town. It is primarily residential. The 3400 block of Lowerline St has several vacant lots, at least one abandoned home, a multi-unit residential property, new home construction and a church parking lot. St. Joseph Congregational Baptist Church is located 7731 Olive St., the parking lot entrance and exit is in the 3400 block of Lowerline St. though parishioners primarily park on the adjacent streets for services. Xavier University owns at least two of the abandoned lots on Lowerline St and the main campus is two blocks from the site.

Phase 1 Clean Up

The City worked with LDEQ and hired a certified contractor to excavate and remove the source in December 2018. The contractor did not find a sealed source but found a contaminated source below the original pavement level of the street. The excavation was approximately 36" x 36" and 30" deep. The contaminated soil was isolated, containerized and shielded in a drum. All radioactive material was surveyed and identified to be located under the public roadbed at a level deeper and wider than originally thought. None of the contaminated soil was found above the asphalt roadway but the contamination exceeded original scope and activities were stopped.

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Phase II Clean Up Preparation

The City of New Orleans contacted EPA to request assistance with completing the remediation project in Spring 2019. The subsequent radiation walking survey found five additional areas of subsurface contamination. Those five areas can be consolidated into three areas for reasonable excavation work. The consolidated areas are 5'x5', 10'x20' and 20'x40'. The survey extended the block and the intersecting street until the readings were not elevated. The contractor also surveyed the adjacent properties and did not find any contamination beyond the property line.

Who is Involved in Phase II Clean Up

- Environmental Protection Agency Region 6
- City of New Orleans (Public Works & Health Department)
- Louisiana Department of Environmental Quality
- Louisiana Department of Health and Hospitals
- Agency for Toxic Substances and Disease Registry

Talking Points

- The Environmental Protection Agency, the Louisiana Department of Environmental Quality and the City of New Orleans will begin excavating and removing a portion of contaminated soil buried beneath the intersection of Lowerline St. and Coolidge Ct. in the Gert Town neighborhood of New Orleans.
- Construction crews are scheduled to mobilize to the site on Tuesday, May 28 at 7 a.m.
- The soil beneath the roadway contains elements of Radium-226 from an unknown source and while there is no immediate threat from the material, it is being removed out of an abundance of caution.
- Lowerline St. from Olive to Edinburgh streets and Coolidge Ct. from Lowerline to Pine streets will be closed to through traffic while the excavation is underway. Residents should expect to see barricades onsite and plan to park on side streets during operations.
- Crews are authorized to work from sunrise to sunset. Weather permitting, the excavation, removal, disposal and paving work is estimated to last approximately two weeks.
- The EPA is funding site remediation which requires specially trained and certified crews.
- The roadway will be fully repaved in asphalt when the excavation work is completed.
- Additional sidewalk work is planned as part of a future FEMA-funded project.
- Residents should use caution when walking on sidewalks near the excavation site and mind the barriers and safety fencing onsite.
- Once the site is fully excavated, the contaminated material will be temporarily staged and then disposed of at an authorized facility.

What We Found

- The Environmental Protection Agency, City (Public Works, Health Department), State Department of Environmental Quality, and State Department of Health and Hospitals are

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working together to remove contaminated soil from a portion of Lowerline St. in the Gert Town area.

- The soil is being removed because of concerns of radionuclide Radium-226. The Ra-226 was found below the surface in the roadbed.

What We Are Doing About It

- The removal action will involve the excavation, removal and offsite disposal of the contaminated soil.
- Approximately 150 cubic yards of soil will be removed from the site. (Approximately 15 roll off containers full of soil)
- Material removed from the roadbed will be secured while materials testing is underway. Testing will confirm all the contaminated soil is removed during this effort.

Questions and Answers

1. How did U.S. EPA get involved?

U.S. EPA used its authority under the Comprehensive Environmental Response, and Compensation, Liability Act (CERCLA). CERCLA, also known as "Superfund," is a law designed to help cleanup abandoned waste facilities.

2. How will the site be cleaned?

The removal action will involve the excavation, removal and offsite disposal of the contaminated soil. Equipment used during the disposal activities will also be cleaned and de-contaminated. Approximately 150 cubic yards of soil will be removed from the Site. (Approximately 15 roll off containers full of soil)

3. What was found on Lowerline and Coolidge Streets in Gert Town?

The US Department of Energy discovered an underground radiation source on the 3400 block of Lowerline St near Coolidge Court between Olive and Edinburgh. During an initial investigation, EPA found radium-226 contamination believed to be 24 to 30 inches below the surface. At the surface of the street in some hot-spots, the radiation level is 1.2-1.5 millirems per hour (mR/hr). This is more than 100 times background levels, or the normal amount of exposure.

