



GPU Nuclear Corporation
Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057-0191
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:

5211-85-2088
May 14, 1985

Office of Nuclear Reactor Regulation
Attn: John F. Stolz, Chief
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Stolz:

Three Mile Island Nuclear Station, Unit I, (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Technical Specification Change Request No. 142 (Rev. 1)

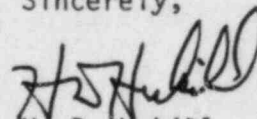
Enclosed are three originals and forty conformed copies of Technical Specification Change Request No. 142 (Rev. 1).

Also enclosed is one signed copy of the Certificate of Service for this request to the chief executives of the township and county in which the facility is located, as well as the Bureau of Radiation Protection.

Pursuant to 10 CFR 50.91(a)(1), we enclose our analyses, using the standards in 10 CFR 50.92 of significant hazards considerations. As stated above, pursuant to 10 CFR 50.91(a) of the regulations, we have provided a copy of this letter, the proposed change in Technical Specifications, and our analyses of significant hazards considerations to Thomas Gerusky, the designated representative of the Commonwealth of Pennsylvania.

Pursuant to the provisions of 10 CFR 170.21, a check for \$150.00 was provided with our letter of March 8, 1985 as payment of the fee associated with Technical Specification Change Request No. 142.

Sincerely,


H. D. Hukill
Director, TMI-1

8505210281 850514
PDR ADOCK 05000289
P PDR

HDH/MRX/spb

Enclosures: 1) Technical Specification Change Request No. 142 (Rev. 1)
2) Certificate of Service for Technical Specification Change Request No. 142 (Rev. 1)

cc: J. Thoma

No check Rec'd

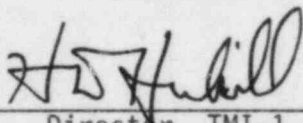
A001
111

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER & LIGHT COMPANY
AND
PENNSYLVANIA ELECTRIC COMPANY
THREE MILE ISLAND NUCLEAR STATION, UNIT 1

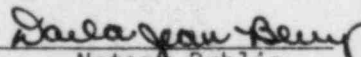
Operating License No. DPR-50
Docket No. 50-289
Technical Specification Change Request No. 142 (Rev. 1)

This Technical Specification Change Request is submitted in support of Licensee's request to change Appendix A to Operating License No. DPR-50 for Three Mile Island Nuclear Station, Unit 1. As a part of this request, proposed replacement pages for Appendix A are also included.

GPU NUCLEAR CORPORATION

BY 
Director, TMI-1

Sworn and Subscribed
to before me this 14th
day of may, 1985.


Notary Public

DARLA JEAN BERRY, NOTARY PUBLIC
MIDDLETOWN BORO. DAUPHIN COUNTY
MY COMMISSION EXPIRES JUNE 17, 1985
Member, Pennsylvania Association of Notaries

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF

DOCKET NO. 50-289
LICENSE NO. DPR-50

GPU NUCLEAR CORPORATION

This is to certify that a copy of Technical Specification Change Request No. 142 (Rev. 1) to Appendix A of the Operating License for Three Mile Island Nuclear Station Unit 1, has, on the date given below, been filed with executives of Londonderry Township, Dauphin County, Pennsylvania; Dauphin County, Pennsylvania; and the Pennsylvania Department of Environmental Resources, Bureau of Radiation Protection, by deposit in the United States mail, addressed as follows:

Mr. Jay H. Kopp, Chairman
Board of Supervisors of
Londonderry Township
R. D. #1, Geyers Church Road
Middletown, PA 17057

Mr. John E. Minnich, Chairman
Board of County Commissioners
of Dauphin County
Dauphin County Courthouse
Harrisburg, PA 17120

Mr. Thomas Gerusky, Director
PA. Dept. of Environmental Resources
Bureau of Radiation Protection
P.O. Box 2063
Harrisburg, PA 17120

GPU NUCLEAR CORPORATION

BY 

Director, TMI-1

DATE: May 14, 1985

I. TECHNICAL SPECIFICATION CHANGE REQUEST (TSCR) NO. 142 (Rev. 1)

The Licensee requests that the revised pages attached replace the following pages of the existing Technical Specifications:

ii, iv, 3-25, 3-26, 3-26a, 3-26b, 3-26c, 4-52, 4-52a

This Request No. 142 (Rev. 1) supersedes the previous Request No. 142 in its entirety.

II. REASON FOR CHANGE

By letter dated July 18, 1984, NRC provided its evaluation of GPUN's submittal (LIL 341) of January 26, 1984 regarding Decay Heat Removal and requested that GPUN include certain aspects of Standard Technical Specifications (STS) into the TMI-1 Technical Specifications or provide justification as to why the requirements are not necessary.

This TSCR provides additional technical specification requirements and clarification for maintaining decay heat removal capability below 250°F reactor coolant temperature as described in GPUN's letter of October 10, 1984, in order to assure redundant or diverse decay heat removal capability without reliance upon administrative requirements or management directives alone and incorporates NRC staff comment on TSCR No. 142.

