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Battelle
Pacific Northwest Laboratories
Battelle Boulevard
Richland, Washington 99352
Telephone (509)
Telex 32-6345

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Mr. Lake Barrett
U.S. Nuclear Regulatory
Commission
Division of Operating Reactors, ONRR
Washington, DC 20555

Dear Lake:

An initial review of the document entitled "Technical Study for the Chemical Cleaning of Dresden-1" submitted by the Dow Chemical Company has been completed. In order to make our assessment of the proposed action, we need clarification and additional information in the following areas.

I. EQUIPMENT INSTALLATION AND HOOKUP

A. Procedures for installation of temporary piping and drain lines in the primary coolant system.

1. Which procedures will be remote and which will require workers to be in close proximity to perform the job?

2. What methods will be employed to ensure containment of radioactive material during installation and hookup?

B. Provide a detailed example of dose calculations for a particular procedure. This should include:

1. A detailed procedure outline

2. The time and personnel involved in the job

3. Actual dose rate measurements taken in the area where the job will be performed

4. Specific procedures and techniques used to reduce the radiation exposure during the job.

C. What are the procedures and provisions for removal and disposal of temporary piping, drain lines and other material used during the chemical cleaning of Dresden-1?

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II. OPERATION OF DECONTAMINATION SYSTEM

A. Which portions of the actual cleaning operations are expected to contribute the major portion of radiation exposure?

B. What contingencies have been taken into consideration in the dose estimates?

C. Specifically, which procedures will involve contact maintenance or operation?

III. RADWASTE BUILDING

A. What type of ventilation system has been installed in the radwaste building? How will effluents be controlled?

B. What parts of the building and waste treatment system must be dismantled and removed or decontaminated after the chemical cleaning has been completed? How much radiation exposure is expected from these procedures?

C. Since the cleaning solution etches stainless steel, what provisions have been taken to ensure that the waste storage tanks will isolate the waste solution effectively?

IV. WASTE HANDLING OPERATIONS

A. How will the radwaste system be operated? Will it be a remote operation or an inhabited operation? What are the procedures for handling and processing the liquid waste?

B. What contingencies have been considered in the dose estimates for waste handling?

C. Does dismantling and cleanup include loading waste containers and transport to the disposal site?

D. What are the detailed procedures for processing and solidification of the radwaste, including the dose estimates for these procedures?

V. RADIONUCLIDE INVENTORY

A. What radionuclides, other than ^{60}Co, may need to be considered from the viewpoint of waste disposal?

1. TRU content could change the type of disposal necessary.

2. A significant change in total activity content of the waste could result if ^{55}Fe and ^{58}Co are considered.

3. Some environmental concerns may arise if any volatile fission products, i.e., ^{129}I, are present in the waste stream.

B. Have any measurements been taken to determine the levels of individual radionuclides in the system?

If this information can be provided, it will enable us to make a better assessment of the occurrence of radiation exposure and will better enable us to suggest possible means of reducing this exposure.

Sincerely,

G. R. Hoenes and D. A. Waite
Occupational and Environmental Safety Department