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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 1 1979

Prof. Dr. H. Glubrecht
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Dear Sir:

This will acknowledge your letter of January 17, 1979 addressed to Mr. J. B. Martin, requesting information on the environmental impact of reprocessing plant operation, particularly the results of radio-ecological research.

A number of government-owned nuclear fuel reprocessing plants have been operated in the United States by the Department of Energy and its predecessors, the Energy Research and Development Administration and the Atomic Energy Commission. Information resulting from operation of those facilities should be available from other recipients of your letter of inquiry.

One fuel reprocessing plant has been operated by private industry in the United States. This was the facility of Nuclear Fuel Services, Inc., located at West Valley, New York, which operated from 1966 to 1972. Two additional plants have been constructed but not operated. One of these was the General Electric Company Midwest Fuel Recovery Plant near Morris, Illinois, which encountered process problems during test operation. The reprocessing part of the plant was closed and operation of the fuel storage portion of the facility has continued. The other reprocessing plant was built by the Allied-General Nuclear Services at Barnwell, South Carolina. This plant has not operated due to the government policy of deferring reprocessing.

With this letter I am sending the following documents which report studies of environmental impacts of the NFS plant.

1. BMI-X698 Preliminary Environmental Implications of Alternatives for Decommissioning and Future Use of the Western New York Nuclear Services Center, F. A. O'Hara, Program Manager and C. G. Reinhart, Editor, December 1978, Battelle Columbus Laboratories, Columbus, Ohio. This document while primarily treating decommissioning and future use of the facility also includes much of the data accumulated during operation of the plant.

2. BRH/NERHL 70-1, An Estimate of Radiation Doses Received by Individuals Living in the Vicinity of a Nuclear Fuel Reprocessing Plant in 1968, B. Shleien, U.S. Department of Health, Education and Welfare. May 1970.

3. BRH/NERHL 70-2, Liquid Waste Effluents from a Nuclear Fuel Reprocessing Plant, P. Magno, T. Reavey, J. Apidianakis, U.S. Department of Health, Education and Welfare, November 1970.

4. BRH/NERHL 70-3, An Investigation of Airborne Radioactive Effluent from an Operating Nuclear Fuel Reprocessing Plant, J. A. Cochran, D. G. Smith, P. J. Magno, B. Shleien, U.S. Department of Health, Education and Welfare, July 1970.

5. BRH/NERHL 70-4, Calibration and Initial Field Testing of $^{85}Kr$ Detectors for Environmental Monitoring, D. G. Smith, J. A. Cochran, B. Shleien, U.S. Department of Health, Education and Welfare, November 1970.

6. EPA-520/3-74-001, Studies of Ingestion Dose Pathways from the Nuclear Fuel Services Fuel Reprocessing Plant, P. J. Magno, R. Kramkowski, T. Reavey, R. Wozniak, December 1974.

7. ORP-FOD 72-5, Iodine-129 in the Environment Around a Nuclear Fuel Reprocessing Plant, P. J. Magno, T. C. Reavey and J. C. Apidianakis, U.S. Environmental Protection Agency, October 1972.

It should be emphasized that the title of document BMI-X698 includes the phrase "Preliminary Environmental Implications .....". There is a possibility that revisions to the document may be issued following receipt of comments. A request to Battelle Memorial Institute should result in your receiving a copy of any future revisions.

The review of applications for most nuclear facilities includes performance of both safety and environmental reviews. The environmental reviews include evaluation of movement of radionuclides through known pathways through the environment to man. These evaluations are normally based on the published literature since they are made prior to the issuance of operating licenses. Possible chemical pollutants are also considered. We are not aware of studies of possible interactions between radioactive and chemical pollution.

It is hoped that this information will be useful.

Sincerely,

L. C. Rouse

L. C. Rouse, Acting Chief
Fuel Reprocessing and Recycle Branch
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Enclosures: As above