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Department of Energy
Washington, D.C. 20545

DEC 7 1984

Mr. Harold Snyder, Chief
Discovery and Investigations Branch
U. S. Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Mr. Snyder:

The Department of Energy (DOE) has conducted a radiological survey at the Harshaw Chemical Company Facility, Cleveland, Ohio. This survey indicated levels of residual radioactive material and associated radiation levels at the site are in excess of those used by DOE to determine if a site requires remedial action. The data did not indicate that, under the current use of the site, there was any hazard to the workers or the general public. However, changes in site use or modifications to the facility could possibly result in increased exposure to workers at the site. The owner has received a copy of the final survey report and is aware of the survey results.

A review of contract records by DOE has determined that the Department does not have authority under the Atomic Energy Act to conduct remedial action at this site to remove the contamination. Therefore, in accordance with DOE policy, we are notifying you and, by a separate letter, the State of Ohio of these findings so that the Environmental Protection Agency and/or the State of Ohio can take appropriate action to assess and resolve any problems associated with this site.

Enclosed please find a summary (enclosure 1) which describes (1) the operations conducted at the site that led to the contamination, (2) our findings with regard to authority for remedial action and, (3) the radiological condition of the site. Also enclosed is a copy of the final radiological survey report for the site (enclosure 2).

Please contact Mr. Arthur Whitman (301-353-5439) regarding any questions on the enclosed material or if the Department can be of assistance in providing additional information on the Harshaw facility.

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 DeLaney

Sincerely,

12/6/84

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 Baublitz

John E. Baublitz, Director
 Division of Remedial Action Projects
 Office of Terminal Waste Disposal
 and Remedial Action
 Office of Nuclear Energy

12/7/84

2 Enclosures

cc:

James Lucas, Harshaw/Filtrol
 William Constantelos, EPA-Region V
 Roger Hannahs, OH-EPA
 Robert Quillin, OH-Department
 of Health

bcc:

A. Whitman, NE-24	W. Voigt, NE-20
Aerospace	Aerospace
S. Miller, GC-11	
E. Jascewsky, CH	
R. Wynveen, ANL	
NE-73 (4)	
NE-24 RF	
Whitman RF	

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IDENTICAL LETTERS TO

Mr. Robert M. Quillin
 Ohio Department of Health
 Radiological Health Program
 Post Office Box 118
 246 N. High Street
 Columbus, Ohio 43216

Mr. Roger Hannahs
 Ohio EPA
 Post Office Box 1049
 Columbus, Ohio 43216

Mr. William Constantelos
 US EPA Region V
 Superfund Programs
 230 South Dearborne
 Chicago, Illinois 60604

26 November 1984

Site Function

In September 1942, the Manhattan Engineer District (MED) contracted with Harshaw Chemical Company for the production of green salt (UF_4). This work was a continuation of smaller-scale work performed for the Office of Scientific Research and Development. In 1943, Harshaw also began production of uranium hexafluoride (UF_6). The operation was substantially expanded in 1947. Other MED and Atomic Energy Commission (AEC) contracts involved the production of uranium dioxide and sodium uranate at this same facility. Approximately 11 contracts between Harshaw and MED/AEC have been identified. The principal contracts for the production of feed materials were: W-7405-Eng-2, W-7405-Eng-37, W-7405-Eng-43, W-7405-Eng-276, W-26-021-Eng-4, and W-1405-Eng-45. Production of uranium dioxide was discontinued in August 1951, and green salt production was discontinued in September 1951. By May 1953, the green salt plant was dismantled, and the hexafluoride plant was placed on stand-by status.

Site Description

The main portion of the Harshaw facility includes over 30 buildings on about 16 acres of land. The total facility is over 40 acres. Building G1 (Plant C) was used for the UF_6 production, and the foundry building was used for the UF_4 production. Analytical work was performed in Building K1. Plant C is located on a 1.6-acre, fenced area at 1000 Harvard Avenue. Equipment and material from the MED and AEC operations were apparently stored in those and other buildings at the site.

Owner History

The plant site (including the buildings) was owned by Harshaw, and the equipment and raw materials were furnished by the AEC. The facility was released from AEC controls upon termination of the contract (W-7405-Eng-276) on 23 December 1959.

Radiological History and Status

AEC personnel visited this site on 27-28 October 1953 to survey the equipment and buildings for contamination and to provide the recommended actions necessary prior to the return of the building to the contractor. A meeting with representatives from the Harshaw Chemical Company was held, and a decontamination program was agreed to.

Another survey was conducted on 21 November 1957 by the Oak Ridge Operations Office. The purpose of this survey was to locate any areas where residual contamination was of such magnitude that it might

represent a potential radiation or contamination control problem that would require restrictions on the use of the building. At the time, all equipment had been removed except for the Rockwell furnace, two denitration pots, and some process vessels in the recovery area. The location of this material has not been determined. This survey report identified contaminated areas and recommended methods for decontamination. It was made a part of Contract W-7405-Eng-276 by Modification 85, Supplemental Agreement, dated 25 June 1958. This supplemental agreement assigned to the contractor responsibility for decontaminating all equipment transferred to it and for decontaminating its own premises used in the performance of the contract. Furthermore, the decontamination effort was to be accomplished in accordance with the recommendations contained in the survey report. The facility was decontaminated by Harshaw and released from further AEC control in 1959.

An initial radiation survey of Plant C at Harshaw was performed under the Formerly Utilized Sites Remedial Action Program (FUSRAP) from 12 to 20 May 1976 by Argonne National Laboratory (ANL) and the Chicago Operations Office. During this survey, three soil samples taken in the area adjacent to the building showed the presence of residual radioactive material. The survey also showed that residual contamination remained in Plant C. If modifications, remodeling, cleanup, or other structural changes were to be undertaken, radioactive material now fixed in the structure could be released and lead to airborne contamination. Following the receipt of preliminary results of this survey, Harshaw indicated that they would contact the Department of Energy (DOE) prior to any remodeling, destruction, etc., in the area surveyed.

In November 1976, ANL personnel collected coring samples at selected locations around the Harshaw complex. Based upon this data, additional survey work, including an aerial radiometric survey, was performed between August and September 1979. Radiological surveys of the entire Harshaw complex and the remaining site buildings were conducted during October through December 1978 and during May 1979. These surveys identified Plant C as having the major contamination, although significant levels of contamination were found in 16 other buildings and at 32 exterior locations. Radiological measurements taken in Plant C showed beta-gamma readings ranging from 10,000 to 1,100,000 dis/min-100cm². Surface readings on the site itself showed beta-gamma readings of 400,000 dis/min-100cm² and 2000 dis/min-100cm² for alpha. Uranium concentrations in the soil were as high as 1800 pCi/g. ANL concluded that although the surface contamination throughout the site is extensive, and these levels are above NRC guidelines for release of the site for unrestricted use and DOE remedial action guidelines, the contamination does not constitute an immediate radiological hazard in terms of external exposure.

On 18 May 1978, the DOE's General Counsel indicated that, based on available information, DOE has no legal responsibility or authority under the Atomic Energy Act of 1954 as amended to undertake a cleanup

of the Harshaw site. Since that time, a more thorough review of the records has identified substantially more information. This information clearly substantiates the General Counsel's initial opinion. The opinion is based primarily on the Final Release of Harshaw Contract W-7405-Eng-276, which released AEC from all liabilities arising from this contract. As a result, and in accordance with DOE policy, the State and the Environmental Protection Agency are being notified of these findings in order that they may take appropriate action.