

March 31, 1987

DPR 516

Docket No. 50-289

DISTRIBUTION

Docket File	Gray File
NRC PDR	JPartlow
L PDR	TBarnhart-4
PBD-6 Rdg	WJones
FMiraglia	WRegan
OGC-MNBB 9604	ACRS-10
LHarmon	CMiles
EJordan	RDiggs
BGrimes	Ringram
WTravers	JThoma
EButcher	TMI Site Pouch
	NThompson

Mr. Henry D. Hukill, Vice President
and Director - TMI-1
GPU Nuclear Corporation
P. O. Box 480
Middletown, Pennsylvania 17057

Dear Mr. Hukill:

SUBJECT: AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. DPR-50

The Commission has issued the enclosed Amendment No. to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1). This amendment consists of changes to the Technical Specifications (TSs) in response to your letter dated January 28, 1987 (Technical Specification Change Request (TSCR) No. 169).

This amendment revises the TSs for fire detection and suppression systems. Operability requirements for plant fire detectors and suppression systems have been expanded to encompass the modifications made during the 6R outage as a result of 10 CFR 50, Appendix R, requirements. Furthermore, editorial changes were also effected to improve clarity of appropriate fire protection TS pages.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/s/

John O. Thoma, Project Manager
PWR Project Directorate #6
Division of PWR Licensing-B

Enclosures:

1. Amendment No. 127 to DPR-50
2. Safety Evaluation

cc w/enclosures:
See next page

PBD-6
Ringram
3/21/87

PBD-6
TRoss
3/25/87

JOT
PBD-6
JThoma;eh
3/25/87

Raw
PBD-6
RWeller
3/25/87

PBD-6
JStolz
3/21/87

OGC
RForner
3/26/87

8704060191 870331
PDR ADOCK 05000289
P PDR

Mr. Henry D. Hukill
GPU Nuclear Corporation

cc:

Mr. R. J. Toole
O&M Director, TMI-1
GPU Nuclear Corporation
Middletown, Pennsylvania 17057

Richard J. McGoey
Manager, PWR Licensing
GPU Nuclear Corporation
100 Interpace Parkway
Parsippany, New Jersey 70754

Mr. C. W. Smyth
TMI-1 Licensing Manager
GPU Nuclear Corporation
P. O. Box 480
Middletown, Pennsylvania 17057

Ernest L. Blake, Jr., Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037

Sheldon J. Wolfe, Esq., Chairman
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Frederick J. Shon
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Oscar H. Paris
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety & Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety & Licensing Appeal
Board Panel (8)
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Three Mile Island Nuclear Station,
Unit No. 1

Mr. Richard Conte
Senior Resident Inspector (TMI-1)
U.S.N.R.C.
P.O. Box 311
Middletown, Pennsylvania 17057

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 220, 7910 Woodmont Avenue
Bethesda, Maryland 20814

Governor's Office of State Planning
and Development
ATTN: Coordinator, Pennsylvania
State Clearinghouse
P. O. Box 1323
Harrisburg, Pennsylvania 17120

Mr. Larry Hochendoner
Dauphin County Commissioner
Dauphin County Courthouse
Front and Market Streets
Harrisburg, Pennsylvania 17101

Mr. David D. Maxwell, Chairman
Board of Supervisors
Londonderry Township
RFD#1 - Geyers Church Road
Middletown, Pennsylvania 17057

Mr. Thomas M. Gerusky, Director
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Resources
P. O. Box 2063
Harrisburg, Pennsylvania 17120

Thomas Y. Au, Esq.
Office of Chief Counsel
Department of Environmental Resources
505 Executive House
P. O. Box 2357
Harrisburg, Pennsylvania 17120

Ms. Louise Bradford
TMIA
1011 Green Street
Harrisburg, Pennsylvania 17102

Mr. Henry D. Hukill
GPU Nuclear Corporation

-2-

Three Mile Island Nuclear Station
Unit 1

TMIA
315 Pepper Street
Harrisburg, Pennsylvania 17102

Bruce W. Churchill, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037



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

METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER AND LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

GPU NUCLEAR CORPORATION

DOCKET NO. 50-289

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 127
License No. DPR-50

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by GPU Nuclear Corporation, et al. (the licensees) dated January 28, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

