



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

NRC PDR

Docket No. 50-10

AUG 15 1979

Ms. Karan Shurts
R. R. 1 Box 96
Henry, Illinois 61537

Dear Ms. Shurts:

This is in response to your letter dated July 15, 1979, to Dr. Hendrie which requested that an Environmental Impact Statement (EIS) be prepared prior to the chemical decontamination of Dresden Nuclear Power Station Unit No. 1. We are currently reviewing the need for such an impact statement for the decontamination as a result of a petition by Mrs. Kay Drey dated March 10, 1979.

A copy of our response to Mrs. Drey and the related Federal Register notice are enclosed for your information. Please be assured that the Dresden decontamination will not go forth until the need for an Environmental Impact Statement is resolved.

We will provide you with copies of our decision on this matter when we have completed our review.

With respect to the specific questions posed in your letter, the following answers are provided:

- Q1. What is the substance that is to be used to flush the piping at Dresden 1?
- A. The substance that is to be used to flush the piping at Dresden 1 is a proprietary organic acid developed by Dow Chemical Company with the name Dow Nuclear Solvent 1 (DOW NS 1).
- Q2. How dangerous is it should an accident occur (such as a pipe welding being unable to withstand its corrosive properties).
- A. An extensive materials test program has been completed by the licensee to provide assurance that the decontamination solution will not cause excessive corrosion to the primary cooling system components. This program evaluated the corrosion resistance of the materials that will be cleaned by the Dow Solvent. Based on the results of these studies we have concluded that the corrosion of the primary coolant system components will be acceptably low.

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The NRC staff will require the licensee to closely monitor the time, temperature, and chemical composition and concentrations to assure that the actual Dresden 1 cleaning process is performed within the range of variables of the material test program. In addition, the licensee reports that DOW NS 1 is non-toxic and non-volatile and provides no hazards concerned with inhalation.

Q3. Where will this solution containing the radioactive crud go, once it has gone through the pipes?

A. The radioactive crud will be processed through the radioactive waste processing system where it is concentrated and then solidified before it is transported to the waste burial site.

Q4. How many people will be directly involved in this operation and how hazardous will it be for them?

A. Thirty-five Dow Chemical Company and eight Commonwealth Edison personnel will be involved in the decontamination operation, this will result in approximately fourteen people each shift. The decontamination operation is designed to minimize dose rates, hazards, and number of people involved. As was stated in the answer to Q3. above, the solvent is non-toxic and non-volatile.

Q5. What will happen to the wastes -- how will they be disposed of?

A. The radioactive wastes that are flushed from the system will be evaporated to reduce its volume in the radioactive waste facility. After evaporation the concentrated liquid waste will be solidified using Dow Chemical's Solidification Process for Low Level Radioactive Wastes. After solidification the waste will be transported by a commercial radioactive waste disposal carrier in approximately 1200 55 gallon drums. The waste will be packaged and shielded to meet all applicable transportation requirements. The solidified radioactive waste will be transported to a commercial low level waste burial site, such as Beatty, Nevada or Hanford, Washington.

Q6. How much does this operation cost? Who pays the bill? Is it worth it, compared to the amount of electricity generated by Dresden 1?

A. The operation will cost between 30 and 40 million dollars. The majority of the cost is being paid by the Commonwealth Edison Company and some of the costs are paid by the Department of

Energy. The utility has found that it is economically advantageous. The NRC would address costs only if an Environmental Impact Statement were issued.

Q7. How will the procedure affect the environment? Will it add to the ponderous amount of radiation already in the biosystem? Will it heat up the river water excessively? Will it release too much heat into the atmosphere?

A. NRC did not issue an environmental impact statement or appraisal in connection with this matter. However, we did consider the environmental impact of the decontamination in our December 9, 1975 Safety Evaluation. The results of that review were as follows:

Environmental Impact:

"The chemical decontamination of the Dresden 1 primary coolant system will be performed entirely within a closed decontamination system. The system has been designed so that no chemical or radiological wastes will be released to the environment from the decontamination process. All wastes generated in the process will be either solidified for offsite burial at a licensed burial ground or reprocessed for reuse onsite. The solid wastes produced are similar in type and quantity to those handled routinely at the site. Therefore, no adverse environmental impacts are anticipated due to the decontamination."

