April 12, 1989

Docket No. 50-320

Mr. Michael B. Roche
Vice President/Director
Three Mile Island Unit 2
GPU Nuclear Corporation
P. O. Box 480
Middletown, Pennsylvania 17057

Dear Mr. Roche:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 67858)

The Commission has issued the enclosed Amendment No. 33 to Facility Operating License No. DPR-73 for the Three Mile Island Nuclear Station, Unit No. 2, in response to your letter dated April 4, 1988 (Technical Specification Change Request No. 59).

The amendment modifies Appendix B Technical Specification by revising certain surveillance terms and definitions consistent with the meaning and usage in the Appendix A Technical Specifications.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's bi-weekly Federal Register notice.

Sincerely,

/s/

Michael T. Masnik, Senior Project Manager
Project Directorate I-4
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 33 to DPR-73
2. Safety Evaluation

cc w/enclosures:
See next page

[5520 Document Name: AMEND TAC 67858]

LA:PDI-4	PM:PDI-4	PD:PDI-4	OGC
SNorris	MMasnik:lm	JStolz	
02/22/89	02/23/89	03/24/89	03/30/89

DF01

DATED: April 12, 1989

AMENDMENT NO. 33 TO FACILITY OPERATING LICENSE NO. DPR-73

THREE MILE ISLAND UNIT 2

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

April 12, 1989

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Vice President/Director
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GPU Nuclear Corporation
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Dear Mr. Roche:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 67858)

The Commission has issued the enclosed Amendment No. 33 to Facility Operating License No. DPR-73 for the Three Mile Island Nuclear Station, Unit No. 2, in response to your letter dated April 4, 1988 (Technical Specification Change Request No. 50).

The amendment modifies Appendix B Technical Specification by revising certain surveillance terms and definitions consistent with the meaning and usage in the Appendix A Technical Specifications.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's bi-weekly Federal Register notice.

Sincerely,

Michael T. Masnik, Senior Project Manager
Project Directorate I-4
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

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Mr. M. B. Roche
GPU Nuclear Corporation

cc:

Three Mile Island Nuclear Station
Unit No. 2

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

GPU NUCLEAR CORPORATION

DOCKET NO. 50-320

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 33
License No. DPR-73

. The Nuclear Regulatory Commission (the Commission) has found that:

A. The application for amendment by GPU Nuclear Corporation (the licensee) dated April 4, 1988 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.

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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 33, 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, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Director
Project Directorate I-4
Division of Reactor Projects 1/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 12, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 33

FACILITY OPERATING LICENSE NO. DPR-73

DOCKET NO. 50-320

Replace the following pages of the Appendix B Technical Specifications with the attached pages. The revised pages are identified by amendment number 33 and contain vertical lines indicating the area of change.

Remove	Insert
Page 1-1	Page 1-1
Page 1-2	Page 1-2
Page 1-3	Page 1-3
Page 2-3	Page 2-3
Page 2-10	Page 2-10
Page 2-15a	Page 2-15a
Page 2-15c	Page 2-15c

1.0 Definitions

Accuracy: Refers to the deviation of a result obtained by a particular method from the value accepted as true.

Aerial Remote Sensing: The measurement or acquisition from aircraft or spacecraft of information on some property of an object or phenomenon by a recording device that is not in physical or intimate contact with the object or phenomenon under study. The technique employs such devices as the camera, radio frequency receivers, and radar systems.

Batch Release: A batch release is the discharge of fluid wastes of a discrete volume.

Calibration: An instrument or device calibration shall be the adjustment, as necessary, of the output such that it responds with the necessary range and accuracy to known values of the parameter(s) which the instrument sensor or device monitors. The calibration shall encompass the entire circuit including the sensor, indicatory control feature, alarm and/or trip function(s), and shall include the Channel Functional Test. The calibration may be performed by any series of sequential, overlapping or total circuit steps such that the entire circuit is calibrated as specified.

Channel Check: A qualitative assessment of channel behavior during operation by observation. This determination should include, where possible, comparison of the channel indication and/or status with other indication and/or status derived from independent instrument channels measuring the same parameter. (NOTE: For radioactive effluent monitors this shall include a verification which provides a qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.)

Channel Functional Test:

a. Analog Channels - the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY including alarm and/or trip functions.

b. Bistable Channels - The injection of a simulated signal into the channel sensor to verify OPERABILITY including alarm and/or trip functions.

