DMB 06

Docket No. 50-289

OCT 14 1983

Mr. Henry D. Hukill
Vice President
GPU Nuclear Corporation
P. O. Box 480
Middletown, Pennsylvania 17057

Dear Mr. Hukill:

SUBJECT: AMENDMENT NO. 88 TO FACILITY OPERATING LICENSE NO. DPR-50

The Commission has issued Amendment No. 88 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 application dated June 24, 1983.

This amendment revises the Technical Specifications to reference a new liquid effluent discharge monitor, RM-L12, in lieu of the presently referenced monitor, RM-L7.

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

Check for Petitions to Intervene pending before issuance of any Order

Sincerely,

Original signed by

James Van Vliet, Project Manager
Operating Reactors Branch #4
Division of Licensing

8310260334 831014
PDR ADOCK 05000289
P PDR

Enclosures:
1. Amendment No. 88 to DPR-50
2. Safety Evaluation

cc w/enclosures:
See next page

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ORB#4 Rdg	EJordan	HDenton
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DEisenhut	DBrinkman	SECY
OELD CMiles	RDiggs	TPoindexter
LHarmon	JVan Vliet	TMI Site Pouch
ACRS-(10)	RIngram	BSnyder

*See other white for concurrences

OFFICE	ORB#4:DL	ORB#4:DL	C-ORB#4:DL	AD:OR:DL	OELD		
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DATE	9/ 27/83	9/ 30 /83	9/30/83	9/30/83	10/ 4 /83		

NRC FORM 318 (10/80) NRCM 0240 OFFICIAL RECORD COPY ☆ U.S. GPO 1983—400-247

Docket No. 50-289

Mr. Henry D. Hukill
Vice President
GPU Nuclear Corporation
P. O. Box 480
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This amendment revises the Technical Specifications to reference a new liquid effluent discharge monitor, RM-L12, in lieu of the presently referenced monitor, RM-L7.

A copy of our Safety Evaluation is also enclosed.

Sincerely,

James Van Vliet, Project Manager
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SURNAME	RIngram	JVan Vliet:ds	JStolz	GLainas	MMiraglia		
DATE	9/21/83	9/28/83	9/ /83	9/ /83	9/ /83	9/ /83	

NRC FORM 318 (10/80) NRCM 0240 **OFFICIAL RECORD COPY** ☆ U.S. GPO 1983—400-247

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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. 88
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 June 24, 1983, 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 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.

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. 88 , 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 14, 1983

ATTACHMENT TO LICENSE AMENDMENT NO. 88

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

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

Remove Pages	Insert Pages
3-96	3-96
3-97	3-97
3-99	3-99
4-88	4-88
4-99	4-99

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.21.1 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.21-1 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.22.1.1 are not exceeded. The ALARM/TRIP setpoints of these channels shall be determined in accordance with the Offsite Dose Calculation Manual (ODCM).

APPLICABILITY: At all times*

ACTION:

a. With a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above specification, immediately suspend the release of radioactive liquid effluents monitored by the affected channel or declare the channel inoperable.

b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels operable, take the ACTION shown in Table 3.21.1.

*For FT-84 and RM-L6, operability is not required when discharges are positively controlled through the closure of WDL-V 257.

*For RM-L12 and associated IWTS/IWFS flow interlocks, operability is not required when discharges are positively controlled through the closure of IW-V-72,75 and IW-V-280, 281.

*For FT-146, operability is not required when discharges are positively controlled through the closure of WDL-V-257, IW-V-72, 75 and IW-V-280,281.

BASES:

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with NRC approved methods in the ODCM to ensure the alarm/trip will occur prior to exceeding the limits of 10 CFR 20.

Amendment No. 72, 88

TABLE 3.21-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. Gross Radioactivity Monitors Providing Automatic Termination of Release		
a. Unit 1 Liquid Radwaste Effluent Line (RM-1.6)	1	18
b. IWTS/IWFS discharge line (RM-1.12)	1	20

TABLE 3.21-1
(Continued)

ACTION 18 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may be resumed for up to 14 days, provided that prior to initiating a release:

1. At least two independent samples are analyzed in accordance with Specification 4.22.1.1, and;

2. At least two technically qualified members of the Unit staff independently verify the release rate calculations and verify the discharge valve lineup.

3. Manager Unit 1 shall approve each release.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 20 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that grab samples are collected and analyzed for gross radioactivity (beta and gamma) at a limit of detection of at least 10^{-7} microcuries/ml, prior to initiating a release and at least once per 8 hours during release.

ACTION 21 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, radioactive effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves may be used to estimate flow.

TABLE 4.21-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL TEST
1. Radioactivity Monitors Providing Alarm and Automatic Isolation				
a. Unit 1 Liquid Radwaste Effluents Line (RM-L6)	D	P	R(3)	Q(1)
b. IWTS/IWFS discharge line (RM-L12)	D	P	R(3)	Q(1)
2. Flow Rate Monitors				
a. Unit 1 Liquid Radwaste Effluent Line (FT-84)	D(4)	N/A	R	Q
b. Station Effluent Discharge (FT-146)	D(4)	N/A	R	Q

Table 4.22-1 (Cont'd)

RADIOACTIVE LIQUID WASTE SAMPLING AND ANALYSIS PROGRAM

Liquid Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) (μCi/ml) a
A.2 Continuous e Releases	Continuous[c]	W Composite[c]	Principal Gamma Emitters[g,f]	5×10^{-7}
			I-131	1×10^{-6}
	M GRAB Sample	M	Dissolved and Entrained Gases (gamma emitters)	1×10^{-5}
	Continuous[c]	M Composite[c]	H-3	1×10^{-5}
			Gross alpha	1×10^{-7}
	Continuous[c]	Q Composite[c]	Sr-89, Sr-90	5×10^{-8}
			Fe-55	1×10^{-6}
			P-32	1×10^{-6}

