

REGULATORY BUREAU FILE COPY  
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

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Reply to:

July 21, 1980

Director, Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subj: Comments on "Draft Environmental Statement Related to  
Primary Cooling System Chemical Decontamination at  
Dresden Nuclear Power Station Unit 1"

Ref: 1. Dresden Unit 1 Chemical Cleaning, Executive  
Summary of Project Progress, Prepared by CE Co  
Station Nuclear Engineering Department, Oct. 22,  
1979

Dear Director:

The Division of Nuclear Safety, of the Illinois Department of  
Public Health, has reviewed the subject Environmental Statement  
and offers its comment.

In addition to the Statement, the Division has reviewed several  
reports, letters, and presentations prepared by CE Co, Dow, and  
the Illinois Safe Energy Alliance.

- 1) Although the preponderance of researched data and other  
evidence supports the conclusion that the proposed  
decontamination using Dow NS-1 is safe, the Environmental  
Statement fails to present sufficient data to provide a  
stand alone definition of the environmental impact to be  
expected from disposal of wastes produced by the proposed  
operation.

For instance, the report indicates that field or laboratory  
test results which quantify the migration potential of  
radionuclides associated with the Dow solvent are not  
available. One must utilize other documentation to  
determine that test results are available but pertain to  
free ionic cobalt with no chelating agent.

- 2) The environmental impact of disposal is not directly  
addressed. Rather, it is stated to be less than that  
already analyzed in the FES, November 1973.

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- 3) Data on burial sites presented is given in the answers to letters in Appendix A. Such data and more should be included in the body of the report.
- 4) It appears from reading various reports previously supplied by Dow, that the problems associated with recontamination have been ignored in the statement and understated in the answer to question 6a of Appendix A. Reference 1 indicates that recontamination occurs quickly, suggesting the need for frequent future decontaminations. This need, and its effect should be thoroughly addressed in the statement.
- 5) There was no discussion of venting of the N<sub>2</sub> cover gas. However benign this may be, it should be noted in the statement.
- 6) A better technical description of the chemical interaction of the burial environment with chelated wastes should be provided in the statement itself. It is our understanding from discussions with the DOW Company technical representatives that it is more desirable from a chemical reaction viewpoint not to deactivate the chelates by any means. It was indicated that deactivated chelates would chemically react more readily with the burial environs.
- 7) The economic impact of alternatives does not include the effects of shutdown on the utility's reserve power status.
- 8) The arguments for utilizing the Hanford and Beatty sites need to be strengthened, perhaps with some statistical data on rainfall. The present statement remains somewhat unconvincing.
- 9) No discussion of single, highly exposed workers is discussed.
- 10) In the discussion of Radioactive Waste (Section 4.2.2), "significant quantities" needs to be defined. In comparing the amounts of decontamination wastes to total radwaste, a discussion of the comparison between the types of waste should be included.
- 11) No discussion of the effects of a possible closing of the Hanford and Beatty sites is included. Because of this possibility, some discussion should be included for making the availability of a dry waste site a condition of approval.

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- 12) One disappointing aspect of the statement is that only one option, in reality, is considered viable. Rather than rating the options, all others are eliminated due to the disadvantages, leaving only NS-1 to choose from. One could hope for at least a back-up option to compare against.
- 13) The response to Question 1 of the Illinois Safe Energy Alliance is unsatisfactory in that it fails to utilize all the data available to support the conclusion.

Dow has performed a feasibility study and scrutinized available data and literature on the decontamination of nuclear reactors. Several chemical solvents were tested on actual metal samples (all of the D-1 primary system is constructed of Type 300 Series Stainless Steel) removed from D-1's primary system corrosion test loop and gave unsatisfactory decontamination factors or unacceptable corrosion rates; therefore, Dow developed its own solvent NS-1, and this cleaning solvent was successfully applied on metal samples. After extensive testing, it was concluded that serious intergranular stress corrosion cracking (ISCC) should not occur as a result of using NS-1 for 100 continuous hours at a maximum 250°F. temperature. It was observed that NS-1 is no more corrosive than deionized water.

Sincerely,

  
William L. Kempiners  
Director

cc: Bill O'Connor  
Fred Uhlig  
Paul W. O'Connor