

Mr. John B. Cotton  
 Vice President - TMI Unit 1  
 AmerGen Energy Company  
 P.O. Box 480  
 Middletown, PA 17057

March 14, 2000

SUBJECT: TMI-1 - AMENDMENT RE: TSCR NO. 275 - ADMINISTRATIVE AND BASES RELATED CHANGES (TAC NO. MA5455)

Dear Mr. Cotton:

The Commission has issued the enclosed Amendment No. 222 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit 1, (TMI-1) in response to your application dated May 13, 1999.

The amendment revises the TMI-1 Facility Operating License No. DPR-50, Sections 2.a., 2.c.(3) and 2.c.(7) to provide administrative updating and makes a change to the Bases of Technical Specification Section 3.1.1.

A copy of the related safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Timothy G. Colburn, Senior Project Manager, Section 1  
 Project Directorate I  
 Division of Licensing Project Management  
 Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosures: 1. Amendment No. 222 to DPR-50  
 2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 14, 2000

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

AMERGEN ENERGY COMPANY, LLC

DOCKET NO. 50-289

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 222  
License No. DPR-50

1. The Nuclear Regulatory Commission (the Commission or NRC) has found that:
  - A. The application for amendment by GPU Nuclear, Inc., et al. (the then-licensee), dated, May 13, 1999, 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.

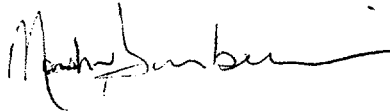
2. Accordingly, the license is amended by changes to Sections 2.a., 2.c.(3), and 2.c.(7) of the operating license and the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.c.(2) of Facility Operating License No. DPR-50 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 222 , are hereby incorporated in the license. AmerGen Energy Company, LLC shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Marsha K. Gamberoni, Acting Chief  
Project Directorate I, Section 1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the License and the  
Technical Specifications

Date of Issuance: March 14, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 222

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

Replace the following pages with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Operating License No. DPR-50

Remove

2  
4  
5

Insert

2  
4  
5

Technical Specifications

Remove

3-2

Insert

3-2

- f. AmerGen Energy Company, LLC has 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 AmerGen Energy Company, LLC 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 and operated by AmerGen Energy Company, LLC. The facility is located in Dauphin County, Pennsylvania, and is described in the "**Updated** Final Safety Analysis Report" as supplemented and amended and the Environmental Report as supplemented and amended.
  - b. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
    - (1) AmerGen Energy Company, LLC, 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 in accordance with the procedures and limitations set forth in this license;

(3) Physical Protection

The license shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain safeguards information protected under 10 CFR 73.21, are entitled: "Three Mile Island, Units 1 and 2, Modified Amended Physical Security Plan," **as revised**; "Three Mile Island, Units 1 and 2, Security Personnel Training and Qualification Plan," **as revised**; and "Three Mile Island, Units 1 and 2, Safeguards Contingency Plan," **as revised**. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

(4) Fire Protection

AmerGen Energy Company, LLC shall implement and maintain in effect all provisions of the Fire Protection Program as described in the Updated FSAR for TM-1.

Changes may be made to the Fire Protection Program without prior approval by the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Temporary changes to specific fire protection features which may be necessary to accomplish maintenance or modifications are acceptable provided that interim compensatory measures are implemented.

(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 - DELETED

(7) Aircraft Movements - DELETED

## Bases

The limitation on power operation with one idle RC pump in each loop has been imposed since the ECCS cooling performance has not been calculated in accordance with the Final Acceptance Criteria requirements specifically for this mode of reactor operation. A time period of 24 hours is allowed for operation with one idle RC pump in each loop to effect repairs of the idle pump(s) and to return the reactor to an acceptable combination of operating RC pumps. The 24 hours for this mode of operation is acceptable since this mode is expected to have considerable margin for the peak cladding temperature limit and since the likelihood of a LOCA within the 24-hour period is considered very remote.

A reactor coolant pump or decay heat removal pump is required to be in operation before the boron concentration is reduced by dilution with makeup water. Either pump will provide mixing which will prevent sudden positive reactivity changes caused by dilute coolant reaching the reactor. One decay heat removal pump will circulate the equivalent of the reactor coolant system volume in one-half hour or less.

