

JUN 9 1983

DOCKET NO.: 40-6264
APPLICANT: Velsicol/Michigan Chemical Corporation
FACILITY: Chemical Plant, St. Louis, Michigan
SUBJECT: SITE EVALUATION - CLOSEOUT DOCKET FILE

I. Background

A. General

Michigan Chemical Company (MCC), now Velsicol Chemical Corporation (VCC), owned and operated a plant in St. Louis, Michigan, for the manufacture of an array of chemical products. Among the products manufactured were a variety of fire-retardants and insecticides (halogenated hydrocarbons including DDT, PBB and Tris), animal food supplements, and rare earth oxides. The plant was shutdown in September 1978, and upon request of the Michigan Department of Natural Resources (DNR), a study was made to investigate the extent of chemical contamination on the 55-acre site. This study established that the site was contaminated with toxic organic compounds; accordingly, DNR requested VCC to develop a Site Environmental Security Plan to stabilize the site soils. The plan calls for the following:

1. the demolition of all onsite structures,
2. the installation of a slurry wall,
3. an upgradient groundwater interceptor drain,
4. a clay cap,
5. a fence surrounding the site,
6. signs inside the fence warning that the site contains toxic chemicals, and
7. a granite marker at each gate warning that the site contains hazardous chemicals.

These requirements and specific land use restrictions were imposed on VCC by a Consent Judgement issued by a U.S. District Court on December 27, 1982 (Enclosure 1).

B. Rare Earth Processing

From 1965 to 1971 MCC extracted rare earths at the St. Louis site using rare earth concentrates, which contained licensable quantities of source material, as the starting material. Accordingly, MCC applied for and on May 18, 1965, was issued Source Material License STC-833 for possession only of thorium. The license was later amended to authorize possession and use of both uranium and thorium and Material License No. STC-833 was changed to SMB-833. The plant operated until April 1971 when SMB-833 was terminated. No radiological survey was made by MCC or the AEC prior to license termination.

As a result of a GAO inquiry, NRC reviewed the docket files of licensees to determine whether the files contained adequate documentation to show that the site was properly decontaminated prior to termination of the license. The MCC site was identified as a site that needed further review. Simultaneously, the site was being investigated by the U.S. Environmental Protection Agency (EPA) and the DNR because of toxic chemical contamination at the site.

II. Discussion

In January 1981, NRC's Region III personnel visited the site and found radiation levels in the buildings and on the grounds in excess of current NRC guidelines for unrestricted areas. At the request of NRC, VCC performed a comprehensive radiological survey of the site to determine the extent of contamination. The results of the survey were transmitted to NRC in a report dated July 1981 (Enclosure 2).

In October 1981, the Uranium Fuel Licensing Branch (FCUF) published a Branch Technical Position (BTP), to provide guidance for the disposal of uranium and thorium residues. This position identified 5 options for decontaminating and disposing of soil contaminated with source and special nuclear material (SSNM). Option 1 specifies acceptable levels of contamination in unrestricted areas; Options 2 thru 4 specify allowable concentrations, burial requirements, and future land use restrictions for material disposed of in soil. The radiological survey report from VCC indicates that less than 2 percent of the St. Louis site exceeds the criteria in Option 1 and only 1 small area (500 ft²) exceeds the concentration in Option 4. Also, the stabilization plan imposed by the Consent Judgement meets the burial requirements and land use restrictions specified in Option 4 of the BTP. The Consent Judgement, however, deals only with the chemical contamination on the site and does not mention the radionuclide contamination. Accordingly, the staff requested

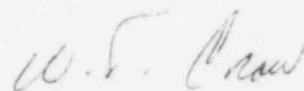
JUN 9 1983

- 3 -

a commitment from VCC to include a notation on the granite markers and in the land deed that the site also contains radioactive contamination. By letter dated September 19, 1982, VCC submitted a proposed Granite Marker Legend and deed restriction notice (Enclosure 3) which the staff found to be acceptable.

III. Conclusion

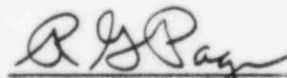
The staff feels that the Consent Judgement requirements, plus the proposed notations on the granite marker and in the land deed that radionuclides are also present, are adequate to protect the public and the environs from the radioactive contaminants on the site.



W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Enclosures: As stated (3)

Approved by:


R. G. Page, Branch Chief