

Kaiser Aluminum
Corporate Environmental Affairs

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July 15, 2003

Document Center
United States Nuclear Regulatory Commission
Washington, D. C. 20555-0001

Dear Sir or Madam:

Attached is information about the Kaiser Aluminum & Chemical Corporation's Thorium Project in Tulsa, Oklahoma.

Included are a letter to neighbors, a fact sheet, and questions and answers.

Beginning tomorrow, Kaiser representatives will hand deliver and discuss this information with neighbors of the site, some city and elected officials, and community leaders. A copy also will be placed in the public repository at the Nathan Hale Library in Tulsa.

Sincerely,



J. W. (Bill) Vinzant, P.E.
Manager, Corporate Environmental Affairs

Enclosures

cc: Mr. John T. Buckley
Mr. Dwight Chamberlain
Ms. Pamela Bishop

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Kaiser Aluminum Corporate Environmental Affairs

July 16, 2003

Dear Neighbor:

Kaiser Aluminum & Chemical Corporation, in cooperation with the U. S. Nuclear Regulatory Commission (NRC), is continuing with plans for Phase II of its project to address soil containing thorium on its property at 7311 East 41st Street in Tulsa. Recently, the NRC gave its approval for the Decommissioning Plan submitted by the company.

Phase I of the project—the removal of thorium-containing soil and material from properties adjacent to the facility—was completed last year, with final approval from the NRC in May 2002. The adjacent property was approved by the NRC for unrestricted use.

Phase II is the final remedy to address thorium contamination at Kaiser's former plant site, including material taken there from the property excavated during Phase I. Over the next nine months, Kaiser will identify contractors and develop specifications for the work to be conducted. Workers are expected to begin excavation in Spring 2004. The work is expected to take three years to complete.

Our goal is to conduct this work safely and in a manner that protects human health and the environment. Also, the plan has been designed to result in approval of the site for unrestricted use. We do not anticipate any impact on our neighbors. However, this is a large construction project, and you will see workers and heavy equipment on site, beginning next spring.

Attached are a fact sheet and questions and answers to provide you with more information. The plans outlining the work that will be conducted are available in the Reference Department of the Nathan Hale Library, 6038 East 23rd Street.

We will continue to update you as we move closer to the time work will begin. In the meantime if you have questions, please feel free to call our toll-free Community Information Line at (800) 250-3871.

Sincerely,



J. W. (Bill) Vinzant, P.E.

Fact Sheet

July 2003

Kaiser Aluminum's Tulsa facility working with NRC on thorium residue

Kaiser Aluminum & Chemical Corporation, working with the U. S. Nuclear Regulatory Commission (NRC), has determined the final course of action to deal with soil containing low levels of thorium at its plant site located at 7311 East 41st Street in Tulsa. Construction work will begin in Spring 2004. According to the NRC, the site does not pose an immediate health hazard.

Background

Kaiser bought the Tulsa plant from Standard Magnesium Corporation in 1964. Scrap magnesium from aircraft components manufacturing was processed there on an intermittent basis between 1958 and 1970. The scrap contained up to 4 percent thorium, a naturally occurring radioactive element present in trace quantities in the Earth's crust. The recycled scrap magnesium was mixed with pure magnesium at Tulsa to make anodes used to prevent corrosion in tanks and pipelines.

Regulations of the NRC and its predecessor, the Atomic Energy Commission (AEC), authorize products with low concentrations of thorium to be distributed to the public. Because the plant was processing a material containing thorium, this activity was conducted under a license issued by the AEC. The residual slag from this process contained thorium and was disposed of in an area immediately behind the plant under the terms of the AEC license and regulations. Kaiser discontinued processing the scrap in 1970, and the AEC license was terminated — at Kaiser's request — in 1971.

