

DECOMMISSIONING OF THE DOW/WELLMAN FOUNDRY SITE, BAY CITY, MICHIGAN

PROBLEM

In order to determine if the Dow/Wellman Foundry site was free from contamination, the Nuclear Regulatory Commission (NRC) conducted a decommissioning inspection on the Dow/Wellman Foundry site in Bay City, Michigan, on May 12 and 13, 1982. Thorium contamination was detected and Dow initiated cleanup activities. Following cleanup activities, Dow's Industrial Hygiene Services conducted a survey to verify the foundry site was free from significant thorium contamination.

CONCLUSIONS

1. The cleanup of the site resulted in removing 480 cubic yards of slightly contaminated soil. It was estimated that 6.76×10^5 kilograms of soil with an average activity of 30.1 pCi/g was removed. The total activity removed was 0.02 Ci (405 pounds) of Th-232.
2. The contaminated soil was transported to the NRC licensed thorium storage site on Dow's property in Bay City, Michigan.
3. Approximately 1,500 pounds of magnesium-thorium material were removed from the Aerospace America, Inc., and the Kerkau Manufacturing Plants.
4. Personnel exposure to radiation and radioactive materials during the cleanup activities were within the recognized guidelines.
5. The final decommissioning survey by Dow Industrial Hygiene Services personnel indicated that the foundry site now meets the proposed NRC criteria for unrestricted use.

CLEANUP ACTIVITIES

Soil

Dow initiated cleanup activities of the site in May 1982. Three contractor employees from Walraven Construction were instructed in radiation hazards as required by CFR 10 19.12, prior to the cleanup operation. The contractors wore protective clothing and film badges during the cleanup activities. Respirators were not worn based on air samples taken from previous work at the Bay City Sludge pile. Air sampling confirmed the lack of airborne activity. No detectable external radiation exposure was recorded on the film badges. Personnel exposure to radiation and radioactive materials were within the recognized guidelines.