UNIT 1 LICENSE/TECH. SPEC. CHANGE INSTRUCTION MEMO

CORRECT ADDRESS IF NECESSARY →

U. S. NUCLEAR REG. COMMISSION
LICENSING DEPARTMENT
WASHINGTON, DC 20555
U 37

RETURN TO: Betty Nash
Procedure Distribution Control
Unit 2 Admin. Bldg.

Date 1-16-85

Please update your Unit 1 Technical Specifications with the attachments as instructed below. Also, please sign the acknowledgment at the bottom of this memo and return to Betty Nash at the address shown above.

X License Ammendment Number 103 __ Order for Modification of License

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ADDITIONAL INSTRUCTIONS/COMMENTS

Amendment 103 was issued 12-21-84 and received 01-03-85 as a result of conditions imposed by the ASLB and became effective as of the date of issuance (12-21-84). The entire Operating License is also being issued with this amendment.

A001
1/1

I hereby acknowledge receipt of the items above and have complied with the instructions.

(Signature) (Ext. No.) (Date)

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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. 103
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 May 9, 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 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.

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2. Accordingly, Facility Operating License No. DPR-50 is hereby amended as indicated below and by changes to the Technical Specifications as indicated in the attachment to this license amendment.

A. Revise paragraph 2.c.(2) to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 103 , are hereby incorporated in the license. The GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

B. Revise paragraph 2.c.(8) to read as follows:

Repaired Steam Generators

In order to confirm the leak-tight integrity of the Reactor Coolant System, including the steam generators, operation of the facility shall be in accordance with the following:

1. Prior to initial criticality, GPU Nuclear Corporation shall submit to NRC the results of the steam generator hot test program and a summary of its management review.

2. GPU Nuclear Corporation shall confirm the baseline primary-to-secondary leakage rate established during the steam generator hot test program. If leakage exceeds the baseline leakage rate by more than 0.1 GPM, the facility shall be shut down and leak tested. If any increased leakage above baseline is due to defects in the tube free span, the leaking tube(s) shall be removed from service. The baseline leakage shall be reestablished, provided that the leakage limit of Technical Specification 3.1.6.3 is not exceeded.

3. GPU Nuclear Corporation shall complete its post-critical test program at each power range (0-5%, 5%-50%, 50%-100%) in conformance with the program described in Topical Report 008, Rev. 3, and shall have available the results of that test program and a summary of its management review, prior to ascension from each power range and prior to normal power operation.

4. GPU Nuclear Corporation shall conduct eddy-current examinations, consistent with the extended inservice inspection plan defined in Table 3.3-1 of NUREG-1019, either 90 calendar days after reaching full power, or 120 calendar days after exceeding 50% power operation, whichever comes first. In the event of plant operation for an extended period at less than 50% power, GPU Nuclear Corporation shall provide an assessment at the end of 180 days of operation at power levels between 5% and 50%, such assessment to contain recommendations and supporting information as to the necessity of a special eddy-current testing (ECT) shutdown before the end of the refueling cycle. (The NRC staff will evaluate that assessment and determine the time of the next eddy-current examination, consistent with the other provisions of the license conditions.) In the absence of such an assessment, a special ECT shutdown shall take place before an additional 30 days of operation at power above 5%.

5. GPU Nuclear Corporation shall provide routine reporting of the long-term corrosion "lead tests" test results on a quarterly basis as well as more timely notification if adverse corrosion test results are discovered.

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: December 21, 1984

METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER AND LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

GPU NUCLEAR CORPORATION

(Three Mile Island Nuclear Station, Unit 1)

DOCKET NO. 50-289

FACILITY OPERATING LICENSE

1. The Atomic Energy Commission (the Commission) having found that[1]:

   a. The application for license filed by the Metropolitan Edison Company, Jersey Central Power and Light Company, the Pennsylvania Electric Company, (the owners) 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 1 and all required notifications to other agencies or bodies have been duly made;

   b. Construction of the Three Mile Island Nuclear Station, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-40, the application, as amended, the provisions of the Act and the rules and regulations of the Commission;

   c. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   d. There is reasonable assurance: (1) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;

   e. GPU Nuclear Corporation is technically qualified and the owners are financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;[2]

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[1] These findings are virtually of no present significance. The license authorizing GPU Nuclear to operate TMI, Unit 1, is suspended pending the outcome of the TMI-1 restart proceeding. That proceeding will determine whether GPU Nuclear is qualified to operate the facility. Issuance of an amendment, dated September 23, 1931, authorizing GPU Nuclear to assume the prior responsibility of Met Ed under the license, is not intended to influence or otherwise prejudice that proceeding.