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 88 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 June 24, 1983, GPU Nuclear Corporation (the licensee) transmitted Technical Specification Change Request No. 128 requesting amendment to Appendix A of Facility Operating License No. DPR-50. The subject change involves Sections 3.21.1, 4.21.1 and 4.22.1 of the Technical Specifications for TMI-1. The licensee has stated that the reason for the proposed change is to transfer the station discharge effluent monitoring responsibility from monitor RM-L7 to the new monitor, RM-L12, which provides better sensitivity for iodine detection. RM-L7 is located on the station discharge effluent line. RM-L12 will be located upstream at the Industrial Waste Treatment System (IWTS)/Industrial Waste Filter System (IWFS) common discharge, before the effluent is diluted by the flow from the mechanical draft cooling tower. This location would provide better detection and resolution of any radioactive discharge through the station discharge effluent line.

Background

The licensee has proposed to amend Section 3.21.1 by deleting "RM-L7" from the footnote under "Applicability" and by adding two footnotes under "Applicability." One footnote would state that operability of RM-L12 and associated IWTS/IWFS flow interlocks is not required when discharges are positively controlled through the closure of IW-V-72, 75 and IW-V-280, 281. The other footnote to be added would state that operability of FT-146 is not required when discharges are positively controlled through the closure of WDL-V-257, IW-V-72, 75, and IW-V-280, 281. The licensee has proposed to further amend Section 3.21.1 by deleting "Station Effluent Line (RM-L7)" from Table 3.21-1 under the heading "Gross Radioactivity Monitors Not Providing Automatic Termination of Release" and by adding "IWTS/IWFS Discharge Line (RM-L12)" to Table 3.21-1 under the heading "Gross Radioactivity Monitors Providing Automatic Termination of Release." The licensee has also proposed to further amend Section 3.21.1 by stating in Table 3.21-1, Action 20, that samples are also required to be collected and analyzed prior to initiating a release as well as at least once per 8 hours during release.

The licensee has also proposed to amend Section 4.21.1 by deleting "Station Effluent Line (RM-L7)" from Table 4.21-1 under the heading "Gross Beta or Gamma Radioactivity Monitors Providing Alarm But Not Providing Automatic Termination of Release" and by adding "IWTS/IWFS Discharge Line (RM-L12)" under the heading "Radioactivity Monitors Providing Alarm and Automatic Isolation." The licensee has also proposed to amend Section 4.22.1 by deleting "(RM-L7)" from Table 4.22-1.

Evaluation

Technical Specification 3.21.1 provides that the radioactive liquid effluent monitoring instrumentation channels shown in Table 3.21-1 be operable at all times with their alarm/trip setpoints set to ensure that the limits of Technical Specification 3.22.1.1 are not exceeded. Table 3.21-1 also prescribes the action to be taken when the number of channels operable is less than the minimum number of channels operable tabulated for any of the instrumentation channels.

Technical Specification 4.21.1 provides that each radioactive liquid effluent monitoring instrumentation channel be demonstrated operable by performance check, calibration, and test operations during the modes and at the frequencies shown in Table 4.21.1. Technical Specification 4.22.1 provides that radioactive liquid waste sampling and analysis be done in accordance with Table 4.22-1.

The purpose of the Technical Specifications which the licensee seeks to amend is twofold:

(1) to ensure that the concentration of radioactive materials released from the site in liquid effluents does not exceed the maximum permissible concentration (MPC) set by 10 CFR 20, and

(2) to provide data on the quantities of radioactive materials released in liquid effluents.

NUREG-0472 provides radiological effluent Technical Specifications for pressurized water reactors which we find to be an acceptable standard for licensing actions. Further clarification of these acceptable methods is provided in NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants." NUREG-0133 describes methods found acceptable to the NRC staff for the calculation of certain key values required in the preparation of proposed radiological effluent Technical Specifications for light-water-cooled nuclear power plants. NUREG-0133 also

provides guidance to licensees in preparing requests for changes to existing radiological effluent Technical Specifications for operating reactors. It also describes current NRC staff positions on the methodology for estimating radiation exposure due to the release of radioactive materials in effluents and on the administrative control of radioactive waste treatment systems.

The above NUREG documents address all of the radiological effluent Technical Specifications needed to assure compliance with the guidance and requirements provided by 10 CFR 20. However, alternative approaches to the preparation of radioactive effluent Technical Specifications may be acceptable if we determine that the alternatives are in compliance with the regulations and with the intent of the regulatory guidance.

The proposed changes to the Technical Specifications for TMI-1 have been reviewed, evaluated, and found to be in compliance with the requirements of the NRC regulations and with the intent of NUREG-0133 and NUREG-0472 (TMI-1 utilizes a pressurized water reactor). We have also determined that the nonradioactive flow from the mechanical draft cooling tower would dilute the station discharge effluent and that moving the monitor upstream should provide better detection and resolution of any radioactive discharge through the station discharge effluent line. We also agree that the automatic termination feature of the new monitor on high radiation detection should provide added protection against inadvertent releases offsite via this release path.

Summary

In view of the above considerations, we have concluded that moving the monitoring upstream and using a monitor which provides better sensitivity for iodine detection is acceptable, and therefore, the proposed amendment to Sections 3.21.1, 4.21.1, and 4.22.1 of the TMI-1 Technical Specifications is acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not 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: October 14, 1983

The following NRC personnel have contributed to this Safety Evaluation:
C. Nichols

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 88 TO FACILITY OPERATING LICENSE NO. DPR-50

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

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-289

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Dated: October 14, 1983

The following NRC personnel have contributed to this Safety Evaluation:
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OFFICE							
SURNAME							
DATE							