

9/21/93  
Date9  
Initials

## POLICY ISSUE

### (Notation Vote)

August 24, 1993

SECY-93-238

**FOR:** The Commissioners

**FROM:** James M. Taylor  
Executive Director for Operations

**SUBJECT:** THREE MILE ISLAND NUCLEAR STATION, UNIT 2 POSSESSION ONLY  
LICENSE AMENDMENT

**PURPOSE:**

To request Commission approval to issue the Three Mile Island, Unit 2 (TMI-2), possession only license (POL) amendment.

**BACKGROUND:**

In the final staff requirements memorandum of May 20, 1991, in response to SECY 90-421, "Decommissioning Criteria for Fort St. Vrain as a Prematurely Shutdown Plant," the Commission stated that it will continue to review staff actions for each request for a POL proposed for prematurely shutdown plants on a case-by-case basis. Accordingly, the staff recommendation and basis for issuing the TMI-2 POL amendment follow.

**DISCUSSION:**

After the March 28, 1979, accident at TMI-2, the NRC issued an order on July 20, 1979, that suspended the authority of General Public Utilities Nuclear Corporation (GPUN or the licensee) to operate the facility and required that the licensee maintain the facility in a shutdown condition in accordance with approved operating and contingency procedures. On August 16, 1988, the licensee submitted a request to amend TMI-2 Operating License No. DPR-73 to a POL and to extensively modify the Technical Specifications

**NOTE:** TO BE MADE PUBLICLY AVAILABLE  
WHEN THE FINAL SRM IS MADE  
AVAILABLE

**CONTACT:**  
M. Masnik, ONDD/NRR  
504-1191

230030

9/24

 74  
 9301010652

JF02 /

consistent with licensee plans for long-term storage of the facility. The licensee called such storage "post-defueling monitored storage" or "PDMS." In response to the licensee amendment request, the staff issued, in August 1989, Final Supplement 3 to the "Programmatic Environmental Impact Statement Dealing with Post-Defueling Monitored Storage and Subsequent Cleanup." On April 12, 1990, the licensee informed the staff that it had completed defueling efforts at the TMI-2 facility. On April 25, 1991, the staff published a notice of opportunity for a prior public hearing regarding the license amendment request for a POL and the proposed changes to the Technical Specifications (56 FR 19128). On February 20, 1992, the staff issued a safety evaluation in which it evaluated the licensee amendment request.

In response to the staff notice of opportunity for a prior public hearing, Mr. Eric Epstein petitioned to intervene. Upon the encouragement of the Atomic Safety and Licensing Board Panel (ASLBP) assigned to this docket, a settlement agreement between the petitioner, the licensee, and the NRC staff was filed with the ASLBP on September 25, 1992. In response to the settlement agreement, the ASLBP dismissed the proceedings on October 16, 1992.

The licensee is in the final phases of readying TMI-2 for PDMS. In October 1992, the licensee completed PDMS preparations in the reactor building. Currently, the licensee is readying the auxiliary and fuel-handling buildings for long-term storage. On January 15, 1993, the licensee forwarded for staff review a proposed list of remaining PDMS requirements and commitments. This list was generated from (1) the safety analysis report submitted by the licensee in support of its license amendment request; (2) the safety evaluation issued by the staff on February 20, 1992; and (3) several meetings at TMI-2 that were attended by members of the public. The staff has reviewed this list and in a letter dated May 19, 1993, found it acceptable. The current licensee schedule is to be ready to enter PDMS by the end of calendar year 1993.

The staff has not acted on the licensee request for a POL until now because it was aware of ongoing licensee efforts to make additional measurements of the fuel remaining in the reactor vessel. During July and August of 1991, the reactor vessel was drained to make final measurements of the fuel remaining in the vessel. The final measurement technique included the use of an array of helium-filled detectors to measure fast neutrons produced by the residual fuel.

On February 1, 1993, the licensee submitted its current best estimate of 925 kg (2040 lbs) with an uncertainty of  $\pm 40$  percent of residual fuel in the reactor vessel based on the data from the fast neutron measurements. This estimate was derived from calculations made by onsite licensee personnel and was independently reviewed by an offsite group headed by Dr. Norman Rasmussen of the Massachusetts Institute of Technology. Three additional independent reviewers from national laboratories reviewed this estimate for the licensee. Both the NRC staff and Battelle Pacific Northwest Laboratories (PNL), under

contract to the staff, reviewed the licensee estimate and found it acceptable. Additionally, the licensee has conducted a revised criticality analysis and submitted it to the NRC for review. The staff reviewed the licensee analysis and funded PNL to conduct independent criticality analyses for both steady-state and accident conditions. The staff forwarded the results of these analyses to the licensee in a letter dated July 6, 1993. The staff found that the fuel remaining in the reactor vessel would be subcritical under both steady-state and accident conditions. Thus, a criticality involving the fuel remaining in the TMI-2 reactor vessel is precluded.

For the balance of the facility external to the reactor vessel, earlier licensee estimates based on measurements, sample analyses, and visual observations indicated that no more than 174.6 kg (385 lb) of residual fuel remains. The NRC staff and its consultants from PNL have performed independent evaluations of these earlier fuel measurements and have made independent measurements in the auxiliary and reactor buildings. The staff also concluded that the discrete quantities of fuel in areas other than the reactor vessel are insufficient to sustain a criticality.

The staff has reviewed the licensee application, as revised, for a POL and has concluded that the POL amendment should be granted because the application meets NRC requirements and is consistent with current Commission policy. I have enclosed the proposed POL amendment for TMI-2 and a copy of the staff safety evaluation.

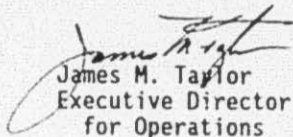
The POL amendment would incorporate the current TMI-2 Appendix A and B Technical Specifications without modification. The current Technical Specifications are not appropriate for the facility in PDMS. Accordingly, the staff plans to separately issue the PDMS Technical Specifications, just prior to entry into PDMS, and once the licensee has completed the implementation of the January 15, 1993, list of remaining requirements and commitments. It is anticipated that there will be some minor modifications and additions to the Technical Specifications that the staff addressed in its safety evaluation issued on February 20, 1992. The staff plans to update this safety evaluation when the PDMS Technical Specifications are issued.

**RECOMMENDATION:**

That the Commission approve the issuance of the TMI-2 POL amendment in accordance with the enclosed proposed license amendment package.

**COORDINATION:**

The Office of the General Counsel has reviewed this Commission paper and has no legal objection to its contents.

  
James M. Taylor  
Executive Director  
for Operations

Enclosures:

1. Proposed POL Amendment  
for TMI-2
2. Safety Evaluation

Commissioners' comments or consent should be provided directly to the Office of the Secretary by COB Wednesday, September 8, 1993.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Tuesday, August 31, 1993, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION:

Commissioners  
OGC  
OCAA  
OIG  
OCA  
OPP  
REGION I  
EDO  
SECY