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 Docket No. 50-320  
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Docket No. 50-320

June 18, 1981



Mr. Gale Hovey  
 Vice President and  
 Director of TMI-2  
 Metropolitan Edison Company  
 P.O. Box 480  
 Middletown, PA 17057

Dear Mr. Hovey:

The Director of the Office of Nuclear Reactor Regulation has issued the enclosed Order for the Three Mile Island Nuclear Station, Unit 2.

This Order is effective immediately and requires that you shall promptly commence and complete processing of the intermediate level contaminated water in the auxiliary building tanks and the highly contaminated water in the reactor building sump and in the reactor coolant system using the Submerged Demineralizer System with effluent polishing by the EPICOR-II system, if necessary.

A copy of the related Safety Evaluation Report (NUREG-0796) is also enclosed.

Sincerely,

*S/*

Bernard J. Snyder, Program Director  
 TMI Program Office  
 Office of Nuclear Reactor Regulation

Enclosures:

1. Order
2. Safety Evaluation Report Related to the Operation of the Submerged Demineralizer System at Three Mile Island Nuclear Station, Unit 2 NUREG-0796, June 1981

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DATE	6/16/81	6/16/81	6/ /81	6/16/81	6/16/81		

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6/18/81

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of

METROPOLITAN EDISON COMPANY,  
ET AL.

(Three Mile Island Nuclear Station,  
Unit No. 2)

Docket No. 50-320

ORDER

I.

Metropolitan Edison Company, Jersey Central Power and Light Company and Pennsylvania Electric Company (collectively, the licensee) are the holders of Facility Operating License No. DPR-73, which had authorized operation of the Three Mile Island Nuclear Station, Unit.2 (THI-2) at power levels up to 2772 megawatts thermal. The facility, which is located in Londonderry Township, Dauphin County, Pennsylvania, is a pressurized water reactor previously used for the commercial generation of electricity.

II.

Following the accident of March 28, 1979, by Order for Modification of License, dated July 20, 1979, the licensee's authority to operate the facility was suspended and its authority was limited to maintenance of the facility in the present shutdown cooling mode (44 F.R. 45271, August 1, 1979). By further Order of the Director, Office of Nuclear Reactor Regulation, dated February 11, 1980, a new set of formal license requirements was imposed to reflect the post-accident condition of the facility and to assure the continued maintenance of the current safe,

stable, long-term cooling condition of the facility (45 F.R. 11282, February 20, 1980).

As a result of the accident, about 700,000 gallons of highly contaminated water are standing in the Reactor Building sump and an additional approximately 95,000 gallons of highly contaminated water are contained in the reactor coolant system. In addition to the highly contaminated water, approximately 100,000 gallons of intermediate level water is being held in Auxiliary Building tanks. Although the highly contaminated waste water is presently safely contained in the Reactor Building sump and reactor coolant system, its presence there constitutes a continuing risk of leakage to the environment and prevents or hinders the performance of the major decontamination activities. The Commission has clearly stated its intent that the licensee proceed expeditiously with all decontamination activities consistent with protection of the public health and safety and the environment. (Statement of Policy; Programmatic Environmental Impact Statement of the Cleanup of Three Mile Island Unit 2, 46 F.R. 24764 (May 1, 1981).)

The licensee has constructed the Submerged Demineralizer System ("SDS") for processing (decontamination) of this highly contaminated water. After processing by the SDS, the water may, if necessary, be further processed ("polished") by the EPICOR-II system, which has been previously used to decontaminate water which was located in Auxiliary Building tanks. The intermediate level water which has accumulated since processing of the Auxiliary Building water with the EPICOR-II system will

also be processed with the SDS in order to minimize generation of solid waste and to check out the operation of the SOS. The SOS system has been thoroughly reviewed by the NRC Staff and the conclusions of that review are set forth in the Staff's Safety Evaluation Report (NUREG 0796, June 1981). The EPICOR-II system had been previously reviewed and approved by the Staff for treatment of Auxiliary Building water and has been further reviewed for its polishing application to the SOS effluent.

After processing, the decontaminated water would be stored in onsite tanks and the filters and zeolite ion exchanger vessels used in the SDS decontamination process would be temporarily stored underwater in the TMI-2 spent fuel storage pool. The EPICOR II resin liners, if any, would be temporarily stored in the existing onsite storage modules. The Department of Energy has stated its willingness to utilize and retain for research and development purposes the high specific activity zeolite solid wastes resulting from operation of the SDS. Low specific activity wastes (including filters) resulting from these operations should be suitable for disposal by shallow land burial. The processed water will be stored on site in available tankage until its disposition is proposed by the licensee, reviewed by the Staff and approved by the Commission.

On the basis of its review, the Staff has determined that processing of the Reactor Building sump and reactor coolant system highly contaminated water with the SOS and EPICOR II system would (1) enable the decontamination of the TMI-2 facility to proceed and (2) place the radioactivity in the waste water into an immobilized state from which

release to the environment is much less likely. Processing of the Auxilliary Building tankage intermediate level water with the SDS would minimize generation of solid waste and enable the licensee to check out the operation of the SDS.

The Staff has determined that the public health, safety and interest require that the licensee promptly commence and complete processing of the highly contaminated Reactor Building sump and reactor coolant system water and the intermediate level water in the Auxilliary Building tanks with the SDS and, if necessary, polishing by the EPICOR-II system.

III.

Accordingly, pursuant to sections 103, 161b and 1611 of the Atomic Energy Act of 1954, as amended, and the Commission's Regulations in 10 C.F.R. Parts 2 and 50, IT IS ORDERED EFFECTIVE IMMEDIATELY THAT:

The licensee shall promptly commence and complete processing of the highly contaminated Reactor Building and reactor coolant system water and the intermediate level water in the Auxilliary Building tanks with the SDS and, if necessary, the EPICOR II system.

IV.

The licensee or any person whose interest may be affected by this Order may, within thirty (30) days of the date of publication of this Order in the Federal Register, file a request for a hearing with respect to this Order, pursuant to 10 C.F.R. §2.714. A request for a hearing shall be submitted to the Office of the Secretary, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Docketing and

Service Section, by the above date. A copy of the request for a hearing should also be sent to the Executive Legal Director, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555. Any request for a hearing shall not stay the immediate effectiveness of this Order.

If a hearing is requested by the licensee or other person who has an interest affected by this Order, the Commission will issue an order designating the time and place of any such hearing. If a hearing is held, the issue to be considered at such hearing shall be:

Whether on the basis of the matters set forth in section II of this Order, this Order should be sustained.

The NRC Staff's Safety Evaluation Report (NUREG 0796) is available for inspection and copying, for a fee, at the Commissions Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555 and at the State Library of Pennsylvania, Government Publications Section, Education Building, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania 17126. Copies are also available for inspection at the NRC's office at 100 Brown Street, Middletown, Pennsylvania 17057. Copies may be purchased for \$4.50 directly from NRC by sending check or money order, payable to Superintendent of Documents, to Director, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. GPO Deposit Account holders may charge their orders by calling (301) 492-9530. Copies are also available for purchase through the National Technical Information Service, Springfield, Virginia 22161.

FOR THE NUCLEAR REGULATORY COMMISSION

  
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Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland  
this 18th day of June, 1981.