[2] See note 1 above.

f. The owners have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

g. The issuance of this operating license will not be inimical to the common defense and security or to the health and safety of the public;

h. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Facility Operating License No. DPR-50 is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and

i. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Section 30.33, 40.32, 70.23 and 70.31.

2. Facility Operating License No. DPR-50 is hereby issued to the Metropolitan Edison Company, Jersey Central Power and Light Company, Pennsylvania Electric Company and GPU Nuclear Corporation to read as follows:

a. This license applies to the Three Mile Island Nuclear Station, Unit 1, a pressurized water reactor and associated equipment (the facility), owned by the Metropolitan Edison Company, Jersey Central Power and Light Company, Pennsylvania Electric Company and operated by GPU Nuclear Corporation. The facility is located in Dauphin County, Pennsylvania and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 47) and the Environmental Report as supplemented and amended (Amendments 1 and 2).

b. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:

(1) GPU Nuclear Corporation, pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility[3]; and Metropolitan Edison Company, Jersey Central Power and Light Company and Pennsylvania Electric Company to possess the facility in accordance with the procedures and limitations set forth in this license;

(2) GPU Nuclear Corporation, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as reactor fuel, sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required for reactor operation;

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[3]See Note 1.

(3) GPU Nuclear Corporation, pursuant to the Act and 10 CFR Part 30, 40 and 70 to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample and analysis, testing, instrument calibration, or associated with radioactive apparatus or components;

(4) GPU Nuclear Corporation, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

c. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

GPU Nuclear Corporation is authorized to operate the facility at steady state reactor core power levels not in excess of 2535 megawatts thermal.[4]

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 103 are hereby incorporated in the license. The GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

[4] See Note 1.

(3) 2.C(3) Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the following Commission approved documents, including amendments and changes consist of information withheld from public disclosure pursuant to 10 CFR 2.790(d):

a. "Three Mile Island Nuclear Station, Unit 1 modified Amended Physical Security Plan", dated February 1, 1978, with Revisions Nos. 1-6 dated June 15, July 25, October 27 and November 17, 1978, and January 22 and February 22, 1979, respectively.

b. "Three Mile Island Nuclear Station, Unit 1 Safeguards Contingency Plan", dated February 22, 1980, as revised May 15, 1980, submitted pursuant to 10 CFR 73.40. The Contingency Plan shall be fully implemented, in accordance with 10 CFR 73.40(b), within 30 days of this approval by the Commission.

c. "Three Mile Island Nuclear Station, Unit 1 Guard Training and Qualification Plan" dates August 15, 1979 as revised December 19, 1980. This Plan shall be followed in accordance with 10 CFR 73.55(b)(4), 60 days after approval by the Commission. All security personnel, as required by the above plans, shall be qualified within two years of this approval. The licensee may make changes to this plan without prior Commission approval if changes do not decrease the safeguards effectiveness of the plan. The licensee shall maintain records of and submit reports concerning such changes in the same manner as required for changes made to the Safeguards Contingency Plan pursuant to 10 CFR 50.54(p).

(4) The Licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.23 of the NRC's Fire Protection Safety Evaluation (SE) on the facility dated September 19, 1978 and supplements thereto.

These modifications shall be completed as specified in Table 3.1 of the SE or supplements thereto. In addition, the Licensee shall submit the additional information identified in Table 3.2 of this SE in accordance with the schedule contained therein. In the event these dates for submittal cannot be met, the Licensee shall submit a report, explaining the circumstances, together with a revised schedule.

(5) The Licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

a. Identification of a sampling schedule for the critical parameters and control points for these parameters;

b. Identification of the procedures used to measure the values of the critical parameters;

c. Identification of process sampling points;

d. Procedure for the recording and management of data;

e. Procedures defining corrective actions of off control point chemistry conditions; and

f. A procedure identifying (1) the authority responsible for the interpretation of the data, and (2) the sequence and timing of administrative events required to initiate corrective action.

(6) Inservice Testing

1. The licensee may proceed with and is required to implement the Inservice Testing Program which satisfies the requirements of 10 CFR 50.55(a) in accordance with the supporting staff Safety Evaluation dated

2. The licensee may proceed with and is required to complete the modifications necessitated by the Inservice Testing Program. Am.71

3. The licensee shall propose alternatives to inservice tests, with appropriate justification for each of the items listed in Table 2.2 of the supporting staff Safety Evaluation dated August 3, 1981, by the dates indicated in Table 2.2.