The decay heat removal system suction piping is designed for 300°F and 370 psig; thus, the system can remove decay heat when the reactor coolant system is below this temperature (References 1, 2, and 3).

Both steam generators must be operable before heatup of the Reactor Coolant System to insure system integrity against leakage under normal and transient conditions. Only one steam generator is required for decay heat removal purposes.

One pressurizer code safety valve is capable of preventing overpressurization when the reactor is not critical since its relieving capacity is greater than that required by the sum of the available heat sources which are pump energy, pressurizer heaters, and reactor decay heat. Both pressurizer code safety valves are required to be in service prior to criticality to conform to the system design relief capabilities. The code safety valves prevent overpressure for a rod withdrawal or feedwater line break accidents (Reference 4). The pressurizer code safety valve lift set point shall be set at 2500 psig  $\pm 1\%$  allowance for error. **Surveillance requirements are specified in the Inservice Testing Program. Pressurizer code safety valve setpoint drift of up to 3% is acceptable in accordance with ASME Section XI (Reference 5) and the assumptions of TMI-1 safety analysis.**

## References

- (1) UFSAR, Tables 9.5-1 and 9.5-2
- (2) UFSAR, Sections 4.2.5.1 and 9.5 – “Decay Heat Removal”
- (3) UFSAR, Section 4.2.5.4 – “Secondary System”
- (4) UFSAR, Section 4.3.10.4 – “System Minimum Operational Components”
- (5) UFSAR, Section 4.3.7 – “Overpressure Protection”



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 222 TO FACILITY OPERATING LICENSE NO. DPR-50

AMERGEN ENERGY COMPANY, LLC

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

DOCKET NO. 50-289

1.0 INTRODUCTION

By letter dated May 13, 1999, GPU Nuclear, Inc. (the then-licensee), submitted a request for changes to the Three Mile Island Nuclear Station, Unit 1 (TMI-1), technical specifications (TSs). AmerGen Energy Company, LLC, has since adopted this license amendment request. The requested changes would update obsolete references to the Final Safety Analysis Report (FSAR), the Modified Amended Physical Security Plan, the Security Training and Qualification Plan, and the Safeguards Contingency Plan in the license. Additionally, a license condition to submit a report to the Nuclear Regulatory Commission (NRC) for aircraft movement at the Harrisburg International Airport for calendar year 1984, which was submitted on May 1, 1985, is being deleted since this license condition has been met and is not a recurrent condition. A change to TS 3.1.1 Bases is being revised to remove information contained in the Updated FSAR (UFSAR) and add other information related to Inservice Testing Requirements for pressurizer code safety valves. Lastly, two minor grammatical errors were corrected.

2.0 EVALUATION

The licensee proposes to eliminate references to specific amendments to the Final Safety Analysis Report and Environmental Report currently listed in paragraph 2.a of the operating license. The licensee proposes to instead refer to the Updated Final Safety Analysis Report and Environmental Report as supplemented and amended. This would eliminate the need for future revisions to this paragraph in the operating license as these reports are routinely amended and updated. The NRC staff considers this change administrative in nature and therefore, this change is acceptable.

The licensee also proposes to delete references to specific revision dates for the documents titled "Three Mile Island, Units 1 and 2, Modified Amended Physical Security Plan," "Three Mile Island, Units 1 and 2, Security Personnel Training and Qualification Plan," and the "Three Mile Island, Units 1 and 2, Safeguards Contingency Plan" in paragraph 2.c.(3) of the operating license and replace these specific revision dates with the phrase "as revised." This would eliminate the need for future revisions to this paragraph in the operating license as the licensee routinely updates and makes changes to these documents. Changes to these documents are made by the licensee and reviewed by the NRC staff as per the provisions of 10 CFR 50.54(p). The NRC staff considers this change administrative in nature and therefore, this change is acceptable.