III. SAFETY EVALUATION JUSTIFYING CHANGE

The changes made through this proposed revision incorporate additional requirements and clarification which meet the intent of STS (NUREG-0103, Rev. 4) in order to assure DHR capability for plant conditions with reactor coolant temperature less than 250°F. For this reason, these changes will have a beneficial effect on plant safety. Exceptions or modifications to certain aspects of the STS which are described in NRC's letter of July 18, 1984 are justified as follows:

- 1) This change is structured to conform to the TMI-1 T.S. format, applicable to the plant conditions which correspond most closely to STS modes of operation and meets the intent of STS to assure DHR capability.
- 2) Surveillance of RCP operation at power is performed continuously by the Reactor Protection System. Without a RCP in operation in each loop, the RPS will trip the reactor as specified in TMI-1 T.S. Table 2.3-1. This accomplishes the STS goal of verifying RCP operation. If an RCP is not in operation in each loop, the operator will know because the reactor will trip. Also, equipment status is turned over as part of the normal shift change process. Any inoperable RCP would be part of this turnover process when at power.

Surveillance requirements for reactor protection system instrumentation are given in TMI-1 T.S. 4.1.1. Procedures for these requirements are specified by TMI-1 T.S. 6.8 to be implemented and maintained requiring review and approval prior to implementation and periodic review as set forth in administrative procedures. Therefore, additional surveillance requirements for verification of RCP operation at power are not included as part of this change.

- 3) This change includes surveillance specifications that the means for decay heat removal below 250°F which are required to be operable be verified operable daily. Detailed surveillance procedures are required by Specification 6.8 in order to implement these surveillance requirements. However, during shutdown plant conditions, reactor coolant pump operability is not required inasmuch as natural circulation is an acceptable means for decay heat removal as discussed in Section III.6. Therefore, a surveillance requirement to document verification of the operability of reactor coolant pumps every 7 days is unnecessary.

Major equipment which is in operation to maintain the conditions of the Reactor Coolant System, such as decay heat removal loops and reactor coolant loops, is under continual observation as a part of the normal control room operator duties. Equipment status is turned over as part of the normal shift change process. Therefore, a specific Technical Specification surveillance requirement to document the verification of operation of such equipment is unnecessary.

- 4) This change recognizes heat losses to the Reactor Building atmosphere as an acceptable means of decay heat removal at decay heat generation rates below 188 KW with the RCS full and below 100 KW with the RCS drained down for maintenance (TMI-1 calculation, C3320-85-001). When decay heat load is very low, as with the present plant conditions at TMI-1, heat loss to ambient is sufficient to provide adequate decay heat removal capability. This cooling method requires no active components but relies upon basic heat transfer principles.
- 5) This change requires equipment to be in operation only when needed to circulate reactor coolant in order to maintain the reactor coolant system in a subcooled condition. While STS Sections 3.4.1.3, 3.4.1.4 and 3.9.8.1 require equipment to be in operation allowing only a maximum of one hour down time with certain stipulations applied, this change allows equipment to be secured for longer periods where conditions permit.

Depending on the decay heat generation rate, shutdown of the forced circulation equipment may allow reactor coolant system temperature to increase very slowly some time after shutdown compared to the conditions immediately following plant shutdown from power

operation. During these conditions of slow temperature increase, continuous operation of a decay heat removal loop would not be necessary and suspension of operation would be permitted under 3.4.2.2.

- 6) This change recognizes the acceptability of cooldown by natural circulation as an acceptable means of decay heat removal. The adequacy of natural circulation cooldown as a stable means of decay heat removal is presented in TMI-1 FSAR Table 14.1-12.
- 7) This change allows a limited period of up to 7 days for which the requirement for operability of a redundant or diverse means of DHR may be suspended with reactor coolant temperature 250°F or less. This is to provide for preventive or corrective maintenance that may be necessary to ensure the continued reliability of the preferred means of DHR capability. This provides the assurance also that appropriate action will be taken to restore the preferred means of DHR capability to operable status in a timely manner, without prohibiting maintenance which is needed to decrease the likelihood of actual in-service failures. A period of up to 7 days is justified considering the low probability and minimal consequences of such a system failure.
- 8) This change recognizes that the DHR system is not the only system capable of providing a flow of borated cooling water through the reactor vessel below 250°F. In addition to the equipment allowed by STS in fulfilling the requirements for DHR capability, this change allows the use of a flow path from the BWST with BWST level greater than 44 ft. as an alternate flow path whenever such means are determined to be capable of maintaining RCS in a subcooled condition for at least 7 days. The length of time such an alternate flow path would be available for decay heat removal is predictable using calculations based on actual plant data or through plant testing at the time the system is to be declared operable.

Surveillance requirements are included to verify the operability of the circulating path daily whenever the flow path is required to be operable.

These changes as discussed above are justified in that the requirements embodied in this TSCR provide for continuous decay heat removal capability, provide additional guidance, and specify a level of redundancy while allowing systems to be taken out of service for proper maintenance to be performed.

IV. NO SIGNIFICANT HAZARDS CONSIDERATIONS

These proposed changes provide additional operational requirements to assure redundant or diverse decay heat removal capability. Additional limiting conditions for operation and additional surveillance requirements are included. Therefore, operation of TMI-1 in accordance with this TSCR:

- 1) does not involve a significant increase in the probability or consequences of an accident previously evaluated,
- 2) does not create the possibility of a new or different kind of accident from any accident previously evaluated, and
- 3) does not involve a significant reduction in a margin of safety.

Therefore, significant safety hazards are not associated with this change.

V. IMPLEMENTATION

It is requested that the amendment authorizing this change become effective 120 days after receipt, to allow for the necessary procedural revisions to be put in place.

VI. AMENDMENT FEE (10 CFR 170.21)

Pursuant to the provisions of 10 CFR 170.21, a check for \$150.00 was provided with our letter of March 8, 1985 as payment of the fee associated with TSCR No. 142.