(7) Aircraft Movements

Sixty (60) days following the report on aircraft movements at the Harrisburg International Airport for the calendar year 1984 pursuant to Technical Specification 6.9.1.B.2.b, a report shall be submitted updating the aircrash probability analysis presented by Metropolitan Edison Company to the Atomic Safety and Licensing Appeal Board in the Three Mile Island, Unit No. 2 operation license proceeding (Docket No. 50-320). Such report shall utilize current data on aircraft movements at the Harrisburg International Airport and updated national aerial crash rates and shall be based on the same methodology presented by Metropolitan Edison Company as accepted by the Appeal Board in ALAB-692. Following receipt of such report NRC will, after discussion with GPU Nuclear Corporation, determine the need for further periodic aircrash probability analyses. Am.82

(8) Repaired Steam Generators

In order to confirm the leak-tight integrity of the Reactor Coolant System, including the steam generators, operation of the facility shall be in accordance with the following:

1. Prior to initial criticality, GPU Nuclear Corporation shall submit to NRC the results of the steam generator hot test program and a summary of its management review.

2. GPU Nuclear Corporation shall confirm the baseline primary-to-secondary leakage rate established during the steam generator hot test program. If leakage exceeds the baseline leakage rate by more than 0.1 GPM, the facility shall be shut down and leak tested. If any increased leakage above baseline is due to defects in the tube free span, the leaking tube(s) shall be removed from service. The baseline leakage shall be reestablished, provided that the leakage limit of Technical Specification 3.1.6.3 is not exceeded.

3. GPU Nuclear Corporation shall complete its post-critical test program at each power range (0-5%, 5%-50%, 50%-100%) in conformance with the program described in Topical Report 008, Rev. 3, and shall have available the results of that test program and a summary of its management review, prior to ascension from each power range and prior to normal power operation. Am.103

4. GPU Nuclear Corporation shall conduct eddy-current examinations, consistent with the extended inservice inspection plan defined in Table 3.3-1 of NUREG-1019, either 90 calendar days after reaching full power, or 120 calendar days after exceeding 50% power operation, whichever comes first. In the event of plant operation for an extended period at less than 50% power, GPU Nuclear Corporation shall provide an assessment at the end of 180 days of operation at power levels between 5% and 50%, such assessment to contain recommendations and supporting information as to the necessity of a special eddy-current testing (ECT) shutdown before the end of the refueling cycle. (The NRC staff will evaluate that assessment and determine the time of the next eddy-current examination, consistent with the other provisions of the license conditions.) In the absence of such an assessment, a special ECT shutdown shall take place before an additional 30 days of operation at power above 5%.

5. GPU Nuclear Corporation shall provide routine reporting of the long-term corrosion "lead tests" test results on a quarterly basis as well as more timely notification if adverse corrosion test results are discovered.

This licenpe is effective as of the date of issuance and shall expire at midnight, May 18, 2008.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by
A. Giambusso

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Attachment: Appendices A and B
Technical Specifications

Date of Issuance: April 19, 1974

11-2-81

ATTACHMENT TO LICENSE AMENDMENT NO. 103

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 areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

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RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.21.2 The radioactive gaseous process and effluent monitoring instrumentation channels shown in Table 3.21-2 shall be OPERABLE with their Alarm/Trip setpoints set to ensure that the limits of Specification 3.22.2.1 are not exceeded. The Alarm/Trip setpoints of these channels shall be determined in accordance with the ODCM.

APPLICABILITY: As shown in Table 3.21-2

ACTION:

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

b. With less than the minimum number of radioactive gaseous process or effluent monitoring instrumentation channels operable, take the ACTION shown in Table 3.21-2.

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. The alarm/trip setpoints for these instruments shall be calculated in accordance with NRC approved methods in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20.

The low range condenser offgas noble gas activity monitors also provide data for determination of steam generator primary to secondary leakage rate. Channel operability requirements are based on an ASLB Order dated October 31, 1984.