Closed Cycle Cooling: The condenser cooling method in which the circulating water, after passing through cooling towers, is recirculated back to the condenser intake with the exception of the blowdown which is discharged to the receiving water body.

Combined Available Chlorine: Chlorine existing in water in chemical combination with ammonia or organic nitrogen compounds.

Composite Sample: A combination of individual samples obtained at regular intervals over a time period. Either the volume of each individual sample is proportional to the low rate discharge at the time of sampling or the number of equal volume samples is proportional to the time period used to produce the composite.

Continuous Release: A continuous release is the discharge of fluid waste of a non-discrete volume, e.g., from a volume or system that has an input flow during the continuous release.

Daily Average Concentration: Daily average concentration means the arithmetic average of all daily determinations of concentration made during a calendar month. Daily determinations of concentration using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average of all the samples collected during that calendar day.

Daily Maximum Concentration: Daily maximum concentration means the maximum concentration recorded for any calendar day.

Free Available Chlorine: Chlorine existing in water as hypochlorous acid and hypochlorite ions.

Grab Sample: A grab sample is an individual sample collected in less than fifteen minutes.

Ground Truth or Ground Data Survey: Supporting data collected on the ground and information derived therefrom, as an aid to the interpretation of remotely-recorded survey, such as aerial imagery, etc. Generally, this should be performed concurrently with the airborne surveys.

Herbicides: Chemicals that kill plants or inhibit their normal growth.

Infrared, Photographic: Pertaining to or designating the portion of the electromagnetic spectrum with wavelengths just beyond the red end of the visible spectrum; generally defined as from 0.7 to about 1.0 um, or the useful limits of film sensitivities.

Lake Frederic: Formerly York Haven Reservoir.

Manner of Herbicide Application

a. Basal injection in which selected individual trees receive herbicide injections beneath the bark;

b. Basal application in which individual plants are treated with pellets or sprays applied to soil at the base of the plant;

c. Selective foliar spray (spot treatments or directed spray) in which individual plants are sprayed with ground-based equipment;

d. Broadcast application in which herbicide is distributed either as pellets or spray uniformly over the entire predetermined area of land;

e. Aerial application in which entire segments of the corridor are treated primarily by broadcast applications employing various types of aircraft.

Multispectra or Multiband Photographs: A color picture produced by assigning a color to a particular spectral band.

Normal Operation: Operation of either unit at the station at greater than 2% of rated thermal power in other than a safety or power emergency situation.

NPDES Permit: NPDS Permit is the National Pollutant Discharge Elimination System Permit No. PA0009920 issued by the Environmental Protection Agency to Metropolitan Edison Company. This permit authorizes Metropolitan Edison Company to discharge from TMINS, controlled waste water into the waters of the Commonwealth of Pennsylvania.

Precision: Relates to the reproducibility of measurements within a set, that is, to the scatter or dispersion of a set about its central value.

Protected Areas: Ecological areas designated by the staff to receive special mitigative actions such as selected vegatative communities bordering rivers or streams which are not to receive herbicidal applications, etc.

Sampling Frequency: The frequency of sampling specified for the performance of surveillance requirements shall correspond to the intervals defined in Table 1.1.

Scale: The ratio of a distance on a photograph or map to its corresponding distance on the ground.

Spectral Band: A width, generally expressed in wavelength or frequency of a particular portion of the electromagnetic spectrum. A given sensor (e.g., radiometer detector or camera film) is designed to measure or be sensitive to energy received from that part of the spectrum.

Station and Unit: Station refers to TMI Units 1 and 2. Unit refers only to TMI-1 or TMI-2, as defined by its usage. Reference to specific instrumentation will be indicated by placing each unit's instrument number in parentheses, Unit 1 preceding Unit 2. Only the individual unit's instrument is applicable to specifications applied to that unit.

Total Residual Chlorine: (residual chlorine) chlorine existing in water as either hypochlorous acid, hyhypochlorite or in chemical combination with ammonia or organic nitrogen compounds.

Surveillance Requirements: Each Surveillance Requirement shall be performed within the specified time interval with:

a. A maximum allowable extension not to exceed 25% of the surveillance interval, and

b. A total maximum combined interval time for any 4 consecutive tests not to exceed 3.25 times the specified surveillance interval.