4. How did the Radium-226 get under Lowerline St.?

This was a light industrial area during the 1940s and 50s. During the building and grading of the road's shell base, the container holding the radium was destroyed and the contamination spread with the base materials or shells during the construction. Over time, the road was built up with two more separate layers of asphalt covering up the contaminated layer. Covering the contamination with soils and layers of asphalt kept the contamination from spreading and blocked some of the radiation. Radiation appears to be contained within the roadway in the one block of Lowerline St and has not been found in the shoulders or sidewalks of the road. There is no indication that the radiation has come up through the road.

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5. What is Radium-226?

Radium-226 is a naturally-occurring radioactive metal that is found in low levels in rocks and soils. It has a very long half-life of 1600 years. This means it takes 1600 years for half of the amount present to decay to other products. Everyone is exposed to low levels of radium in the air, in water, and in food. This is called background levels. Radium-226 breaks down into other radioactive compounds and is often the source of radon.

In the early 1900s, radium was used in luminous paints on watch faces to make them glow and also for treating cancer. Radium was used for detecting fractures in welding. Most of these uses have ended for health and safety reasons. Radium is still used in some industrial devices and for research.

6. How does Radium-226 work?

During radioactive decay, Radium-226 has an unstable nucleus and emits energy in the form of alpha, beta and gamma radiation.

Alpha particles travel only a short distance and cannot travel through your skin. In this case, alpha particles are underground.

Beta particles are high-energy short range particle that may travel about 2 yards in air and can penetrate the skin. A thin sheet of metal, plastic or wood can block beta particles. In this case, the beta particles are below the surface of the road and were not found at street level.

Gamma radiation is ionizing radiation and is hazardous to biological organisms. They may be contained by lead or thick layers of concrete. Gamma radiation is detected at the surface of the street.

7. How can Radium-226 and radiation affect my health?

Everyone is exposed to low levels of radium in nature. Eating or inhaling higher levels of radium over a long period can lead to health problems.

Direct exposure to radiation from the breakdown of radium-226 can damage our cells. Over time, cell damage can lead to specific types of cancer.

There is no direct exposure to radium since it has not been ingested and inhaled. Exposure to high levels of radium may increase your risk of developing bone, liver, breast and some blood cancers, anemia (a problem with the blood), fractured teeth and cavities, and cataracts in the eyes. Some of these health problems may take years to develop.

8. Have I been exposed to Radium-226 over the years?

The radium metal is 24 to 30 inches below the surface of the street. It is not open for direct contact with people. However, gamma radiation goes through the layers of soil and asphalt to the surface of the street. People standing or walking directly on the street may receive exposure to radiation above normal background levels. On the street, the radiation level directly over the hot spots was measured at 1.2-1.5 mR/hr, which is above normal background levels.

There is also no evidence that the radium-226 has moved in the soil during rain or flooding events. Radiation has not been detected beyond this area.

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Since the radium-226 has been contained below ground, there is not a risk of exposure from ingestion or inhalation of the radium. Drinking water is provided by the municipal water system and the radium itself is below ground, and so cannot be ingested. Testing does not find radium in the air, so inhalation is also not a route of exposure.

9. How might I be exposed to the Radium-226 from the excavation site?

The risk of exposure to the radium-226 may increase when the site is excavated because workers will dig up the contamination to remove it. The top layers of the street do not contain the contamination. At the hot spots, small areas of roadway will be dug up and all of the contaminated materials taken off for proper disposal. The remediation process will include precautions such as sensors on equipment, perimeter fencing, screens and misting the excavation site with water to control dust during the excavation process. Some dust may initially be visible when the uncontaminated pavement is cut. Residents can minimize exposure by:

- Avoiding the excavation site and all barriers put up around the site. Stay away from the restricted areas.
- Do not touch any of the contaminated soil or equipment
- Keep pets away from the excavation site – if they get into the site, they could track contamination out of the restricted areas
- The crews removing the soils will be wearing protective clothing to shield them from direct contact.

10. Why is the radium being removed now?

Since we have learned about the radium, we have taken careful actions to consider removing the radium. After talking to many experts, we have learned that there are more benefits to removing radium than leaving it there. If it remains, high background levels of radium will remain in this area.

11. Do I need to my house during this work?

Per EPA, there is no need to leave your home. Monitors will be onsite and placed at the perimeter of the road way to detect exposure. We recommend that you stay away from the restricted area and equipment during this project. You are safe to continue your normal activities.

12. Is there a medical test to show whether I've been exposed to Radium-226?

There is not a medical test for the effects of exposure to the gamma radiation that has been present.