Investigative Activities

An NRC inspector toured the Tulsa facility in November 1993 as part of a routine process of revisiting previously licensed sites and found radioactivity exceeding "background" levels in the area behind the plant. The conclusion of the NRC inspector was that there was no immediate health hazard, and this finding has been confirmed in every periodic NRC inspection since then as well as by a health physicist retained by Kaiser. The area is fenced and posted with warning signs. Moreover, the radiation levels are so low that, if a person were to stand on the spot of maximum radioactivity concentration for an hour, the dose would be similar to that received when flying two hours on a commercial airplane.

To evaluate conditions and determine a remediation policy, Kaiser retained environmental consultants who collected and analyzed soil and water samples on the plant site and on adjoining properties. The results of these investigations showed soil containing thorium in areas on Kaiser property and in areas which are now adjacent to the Kaiser property along the eastern boundary — areas which belonged to Standard Magnesium during licensed operations. No contamination was found more than 120 feet beyond Kaiser's current property line.

Project Status

Work to address contamination at the adjacent property (Phase I) is complete. This included removing soil and other material containing thorium from adjacent property and moving it to Kaiser's property to be addressed as part of the second phase of work. The NRC issued its final approval in May 2002, and the adjacent property now meets NRC standards for unrestricted use. The property may be used for any purpose allowed by local zoning, without restriction.

In June 2003, the NRC approved Kaiser's plan for Phase II. Phase II is the final remedy to address thorium contamination at Kaiser's former plant site, including the material that was moved to the site from neighboring property. The plan is designed to conduct the cleanup work so the property will meet NRC criteria for unrestricted use. The affected plant site has been divided into two areas: The "pond parcel" includes the retention pond/reserve pond area and a paved area of the property, totaling approximately 10 acres. The second area is the former "operational area" of the facility, 3.5 acres which includes several structures and land, mostly covered by concrete pavement.

At the pond parcel, material will be separated according to the concentration of thorium, based on cleanup standards developed by the NRC. Material with thorium levels that could result in a dose above the NRC cleanup standard will be segregated and disposed off site at a permitted facility. Material with thorium concentrations of acceptable levels will be used as backfill in the pond parcel. A layer of clean soil will be placed over the fill and graded in a manner to direct drainage away from the site. Then, grass will be sown and other vegetation will be planted to protect from erosion.

At the former operational area, several structures are being demolished so that affected materials beneath floor slabs can be removed. Some land areas also will be excavated. As with the pond parcel, excavated material with thorium that could result in a dose above the NRC cleanup standard will be disposed off site at a permitted facility. Excavated material with thorium concentrations of acceptable levels will be transported to the pond parcel and used as backfill. Soil from an off-site location will be used to backfill the excavations in the former operational area. The area will be graded and vegetation will be planted to minimize soil erosion and promote proper drainage.

Next Steps

With approval of the plan in place, Kaiser is ready to begin preparing designs and specifications for conducting the work, and a construction contractor will be selected. This is expected to take approximately nine months. Work is anticipated to begin in Spring 2004 and extend over a period of approximately three years.

For More Information

Kaiser is committed to conducting a thorough, effective cleanup of the site, and to communicating with the public about the work. A copy of the plan of work, referred to as the "Decommissioning Plan" and the "Decommissioning Plan Addendum," is available for public inspection in the Reference Department of the Nathan Hale Library, 6038 East 23rd Street, Tulsa.

Also, a Community Information Line for questions or comments about the project is available, toll free, at (800) 250-3871.

For more information, call toll-free: (800) 250-3871

**Questions and Answers About
Kaiser Aluminum & Chemical Corporation's
Thorium Residue Project--Phase II
Tulsa, Oklahoma
July 2003**

Q. Where is the contamination at the site?

- A. The highest levels were found in a vacant area behind the plant--an area that is fenced, posted, and off-limits to employees and to the public.

Q. Does the site pose a danger?

- A. The NRC has stated the site does not pose an immediate health hazard. To put the levels into perspective, if a person were to stand on the spot of maximum radioactivity concentration for one hour, the dose would be similar to that received when flying two hours on a commercial airliner.