LIMITING CONDITIONS FOR OPERATION	2.0	MONITORING REQUIREMENTS

Specification (Cont'd)

"For the purposes of this specification, the MPC_w (168 hour) for Xe-133 is 5×10^{-3} mCi/ml. The MPC_w (168 hour) for Xe-135 is 1×10^{-4} mCi/ml".

f. The dose or dose commitment from liquid effluents shall be less than or equal to 3 mrem total body and less than or equal to 10 mrem to any organ for the calendar year.

Specification (Cont'd)

E. Radioactive liquid waste sampling and activity analysis shall be performed in accordance with Table 2.3-1. Prior to the release of each batch of liquid effluent, a sample shall be taken from that batch and analyzed for the concentration of each significant gamma emitter to demonstrate compliance with Specification "a" using the flow into which the effluent is discharged.

F. The liquid effluent radiation monitor WDL-R-131 shall be calibrated at least quarterly by means of a known radioactive source. WDL-R-131 shall also have a Channel Functional Test monthly and a Channel Check prior to each discharge to verify that the read-out device is indicating as expected.

G. The ability of WDL-V-99 to close automatically on receipt of a high radiation alarm signal from WDL-R-1311 shall be checked annually.

Bases

Liquid radioactive waste release levels to unrestricted areas should be kept "as low as practicable" and are not to exceed the concentration limits specified in 10 CFR 20. The specifications provide reasonable assurance that the resulting annual exposure to an individual in off site areas will not exceed the design objectives of Appendix I to 10 CFR Part 50, which were established as requirements for the cleanup of TMI-2 in the NRC's Statement of Policy of April 27, 1981. This assurance is based on the fact that the Susquehanna River will dilute the liquid effluents upon their release

Bases

Specifications A, B, and C, above require that suitable equipment to monitor the release of radioactive materials in liquid effluents are operating during any period these releases are taking place.

The surveillance requirements given in the remaining specifications provide assurance that liquid wastes are properly controlled and monitored during any planned release of radioactive materials in liquid effluents.

LIMITING CONDITIONS FOR OPERATION	2.0	MONITORING REQUIREMENTS

Specification (Cont'd)

F. During power operation, the condensor vacuum pump discharge shall be continuously monitored for gross gaseous activity. The monitor shall not be inoperable for more than a week. Whenever this monitor is inoperable, a grab sample shall be taken daily and analyzed for gross radioactivity. (β γ).

G. Facility records shall be maintained of radioactive concentration, release ratio and volume of each batch of gaseous effluents released and the length of time over which release occurred. Estimates of the error associated with each reported value should be included in facility records.

H. At least annually, automatic initiation and closure of the Waste Gas Decay Tank Discharge valve on alarm of (Unit 2: WDG-R-1480) shall be verified.

I. The Unit Vent monitors for TMI-2 (HP-R-219, HP-R-219A, HP-R-225, HP-R-226), respectively, shall be calibrated at least every eighteen months by means of a known radioactive source. These detectors shall have a Channel Functional Test at least monthly, and a Channel Check at least daily, to verify that the read-out device is indicated as expected.

Bases

The specified levels provide reasonable assurance that the resulting annual exposure rate from noble gases at any location at the site boundary will not exceed 10 millirems per year. At the same

Bases

Specification A. through I., above, require that suitable equipment to monitor the radioactive gaseous releases are operating during any period these releases are taking place.

2.1.3 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

The radioactive gaseous effluent monitoring instrumentation channels shown in Table 2.1-3a shall be OPERABLE.

APPLICABILITY: As shown in Table 2.1-3a.

Action:

With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 2.1-3a.

SURVEILLANCE REQUIREMENTS

Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 2.1-3b (per occupational exposure considerations and detector sensitivity in ambient radiation areas).

BASES

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criterion 64 of Appendix A to 10 CFR Part 50.

TABLE 2.1-3b

RADIOACTIVE GASEOUS EFFLUENT MONITORING
INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
10.	EPICOR-II VENTILATION SYSTEM			
a.	Noble Gase Activity Monitor	D	R(3)	Q(2)
b.	Deleted			
c.	Particulate Sampler	W	N.A.	N.A.
d.	Flow Rate Monitor	D	SA	SA
e.	Sampler Flow Rate Monitor	D	SA	SA

TABLE NOTATION

(2) CHANNEL FUNCTIONAL TEST shall also demonstrate that control room alarm annunication occurs if any of the following conditions exist.