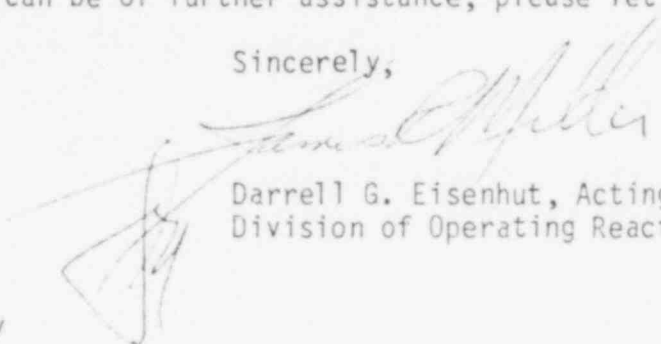
The solvent temperature will be 250°F during the decontamination process and since the plant is not producing power, heat will not be intentionally removed during flushing. When flushing is complete, the solvent will be cooled, and then concentrated before being solidified. The evaporation rate during concentration is approximately 15 gallons per minute. The maximum heat rejection rate during the whole process will be less than 1% the heat rejection rate during normal plant operation and heat up of the river or the air will be insignificant.

Ms. Karan Shurts

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A copy of the NRC 1978 Annual Report is also enclosed in response to your request for material on the activities of the NRC. I hope this information is responsive to your request. If we can be of further assistance, please let us know.

Sincerely,



Darrell G. Eisenhut, Acting Director
Division of Operating Reactors

Enclosures:

1. Response to Ms. Drey
w/Notice
2. NRC 1978 Annual Report

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et No. 50-10

APR 9 1979

Ms. Kay Drey
515 West Point Avenue
University City, Missouri 63130

Dear Ms. Drey:

This letter is sent to acknowledge receipt of your petition dated March 10, 1979, asking that an Environmental Impact Statement be prepared on the proposed decontamination experiments at Dresden Nuclear Power Station, Unit 1, designed to flush radioactive corrosion products from portions of the facility's piping. Your request is being treated under the procedures specified in 10 CFR 2.206 of the Commission's regulations and accordingly, we will inform you of our decision on your request within a reasonable time. Enclosed for your information is a copy of the notice regarding your request that will be filed for publication with the Office of the Federal Register.

Sincerely,

Original Signed By
Roger S. Boyd

RSB
Harold R. Denton Director
Office of Nuclear Reactor Regulation

Enclosure
Notice

cc w/enclosure
Mr. Cordell Reed
Assistant Vice President
Commonwealth Edison Company
P. O. Box 767
Chicago Illinois 60690

Mr. Paul Petit
Department of Energy
Mail Stop B 107
Washington, D. C. 20545

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMONWEALTH EDISON COMPANY)
(Dresden Nuclear Power Station,)
Unit 1)

Docket No. 50-10

REQUEST FOR PREPARATION
OF ENVIRONMENTAL IMPACT STATEMENT

Notice is hereby given that by petition of March 19, 1979, addressed to the Chairman of the Nuclear Regulatory Commission, among others, Kay Drey of University City, Missouri, requested that an Environmental Impact Statement be prepared on the proposed decontamination experiments at the Dresden Nuclear Power Station, located in Grundy County, Illinois, which are designed to flush radioactive corrosion products from portions of the facility's piping. The petition is being treated as a request for action under 10 CFR 2.206 of the Commission's regulations, and accordingly, action will be taken on the petition within a reasonable time.

A copy of the request is available for inspection in the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555, and at the local public document room for the Dresden Nuclear Power Station, located at Morris Public Library, 604 Liberty Street, Morris, Illinois 60451.

FOR THE NUCLEAR REGULATORY COMMISSION



Roger S. Boyd, Acting Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland,
this 27th day of April, 1979.

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