The licensee is also requesting deleting an outdated provision of paragraph 2.c.(7) to provide an updated report on aircraft crash probability analysis within 60 days following the calendar year 1984 report to the NRC on aircraft movements at the Harrisburg International Airport. Annual reports on aircraft movement are required to be submitted pursuant to Technical Specification 6.9.1.B.2.b. The license states that the report in question was submitted to the NRC on May 1, 1985, which fulfilled the license condition. Further detailed aircraft crash data and analysis are contained in UFSAR Section 2.4. The NRC staff considers this change administrative in nature and therefore, this change is acceptable.

Two minor grammatical errors were also corrected to add a comma after "AmerGen Energy Company, LLC" in paragraph 2.b.(1) of the license, and to correct the reference to a section of the UFSAR on page 3-2 from plural to singular. These are acceptable to the staff.

The licensee is also proposing a change to the TS Bases Section 3.1.1. The licensee proposes to delete reference to the requirement for ... "each pressurizer code safety valve being capable of relieving 280,000 lb/h [pounds mass per hour] of saturated steam at a pressure not greater than three percent above the set pressure." The licensee additionally proposes to add a statement, "Surveillance requirements are specified in the Inservice Testing Program. Pressurizer code safety valve setpoint drift of up to 3 % [percent] is acceptable in accordance with ASME [American Society for Mechanical Engineers] Section XI [Code] (reference 5) [UFSAR, Section 4.3.7 - "Overpressure Protection"] and the assumptions of the TMI-1 safety analysis." The licensee stated as justification for this proposed change that the value of 280,000 (the actual value currently in the Bases is 280,800 lb/h) is in error and should be 297,846 lb/hr with the valve fully open at 3 percent accumulation according to the nameplate data. The licensee proposes to remove reference to the pressurizer code safety valve flowrate as this information is contained in Table 4.2-8 of the UFSAR. This information relocation is in accordance with provisions of the Standard Technical Specifications for Babcock & Wilcox Plants and is acceptable. The reference to the plus or minus one percent allowable value for the relief setpoint will be retained in the Bases.

The licensee also states, however, that the reference to the 3 percent drift tolerance which is also being deleted is still described by providing the statement that a pressurizer code safety valve drift tolerance is acceptable in accordance with ASME Section XI Code and within the assumptions of the TMI-1 Safety Analysis. During a telephone conversation with the licensee on October 28, 1999, the NRC staff explained to the licensee that the TS requirements (as described in the Bases) for the pressurizer code safety valve to achieve the flow capability at a pressure not greater than three percent above the set pressure was a different requirement than the ASME Code Section XI requirement for setpoint drift of up to 3 percent being acceptable. The former is for the valve to be able to achieve full flow capability by the setpoint pressure plus three percent, while the latter allows for a three percent drift of the actual setpoint before the valve begins to open. The licensee acknowledged the differences in the TS surveillance test requirement and the ASME Code requirement. The licensee further states that they were not intending to replace the deleted statement regarding the capability of the code safety valves to achieve full flow at a pressure three percent above the set pressure with the statement regarding acceptable ASME Code, Section XI, allowable drift. The staff considers these two independent but accurate statements for purposes of describing testing requirements associated with the pressurizer code safety valves. With this understanding, the staff approves the addition of the statement to the Bases regarding ASME Code Section XI, requirements for the pressurizer code safety valves.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The portion of the amendment regarding the change to TS Bases Section 3.1.1 relates to changes in a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant changes 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (64 FR 35206). Accordingly, this portion of 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 portion of the amendment.

The portion of the amendment which deletes the aircraft movement reporting requirement and revises the references in the operating license for the "Three Mile Island, Units 1 and 2, Modified Amended Physical Security Plan," "Three Mile Island, Units 1 and 2, Security Personnel Training and Qualification Plan," and the "Three Mile Island, Units 1 and 2, Safeguards Contingency Plan," relates to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, this portion of the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this portion of the amendment.

Pursuant to 10 CFR 51.21, 51.32 and 51.35, an environmental assessment and finding of no significant impact has been prepared and published in the Federal Register on March 13, 2000 (65 FR 13339) for the portion of the amendment relating to changes in the operating license references to the FSAR and Environmental Report. Accordingly, based on the environmental assessment, the staff has determined that the issuance of the amendment will not have a significant effect on the quality of the human environment.

### 5.0 CONCLUSION

The Commission has 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Colburn

Date: March 14, 2000