8704060192 870331
PDR ADOCK 05000289
P PDR

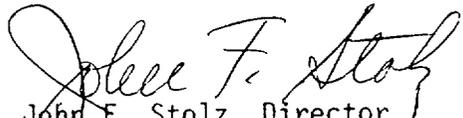
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.c.(2) of Facility Operating License No. DPR-50 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 127, are hereby incorporated in the license. GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Director
PWR Project Directorate #6
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 31, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 127

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove

3-87
3-87a
3-89
3-94

Insert

3-87
3-87a
3-89
3-94

TABLE 3.18-1

FIRE DETECTION INSTRUMENTS

Instrument Location	Total Number of Detectors		Minimum Instruments Operable	
	Heat	Smoke	Heat	Smoke
1. Control Building Elev. 355'				
Control Room Cabinets	0	11	0	11
Control Room Area	0	8	0	4
I&C (Mod Comp Computer Halon)	0	6	0	3
I&C (Mod Comp Area)	0	4	0	2
2. Control Building Elev. 338'				
1D 4160 V SWGR	0	1	NA	1
1E 4160 V SWGR	0	1	NA	1
ESAS Cabinets (CB-3C)	0	3	NA	2
Relay Room	4	1	2	1
3. Control Building Elev. 322'				
1P 480V SWGR	0	1	NA	1
1S 480V SWGR	0	1	NA	1
Battery Room A	0	1	NA	1
Battery Room B	0	1	NA	1
Inverter Room A	0	1	NA	1
Inverter Room B	0	1	NA	1
Remote Shutdown Panel	0	1	NA	1
4. Control Building Elev. 306'				
Above False Ceiling	0	10	NA	5
Fuel Handling Bldg. Elev. 285'				
Chiller Room	0	2	NA	1
5. Diesel Generators				
Diesel A	1	0	1	NA
Diesel B	1	0	1	NA
6. Screen House				
General Area (HVAC)	2	0	1	NA
Zone 1	0	6	NA	3
Zone 2	0	6	NA	3
7. Fuel Handling Bldg. Elev. 281'				
General Cable Area (Zone 8)	0	9	NA	5
Lubricant & Storage Area (Zone 9)	0	3	NA	2
8. Auxiliary Bldg. Elev. 261'				
Decay Heat Removal Pump A (Zone 6)	0	3	NA	2
Decay Heat Removal Pump B (Zone 7)	0	4	NA	2

TABLE 3.18-1

FIRE DETECTION INSTRUMENTS

<u>Instrument Location</u>	<u>Total Number of Detectors</u>		<u>Minimum Instruments Operable</u>	
	Heat	Smoke	Heat	Smoke
9. Auxiliary Bldg. Elev. 271' Heat Exchanger Vault (Zone 11)	0	10	NA	5
10. Auxiliary Bldg. Elev. 281' Pipe Penetration Area (Zone 1A)	0	3	NA	2
Pipe Penetration Area (Zone 1B)	0	2	NA	1
Makeup & Purification Pumps (Zone 2)	0	3	NA	2
Valve Gallery (Zone 3)	0	1	NA	1
Cable Gallery (Zone 4)	0	3	NA	2
Hallway (Zone 10)	0	9	NA	5
11. Auxiliary Bldg. Elev. 305' Decay Heat & Nucl. Service Pumps & MCC 1A (Zone 1A)	0	2	NA	1
Pumps & MCC 1A (Zone 1B)	0	2	NA	1
Pumps & MCC 1A, 1B (Zone 5)	0	7	NA	4
Ventilation Room	1	1	1	1
12. Intermediate Bldg. Elev. 295' EF-P-2 A&B Rooms (Zone 1)	0	6	NA	3
Cable Area (Zone 2)	0	2	NA	1
EF-P-1 Room (Zone 3)	0	2	NA	1
Valve Gallery (Zone 4)	0	2	NA	1
Hallway Elev. 295' (Zone 6)	0	3	NA	2
13. Intermediate Bldg. Elev. 305' Tank Room (Zone 5)	0	1	NA	1
14. Reactor Bldg. Elev. 281' Exhaust Ducts (Zone 1)	0	3	NA	2
Decay Heat Valve 1 (Zone 2)	0	1	NA	1
Decay Heat Valve 2 (Zone 2)	0	1	NA	1
Cable Tray at Let Down Cooler (Zone 3)	0	1	NA	1
15. Reactor Bldg. Elev. 305' Exhaust Ducts (Zone 4)	0	5	NA	3
Purge Exhaust (Zone 5)	0	1	NA	1
Cable Tray at Personnel Hatch (Zone 6)	0	2	NA	1
16. Reactor Bldg. Elev. 346' D-Ring 1d (Zone 7)	0	6	NA	4
D-Ring 1e (Zone 8)	0	6	NA	4
17. Reactor Bldg. Elev. 382' Cable Tray (Zone 9)	0	2	NA	1
18. Reactor Bldg. Elev. 382' Elevator Room (Zone 10)	0	1	NA	1

