

UNITED STATES NUCLEAR REGULATORY COMMISSION
ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT
GPU NUCLEAR CORPORATION
THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 2
DOCKET NO. 50-320

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of a Possession Only License (POL) to GPU Nuclear Corporation (the licensee or GPUN) and amending the Technical Specifications for the Three Mile Island Nuclear Station Unit 2 (TMI-2), located in Dauphin County, Pennsylvania.

The licensee has requested by letter dated August 16, 1988, as amended, that the Facility Operating License for TMI-2 be changed to a Possession Only License and that the Technical Specifications for the facility be amended to permit long-term storage of the facility.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The POL would allow the licensee to possess but not operate TMI-2 and establishes requirements that are applicable to the facility in its post-accident, inoperable and essentially defueled condition. The proposed amendment to the facility's Technical Specifications would permit the licensee to place the TMI-2 facility in a long-term monitored storage configuration, termed Post-Defueling Monitored Storage (PDMS) by the licensee.

The Need for the Proposed Action:

The licensee has completed the current phase of the cleanup effort. The licensee has determined that the facility should be maintained in the PDMS condition until the time Three Mile Island Nuclear Station Unit 1 (TMI-1) is ready for decommissioning, at which time both TMI-1 and TMI-2 will be decommissioned simultaneously. Since the licensee has no future plans for the operation of TMI-2, the licensee requested the conversion of their Facility Operating License to a Possession Only License. In order to permit and facilitate long-term storage of TMI-2, the licensee has proposed a number of changes to their Technical Specifications. The licensee has determined that many of the requirements contained in the current Technical Specifications are inappropriate and not required to ensure the safety of a post-accident, inoperable and essentially defueled facility.

Background:

In March 1981, the NRC staff issued NUREG-0683, "Programmatic Environmental Impact Statement Related to Decontamination and Disposal of Radioactive Wastes Resulting from the March 28, 1979, Accident at TMI-2" (PEIS). The PEIS has been supplemented by the staff three times. In August 1989, the NRC staff issued PEIS Final Supplement 3, which assessed, in part, the environmental impacts associated with the licensee's plans to place the facility into Post-Defueling Monitored Storage. Seven alternatives to the licensee's proposal were also evaluated in PEIS Supplement 3.

The staff concluded in PEIS Supplement 3 that the licensee's proposal: (1) is within the applicable regulatory limits and could be implemented

without significant environmental impact since the health impact on both the workers and the offsite public is very small; (2) calculated doses to the public that are fractions of the dose received from background radiation; (3) would result in substantial occupational dose savings and reduced transportation impacts over several of the alternatives considered; and (4) is environmentally acceptable and will not significantly affect the quality of the human environment.

The staff's evaluation of the licensee's proposal was based principally on the licensee's description of PDMS contained in the licensee's 1987 submittal entitled "Technical Plan, TMI-2, Cleanup Program Post-Defueling Monitored Storage" and on the licensee's submittal of August 1988, entitled "Post-Defueling Monitored Storage Proposed License Amendment and Safety Analysis Report." The 1988 submittal by the licensee provided the detailed system by system description of the facility during PDMS and provided the safety analysis necessary to assess the potential for environmental impact during storage. Since the August 16, 1988, submittal, the licensee has updated the PDMS proposed license amendment and Safety Analysis Report (SAR) 15 times. Since issuance of the August 1989, PEIS Supplement 3, the PDMS proposed license amendment and SAR have been updated 11 times.

The purpose of this environmental assessment is to determine if the August 1989, PEIS Supplement 3 to the Programmatic Environmental Impact Statement dealing with PDMS remains valid after a review of the subsequent 11 amendments to the licensee's submittal.

Environmental Assessment:

The staff has reviewed the licensee's amendments to their August 16, 1988, submittal that have been submitted to the NRC staff since issuance of the August 1989, PEIS Supplement 3. The staff also reviewed the licensee's Defueling Completion Report dated February 22, 1990, the results of the post lower head sampling program cleanup in a letter dated April 12, 1990, and the results of independent staff analyses and analyses done for the staff by Battelle Pacific Northwest Laboratory. The purpose of these reviews was to determine if the licensee's proposal and the subsequent assessment of environmental impact is within the scope of the August 1989, PEIS Supplement 3.

The amendments to the licensee's August 16, 1988, submittal, sent to the staff after the publication of the August 1989, PEIS Supplement 3, consist primarily of written responses to detailed staff questions, changes in the licensee's Safety Analysis Report (SAR), and changes in the proposed Technical Specifications for PDMS. Some of the changes to the SAR resulted in physical changes to the facility that were not considered during the preparation of the PEIS Supplement 3 (e.g. closure mechanism for the atmospheric breather, and containment penetration overpressurization limits). The staff has reviewed these changes and has determined that there is no significant change in potential environmental impact due to the modifications. Some of the changes in the SAR deal with changes in values of measurements and estimates (e.g. residual fuel in the facility). These revised values do not alter the

conclusions in PEIS Supplement 3. Finally, some of the changes in the SAR revise analyses of potential accidents (e.g. fire in containment). Review of these revised analyses did not reveal any significant changes in predicted impact.