13. How should dust contamination be controlled during remediation work?

EPA has determined the best engineering controls are water and moderation. Dust will be addressed with water, but if readings on the perimeter of the excavation site show a reading of higher than 10 micro R per hour a containment tent may be considered. At this time EPA does not anticipate a containment tent as a necessary precaution. EPA will have onsite monitors at the perimeter of the roadway and also, in the excavation site(s). Air sampling units will also be in place during operations. Pumps pull air samples throughout excavation to confirm that operations are safe. The air monitors provide results within minutes of air samples.

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14. Should houses (windows, doors, AC units) be sealed up during remediation?

Per EPA, no additional sealing would be appropriate. Note, radiation workers can only be exposed to a certain amount of radiation per year. Each worker wears a "lapel pin" that shows radiation exposure. Additional monitors called DOSIMETERs would also be deployed along the perimeter of the project site to ensure there isn't exposure to nearby residents.

15. What radius surrounding the roadway should be protected - just immediate houses or other surrounding blocks?

The excavation plan includes limiting access to the 3400 block of Lowerline St. between Olive and Edinburgh and on Coolidge Ct. between Lowerline and Pine streets.

16. If residents ask, which agency typically would test radiation levels inside homes?

EPA will not be testing radiations levels in homes as part of this project. EPA advised that such measures are not necessary as the monitors described above would detect exposure at the project site limits so there is no need to go into private properties.

17. What is EPA's oversight role before and during remediation work? Who is in charge?

Greg Fife is the project site lead. George Browzski is the primary radiation expert. Janetta Coats is the onsite PIO.

18. Do special instructions need to be given to pregnant women? Women of childbearing age? Children?

No, monitors placed on the perimeter of the project limits would identify exposure. No special instructions are necessary at this time.

19. Does the street need to be closed off now or OK to wait until remediation work?

The existing asphalt pavement provides a shield over the site. No need to prevent access until the project excavation begins on May 28.

20. How many blocks have been surveyed around the contaminated street?

The DOE sweep pinpointed the contamination site. Additional testing was done at the perimeter of the roadway and elevated levels were not present. In addition, EPA will have a Scanner Van and/or Survey Buggy onsite to survey the surrounding area following excavation activities. EPA doesn't have a reason to suspect Radium is present on other streets but the survey Buggy will confirm this information.

21. How have residents been engaged/notified about the prior work, and the upcoming remediation?

A flyer was distributed to residents in Dec. 2018 during the first clean up effort. A DEQ representative was onsite during all excavation activities. Only one resident expressed interest in the work at that time.

Additionally, City staff is scheduled to canvass the neighborhood to distribute information about the project prior to excavation activities beginning. The canvass(es) are scheduled to occur Saturday, May 18 and Wednesday, May 22.

EPA has arranged for details about this project to be posted on on the EPA's Superfund website at: [HYPERLINK "http://www.epa.gov/superfund/sites/npl"]. The Superfund website will be updated as the removal efforts continue.

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Site related information will also be made available at the Information Repository:
Xavier University of Louisiana
Ms. Nancy Hampton/Collection Resources
1 Drexel Drive, New Orleans, Louisiana 70125

Mondays thru Thursdays:	7:30 am until 2:00 am
Friday:	7:30 am until 8:00 pm
Saturday:	10:00 am until 6:00 pm
Sunday:	12:30 pm until 10:00 pm

22. Who is responsible for clean up operations?

EPA is the primary organization responsible for clean up. The work is being coordinated with the City of New Orleans, Louisiana Department of Environmental Quality, Louisiana Department of Health and Hospitals and ATSDR.

Xavier University may donate temporary staging sites for the clean up effort. The City is scheduled to provide an in-depth briefing on this project on May 15.

23. What is DEQ's role before and during the remediation work?

A DEQ representative was on site during the first clean up effort and will have a representative onsite for the majority of phase 2 excavation activities.

24. If residents ask, can radiation levels be measured in their homes?

EPA advised that such measures are not necessary as the monitors placed at the site perimeter would detect exposure.

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Project Team

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Note: All media/press inquiries should be directed to Region 6 press office: 214.665.2200

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Agency for Toxic Substances and Disease Registry. ToxFAQs: RADIUM. CAS # 7440-14-4. July 1999. Accessed April 24, 2019 from [HYPERLINK "https://www.atsdr.cdc.gov/toxfaqs/tfacts144.pdf"] .

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Washington State Department of Health, Division of Environmental Health, Office of Radiation Protection. “Radium-226”. Fact Sheet 320-081. July 2002. Accessed April 24, 2019 from [HYPERLINK "https://www.doh.wa.gov/portals/1/Documents/Pubs/320-081_ra226_fs.pdf"] .

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