3.18.3 DELUGE/SPRINKLER SYSTEMS

Applicability: At all times when equipment in the area is required to be operable.

Objective: To assure adequate fire suppression capability.

Specification:

3.18.3.1 The Deluge and/or Sprinkler Systems located in the following areas shall be operable or action shall be taken as described in specification 3.18.3.2.

- a. Diesel Generator and Radiator Rooms
- b. Diesel Generator Combustion Air Intakes
- c. Diesel Generator Cooling Air Intake
- d. Control Building Filter (AH-F3A, AH-F3B) Rooms
- e. Air Intake Tunnel (3 zones)
- f. Charcoal Filter (AH-F10, AH-F11)
- g. Intake Screen Pump House
- h. Diesel driven fire pump areas
- i. Control Building at elevation 306'
- j. Control Building ESAS Relay Room at elevation 338'6" (manual system)
- k. Fuel Handling Building at elevation 281'0"
- l. Auxiliary Building containment penetration area at elevation 281'0" (automatic preaction sprinkler system) and water curtain at elevation 305'0"

3.18.3.2 With any of the above deluge and/or sprinkler systems in any room or zone inoperable:

- a. Establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s), within one hour except that no fire watch is required in the air intake tunnel.
- b. Restore the system to OPERABLE status within 14 days or, prepare and submit a Special Report to the Commission within the next 30 days outlining the actions taken, the cause of inoperability and the plans and schedules for restoring the system to OPERABLE status.

3.18.7 FIRE BARRIER PENETRATION SEALS

Applicability: All fire barrier penetration seals (including cable and pipe penetration barriers, fire doors and fire dampers) in rated fire boundaries protecting safety related areas shall be functional at all times when equipment on either side of the barrier is required to be operable.

Objective: To assure the effectiveness of barriers.

Specifications:

- 3.18.7.1 All fire barrier penetration seals protecting safety related areas shall be functional or action shall be taken as described in 3.18.7.2.
- 3.18.7.2a With one or more of the above required fire barrier penetration seals non-functional, establish a continuous fire watch on at least one side of the affected penetration within one hour.
- 3.18.7.2b Restore the penetration seal to an OPERABLE status within 14 days or, prepare and submit a Special Report to the Commission within the next 30 days outlining the action to be taken, the cause of the inoperability and the plans and schedule for restoring the system to an OPERABLE status.

BASES: The functional integrity of the fire barrier penetration seals ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. The fire barrier penetration seals are a passive element in the facility fire protection program and are subject to periodic inspections.

During periods of time when the seals are not functional, a continuous fire watch is required to be maintained in the vicinity of the affected seal until the seal is restored to functional status as described in specification 3.18.7.2.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 127 TO FACILITY OPERATING LICENSE NO. DPR-50

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY
GPU NUCLEAR CORPORATION

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-289

INTRODUCTION

By letter dated January 28, 1987, GPU Nuclear Corporation (GPUN or the licensee) requested amendment to the Technical Specifications (TSs) appended to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1). The proposed amendment would expand fire protection TS operability requirements for TMI-1 fire detection and suppression systems as part of commitments to satisfy 10 CFR 50, Appendix R.