TABLE 3.21-2

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
1. Waste Gas Holdup System			
a. Noble Gas Activity Monitor (RM-A7)	1	***	25
b. Effluent System Flow Rate Measuring Device (FT-46)	1	***	26
2. Waste Gas Holdup System Explosive Gas Monitoring System			
a. Hydrogen Monitor	1	* *	30
b. Oxygen Monitor	1	* *	30

Amendment No. 24, 103

3-101

TABLE 3.21-2 (Continued)

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
3. Containment Purge Monitoring System			
a. Noble Gas Activity Monitor (RM-A9)	1	*	27
b. Iodine Sampler (RM-A9)	1	*	31
c. Particulate Sampler (RM-A9)	1	*	31
d. Effluent System Flow Rate Measuring Device (FR-148)	1	*	26
e. Sampler Flow Rate Monitor	1	*	26

TABLE 3.21-2 (Continued)

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
4. Condenser Vent System			
a. Low Range Noble Gas Activity Monitor (RM-A5Lo and Suitable Equivalent)	2(1)	*	32

Note 1: For one of the channels, an operable channel may be defined for purposes of this specification and 4.21.2 only as a suitable equivalent monitoring system capable of being placed in service within one hour. A suitable equivalent system shall include instrumentation with comparable sensitivity and response time to the RM-A5Lo monitoring channel. When the equivalent monitoring system is in service, indication will be continuously available to the operator, either through indication and alarm in the control room or through communication with a designated individual continuously observing local indication.

Amendment No. 32, 103

3-103

TABLE 3.21-2 (Continued)

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
5. Auxiliary and Fuel Handling Building Ventilation System			
a. Noble Gas Activity Monitor (RM-A8) or (RM-A4 and RM-A6)	1	*	27
b. Iodine Sampler (RM-A8) or (RM-A4 and RM-A6)	1	*	31
c. Particulate Sampler (RM-A8) or (RM-A4 and RM-A6)	1	*	31
d. Effluent System Flow	1	*	26
e. Sampler Flow Rate Monitor	1	*	26

TABLE 3.21-2
(Continued)

TABLE NOTATION

d. Prior to degas operations, a grab sample shall be taken and analyzed. If the hydrogen concentration is greater than 1%, nitrogen shall be added to reduce the hydrogen concentrations to less than 1%. During the degas operation, a grab sample shall be taken and analyzed every 4 hours. Following the initial makeup tank discharge, take and analyze a grab sample for hydrogen, if the hydrogen concentration is greater than 1.0%, nitrogen shall be added to reduce the hydrogen concentration to less than 1.0%.

† If the hydrogen monitor is operational, hydrogen monitor results may be used rather than grab sample analysis for hydrogen. Alternately, if the oxygen monitor is operational, oxygen monitor results may be used rather than grab sample analysis for oxygen.

2. If the channel is not OPERABLE within seven days, a telephone call will be made by the Vice President of TMI-1 (or his designate) to the Director of Region I Office of Inspection and Enforcement (or his designate) describing the reasons for the delay and the corrective actions being taken. A written report documenting reasons for the delay and corrective actions taken will be forwarded within 48 hours of the telephone notification.

ACTION 31 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 28 days, provided, that within 4 hours after the channel has been declared inoperable, samples are continuously collected with auxiliary sampling equipment.

ACTION 32 With the number of channels OPERABLE less than required by the minimum channels OPERABLE requirements, effluent releases via this pathway may continue for up to 28 days, provided that one OPERABLE channel remains in service or is placed in service within one hour. After 28 days, or if one OPERABLE channel does not remain in service or is not placed in service within one hour, the provisions of 3.0.1 apply.

b. The steam generator shall be determined OPERABLE after completing the corresponding actions (removal from service by plugging, or repair by the kinetic expansion process, of all tubes exceeding the repair limit and all tubes containing throughwall cracks) required by Table 4.19.2.

4.19.5 Reports

a. Following the completion of each inservice inspection of steam generator tubes, the number of tubes repaired or removed from service in each steam generator shall be reported to the NRC within 15 days.

b. The complete results of the steam generator tube inservice inspection shall be reported to the NRC within 3 months following completion of the inspection. This report shall include:

1. Number and extent of tubes inspected.

2. Location and percent of wall-thickness penetration for each indication of an imperfection.

3. Identification of tubes repaired or removed from service.

c. Results of steam generator tube inspections which fall into Category C-3 and require prompt notification of the NRC shall be reported pursuant to Specification 6.9.2 prior to resumption of plant operation. The written followup of this report shall provide a description of investigations conducted to determine cause of the tube degradation and corrective measures taken to prevent recurrence.

Bases

The Surveillance Requirements for inspection of the steam generator tubes ensure that the structural integrity of this portion of the RCS will be maintained.