The staff reviewed the licensee's Defueling Completion Report and subsequently submitted related documents. The principal issue in this review was the potential for inadvertent recriticality of the fuel remaining at the facility. The staff found that the fuel remaining at the facility was in a configuration that precluded criticality. This condition was assumed by the staff in PEIS Supplement 3; therefore the finding is consistent with the staff's earlier evaluation.

The staff reviewed the results of independent analyses done while preparing the PDMS Safety Evaluation Report (SER). These analyses were done by both the NRC staff and their contractor, Battelle Pacific Northwest Laboratory. In one case, the results of an analysis of a different fire scenario in the reactor containment showed offsite doses in excess of those evaluated for the fire analysis in PEIS Supplement 3. PEIS Supplement 3 predicted the consequences of a fire in the containment stairwell as a 50-year dose commitment to the maximally exposed member of the public of 1.6 mrem to the whole body. The staff's PDMS SER evaluated the consequences of a fire inside the D-rings in the containment. The predicted 50-dose commitment to the maximally exposed member of the public for this accident scenario is 49 mrem to the whole body.

For an accident situation, the guidance provided in 10 CFR Part 100 limits the total radiation dose to a member of the public to a less than 25 rem to the whole body. Although the predicted 50-year dose commitment to the maximally exposed member of the public in the revised accident analysis presented in the staff's PDMS SER is greater than that predicted in PEIS Supplement 3, the revised whole body dose to the maximally exposed member of the public is still a small fraction (less than 0.2 percent) of the regulatory guidance.

This small increase (from 1.6 to 49 mrem) in the 50-year whole body dose commitment to the maximally exposed member of the public does not change the conclusions of PEIS Supplement 3. Specifically, the calculated dose to the public are fractions of the dose received by a member of the public from background radiation (= 300 mrem annually), are within the applicable regulatory limits (<25 rem), and the potential health impact on the public is very small. Based on the above evaluation, the staff concludes that the licensee's proposal will result in environmental impacts that are still within the scope of the August 1989, PEIS Supplement 3.

Alternatives to the Proposed Action:

Alternatives to the proposed action are evaluated in PEIS Supplement 3. The staff concluded in PEIS Supplement 3 that the licensee's proposal, and the seven NRC Staff-identified alternatives (with the exception of the no-action alternative which was found not to be viable because it would be contrary to regulations) could each be implemented without significant environmental impact. The staff has not identified any new alternatives since issuance of

PEIS Supplement 3, and has not identified any new information, since issuance of PEIS Supplement 3, that would change their evaluation and conclusions on impacts for the licensee's proposal or any of the alternatives. Therefore, any reasonable alternative to this action would not have a significant environmental impact.

Alternative Use of Resources:

There is no significant increase in the use of resources not previously considered by the staff's March 1981, Programmatic Environmental Impact Statement (NUREG-0683) as supplemented.

Agencies and Persons Consulted:

The staff widely distributed Draft Supplement 3 and received comments from a number of Federal, state, and local agencies, the licensee, local citizens and citizen organizations. These comments were incorporated in PEIS Supplement 3, issued August 1989. The staff did not consult further with organizations or individuals in preparing this assessment.

FINDING OF NO SIGNIFICANT IMPACT

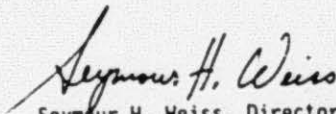
Based upon the foregoing environmental assessment, the Commission concludes that the proposed actions will not have a significant effect on the quality of the human environment and the impacts are still within the scope of the August 1989, PEIS Supplement 3. Therefore, the Commission has determined that the PEIS Final Supplement 3 (NUREG-0683) need not be supplemented.

PEIS Final Supplement 3 (NUREG-0683), the Staff's February 1992, Safety Evaluation Report, the licensee's amendments to their August 16, 1988 submittal, and the licensee's February 22, 1990, Defueling Completion Report

are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. 20555, and the local public document room at the Government Publications Section, State Library of Pennsylvania, Walnut Street and Commonwealth Avenue, Harrisburg, Pennsylvania 17105.

Dated at Rockville, Maryland, this 20th day of February 1992.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in dark ink, appearing to read "Seymour H. Weiss". The signature is fluid and cursive, with the first name being the most prominent.

Seymour H. Weiss, Director
Non-Power Reactors, Decommissioning and
Environmental Project Directorate
Division of Advanced Reactors
and Special Projects
Office of Nuclear Reactor Regulation