

NATIONAL PRIORITIES LIST (NPL)

Final Site

May 2014

WOLFF-ALPORT CHEMICAL COMPANY | Ridgewood, New York Queens County

Site Location:

The Wolff-Alport Chemical Company (WACC) site is located on Irving Avenue and Cooper Avenue in Ridgewood, Queens County, New York, at the county border with Brooklyn. The site area includes a delicatessen/grocery, office space, residential apartments, auto and tire shops, two warehouses and a former rail spur which is now used for storage of large, steel crane equipment.

Site History:

WACC operated at the property from 1920 until 1954, extracting rare earth metals from monazite sands. Monazite contains approximately 6% to 8% thorium. Until 1947, WACC disposed of thorium waste in the sewer system (process liquors) and on the property (waste tailings). The Atomic Energy Commission (AEC) ordered WACC to halt sewer disposal of thorium waste in the fall of 1947. Thereafter, thorium was precipitated as thorium oxalate sludge and sold to the AEC. During its years of operation, WACC occupied three structures and two yards on Irving Avenue. The former yard areas, now occupied primarily by structures, were used as staging areas for monazite sands or waste tailings. WACC did not operate out of 1125 Irving Avenue or 1514 Cooper Avenue, but those properties are affected by site-attributable contamination.

Site Contamination/Contaminants:

The property is contaminated with radioactive thorium-232 at concentrations up to 1,133 picocuries per gram (pCi/g), compared to background levels of 0.5-1.0 pCi/g. The radioactive decay of thorium-232, which has a half-life of 14 billion years, is a lengthy and complex process involving many radioactive decay products. One of the key components of the thorium-232 decay series is radon-220 (i.e., thoron), a radioactive gas that emanates from surfaces where thorium-232 is present. Thoron has been found at elevated levels in the deli basement, in air above the source material and outside the source boundary.

Potential Impacts on Surrounding Community/Environment:

The contaminated source area extends throughout the property and to some street and sidewalk areas. Thorium-232 concentrations at the site exceed the soil ingestion cancer risk level of 3.4 pCi/g, potentially affecting on-site and nearby workers, residents and students. Thoron poses a hazard from its radioactive decay products, which remain suspended in air where they can be inhaled and deposited in the lungs. There are more than 6,800 residents, students and workers within ¼ mile of the site and more than 1.8 million residents within 4 miles. There are several public schools and daycare facilities within 1 mile, the nearest of which is an elementary school 900 feet to the southwest. Residual contamination still exists in downstream sewer lines, which discharge to Newtown Creek during heavy rainstorms.

Response Activities (to date):

City, state and federal agencies have conducted radiological surveys at the site and have identified waste material and radioactivity above background levels throughout the property and adjacent sidewalks, streets and sewers. In September 2012, the EPA collected gamma radiation exposure rate measurements and thoron concentration measurements on and around the perimeter of the source area and at background locations. The EPA continues to conduct investigative and interim remedial activities at the site.

Need for NPL Listing:

Other federal and state cleanup programs were evaluated, but are not viable at this time. The EPA received a letter of support for placing this site on the NPL from the state of New York.

[The description of the site (release) is based on information available at the time the site was evaluated with the HRS. The description may change as additional information is gathered on the sources and extent of contamination. See 56 FR 5600, February 11, 1991, or subsequent FR notices.]

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at <http://www.atsdr.cdc.gov/toxfaqs/index.asp> or by telephone at 1-888-42-ATSDR or 1-888-422-8737.