Q. Are the buildings contaminated?

- A. The buildings are not contaminated. Thorium-bearing material has been found under some of the buildings, as well as under concrete covered areas. The buildings are being demolished so the material beneath the floor slabs may be removed.

Q. Is groundwater affected?

- A. The groundwater is not affected by radioactive materials. Some elevated results have been observed in the area of the retention pond where the most elevated thorium concentrations were observed.

Q. What are the criteria for determining the cleanup standards?

- A. The NRC standards are based on "dose." Dose is a measure of the amount of energy absorbed from radiation. Dose is usually expressed in millirem (mrem) over time. To put dose into perspective, the average dose of radiation from all sources to a U. S. resident is 360 mrem per year. To further illustrate, a person flying on a trans-Atlantic flight is exposed to 2.5 mrems.

The remediation plan is designed to result in the property being released for unrestricted use. The NRC's standard for unrestricted release of the property is 25 mrem per year. In fact, it is estimated at completion the dose rate will be much lower.

Q. How much will the remediation cost? Who pays for it?

- A. The expected cost for the remediation is not public information. The cost of the remediation will be paid by Kaiser.

Q. What will be involved in the work?

- A. The remediation plan involves excavating soil to depths up to 15 to 20 feet in some areas. Standard construction equipment, such as backhoes, excavators, bulldozers, dump trucks, etc., will be used.

The soil and material will be sampled and analyzed. Material that could result in a dose above the NRC cleanup standard will be transported to a permitted disposal facility. Material that is of acceptable level will be used as backfill. The backfilled excavation areas will be covered with soil from an off-site location, and vegetation will be planted.

Q. Where is the permitted disposal facility?

- A. The disposal facility to be used has not been determined.

Q. How will the material be transported?

- A. This has not been determined at this time. Either rail or trucks will be used. The decision will be based on the material and packaging requirements of the transporters and the disposal facility.

Q. Who will conduct the work?

- A. Selection of a contractor is one of the tasks that will be completed over the next several months. Kaiser will consider several criteria in this selection, especially experience in conducting this type of remediation work.

Q. What protective equipment will be used by workers?

- A. A Health and Safety Plan has been developed as part of the Decommissioning Plan. This outlines the requirements that must be followed to protect workers. Basically, workers will wear standard construction gear, including coveralls, work boots, hard hats, gloves, and safety glasses. They may also use respiratory protection for some parts of the work. In addition, the selected contractor will develop a health and safety plan for its employees. All NRC and OSHA requirements will be followed.

Q. Will the air be monitored?

A. An air monitoring program is included as part of the Health and Safety Plan for the site. Air monitoring also was conducted as part of the Phase I work which, similarly, included excavation of soil and material from adjacent properties. No exceedances were detected with that work. Also, dust prevention measures will be part of the operating procedures. Kaiser's goal is to complete the work safely and in a manner that is protective of human health and the environment.

Q. Is the Kaiser plant across 41st Street affected?

A. No. There was no work activity involving thorium at that Kaiser location.

Q. What is the time schedule for the decommissioning process?

A. Kaiser received approval for its Decommissioning Plan from the NRC on June 8, 2003. Development of specifications and design for the work, as well as other activities necessary to prepare, will take about nine months. Work is expected to begin in Spring 2004 and will take approximately three years to complete.

Q. How will the property be used in the future?

A. Kaiser has no plans at this time regarding how it may use the property in the future. The remediation plan is designed to result in approval for unrestricted use of the land. This means the property may be used for any purpose allowed by local zoning, without restriction.

Q. How can I obtain more information?

A. Kaiser is interested in knowing and addressing your questions and any concerns you may have. A toll-free information line is in place and may be reached at (800) 250-3871.

Also, information about the project, including the Decommissioning Plan and Decommissioning Plan Addendum, is available in the Reference Department of the Nathan Hale Library located at 6038 East 23rd Street, Tulsa.