EVALUATION

TMI-1 fire detection and suppression systems in the Auxiliary, Fuel Handling, Intermediate, and Control Buildings were modified to satisfy 10 CFR 50, Appendix R, commitments approved by the NRC in Safety Evaluations dated June 4, 1984, and December 30, 1986. Additional fire detection instrumentation and suppression, installed to comply with 10 CFR 50, Appendix R, requirements, are defined in Revision 8 of the "TMI-1 Fire Hazards Analysis Report and Appendix R Section III.G Safe Shutdown Evaluation (FHAR)". The scope of these fire protection system modifications affecting the TSs is as follows:

- a) Existing fire detection system in the Auxiliary Building was expanded to monitor an additional area of the hallway on elevation 281' in fire zone AB-FZ-5 (see TS Table 3.18-1, Item 10).
- b) Existing fire detection system currently installed in the Control Building elevation 306' was expanded to monitor fire zone FH-FZ-6, the chiller room elevation 285' (see TS Table 3.18-1, Item 4).
- c) Existing fire detection system currently installed in the Intermediate Building (IB) was expanded to monitor the hallway portion of fire zone IB-FZ-4 on elevation 295' (see TS Table 3.18-1, Item 12).

8704060196 870331
PDR ADOCK 05000289
P PDR

- d) Existing fire detection system in the Control Building was expanded to monitor the emergency feedwater (EFW) cabinets located in the Control Room (see TS Table 3.18-1, Item 1). This modification is to satisfy commitments made concerning NRC Branch Technical Position (BTP) APCS 9.5-1, Appendix A.
- e) Auxiliary Building fire detection system on elevations 281' and 305' was revised to reflect the existing cross zone detection configuration by dividing Zone 1 into Zone 1A and Zone 1B (see TS Table 3.18-1, Items 10 and 11).
- f) The manually actuated deluge water spray system in AB-FZ-5 (Auxiliary Building containment penetration area at elevation 281') was converted to an automatically actuated preaction sprinkler system. A water curtain system was installed to separate redundant equipment in AB-FZ-6 at elevation 305' (see TS Section 3.18.3.1.1).

GPUN's amendment application (TSCR-169) requested certain changes to TS Table 3.18-1 (Items 1, 4, 10, 11 and 12) and TS Section 3.18.3.1 (Item 1) in order to incorporate the Appendix R modifications listed above. These additional fire protection instrumentation and suppression operability requirements were proposed to further ensure adequate warning system capability is available for prompt detection of fires and adequate fire suppression capability is available to confine and extinguish fires in order to minimize potential damage to safety-related equipment.

In conjunction with the particular TS change to incorporate the Appendix R modification identified as d) above, GPUN proposed to further revise TS Table 3.18-1, Item 1 (Control Building Elevation 355') by clarifying detector locations and increasing the minimum number required operable. Detector locations would no longer be specifically identified by panel (i.e., HCV, CC & CR, PC & PCR, PL, and the new EF panel installed this outage) but rather as "Control Room Cabinets". Conversely, detectors located in the Computer Room would now be identified as to their more specific locations (e.g. I&C Mod Comp Area). In all respects, the proposed TSs would increase the minimum number of detectors required to be operable for Control Room Cabinets and for Control Room Area (minimum operable remain the same for computer room areas). Increasing the minimum number of detectors was considered as additional assurance that adequate warning capability is available for prompt detection of fires in these areas. However, as stated by GPUN, redefining detector locations should not have any impact on nuclear safety or safe plant operation.

Furthermore, aside from Appendix R related TS changes, GPUN has proposed to correct two typographical and editorial errors in TS 3.18.7 (Fire Barrier Penetration Seals). The spelling of "campers" would be corrected to "dampers" and the BASES would be corrected to delete reference to a roving fire watch since TS 3.18.7.2a provides a requirement for a continuous fire watch only.

After a detailed review of GPUN's amendment application dated January 28, 1987, the NRC staff concludes that the proposed TS changes are acceptable. The changes serve to upgrade the TSs to include commitments made to satisfy 10 CFR 50, Appendix R.

STATE CONSULTATION

In accordance with 10 CFR 50.91(b), we have fulfilled our responsibilities with regard to consultation with the State. The State was contacted on March 13, 1987, and had no comments.

ENVIRONMENTAL CONSIDERATION

This amendment involves changes in the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: March 31, 1987

Principal Contributor:
T. Ross