1. Instrument indicates measured levels above the alarm setpoint.
2. Circuit failure (alarm function only).
3. Instrument indicates a downside failure (alarm function only).
4. Instrument controls not set in operate mode or the switch position administratively monitored and controlled

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the referenced standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 33 TO FACILITY OPERATING LICENSE NO. DPR-73

GPU NUCLEAR CORPORATION

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 2

DOCKET NO. 50-320

1.0 INTRODUCTION

By letter dated April 4, 1988, GPU Nuclear Corporation (GPUN or the licensee) requested the approval of a change to the Appendix B Technical Specifications of Facility Operating License No. DPR-73 for Three Mile Island Nuclear Station, Unit No. 2. The proposed amendment would revise certain surveillance terms and definitions in the Appendix B Technical Specifications consistent with the meaning in the Appendix A Technical Specifications.

2.0 DISCUSSION AND EVALUATION

Section 1

The licensee proposes a change in the definition of the term "Calibration." The term "functional test" contained in the current definition of "calibration" would be changed to "channel functional test." The change is consistent with the Appendix A Technical Specification usage of "channel functional test" and is necessitated by the deletion of the term "functional test" and its replacement by "channel functional test" described below. This represents an administrative change in terminology. The staff finds the proposed change acceptable.

The licensee proposes to replace the term and associated definition for "Functional Check" with "Channel Functional Test". The term "Channel Functional Test" and its associated definition would be identical to that found in the Appendix A Technical Specifications. This represents an administrative change in terminology. The staff finds the proposed change acceptable.

The licensee proposes to delete the term "Functional Test" and its associated definition and substitute the term "Channel Check" and its associated definition. The licensee proposed definition, contained in their April 4, 1988 letter, is identical to that used in the Appendix A Technical Specification. In the licensee's April 4, 1988 submittal the definition of "Channel Check" did not specify a periodic source check for radioactive effluent monitors. After discussions with the licensee, the licensee proposed wording that would include the requirement for a periodic source check of the requirements for a periodic source check of sensors. The staff finds that the wording requiring a source check in the definitions of "Channel Check" acceptable and is included in the definition.

The staff finds that the new term and definition, as modified above, represents an administrative change in terminology and is acceptable.

Section 2.1., Liquid Effluents, defines the limits and conditions for the controlled release of liquid radioactive effluents to the environment. This section also specifies the surveillance requirements for the monitoring equipment. The licensee is currently required to perform an instrument channel test monthly and a source check prior to each liquid discharge. The licensee proposes to change the terminology such that the liquid radiation monitor receives a channel functional test monthly and a channel check prior to each liquid discharge. This change is a change in the surveillance terminology consistent with the charge in Section 1 above. This again represents an administrative change and the staff finds the proposed change acceptable.

Section 2.1.2, Gaseous Effluents, defines the limits and condition for the controlled release of radioactive gaseous effluents to the environment. This section also specifies the surveillance requirements for the monitoring equipment. The licensee is currently required to perform an instrument channel check at least monthly and a sensor check at least daily. The licensee proposes to change the terminology such that the vent monitors receive a channel functional test at least monthly and a channel check at least daily. This change is a change in the surveillance terminology consistent with the charge in Section 1 above. This represents an administrative change and the staff finds the change acceptable.

Section 2.1.3, Radioactive Gaseous Effluent Monitoring Instrumentation requires that each channel of each radioactive gaseous effluent monitor demonstrate operability by performance of a channel check, source check, channel calibration and channel functional test operations at specific intervals of time. The licensee proposes to delete the requirement for a monthly source check. The licensee finds that the methodology used for performing the daily channel check on the current monitor verifies the same degree of operability as the monthly source check. The staff agrees with the licensee and finds the proposed change appropriate.

Table 2.1-36 specifies the time intervals for the various instrument surveillance requirements. The current Technical Specifications require a monthly source check for the noble gas activity monitor. The licensee proposes to delete this requirement from the table consistent with the proposed deletion of the requirement from Section 2.1.3, Radioactive Gaseous Effluent Monitoring Instrumentation, discussed above. This represents an administrative change to provide consistency between the Technical Specification and a table referenced in the Technical Specification. The staff finds the proposed change acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance terms and definitions. The staff has 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 off site, and that there is no significant increase in individual or cumulative occupational radiation exposure. The staff has previously published a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding. Accordingly, the 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.

4.0 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: Michael T. Masnik

Dated: April 1, 1985