

September 24, 1999

Mr. Michael B. Roche  
Vice President and Director  
GPU Nuclear, Inc.  
Oyster Creek Nuclear Generating Station  
P.O. Box 388  
Forked River, NJ 08731

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - ISSUANCE OF  
AMENDMENT RE: ISOLATION CONDENSER MOTOR-OPERATED VALVE  
SURVEILLANCE REQUIREMENTS (TAC NO. MA4456)

Dear Mr. Roche:

The Commission has issued the enclosed Amendment No. 209 to Facility Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station, in response to your application dated December 23, 1998.

The amendment revises the surveillance frequency for verifying the operability of motor-operated isolation valves and condensate makeup valves in the Isolation Condenser Technical Specification 4.8.A.1 and Bases page from once per month to once per 3 months.

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,

original signed by:

Helen N. Pastis, Sr. Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosures: 1. Amendment No. 209 to DPR-16  
2. Safety Evaluation

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

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GPU Nuclear, Inc.  
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Sincerely,

A handwritten signature in cursive script, reading "Helen N. Pastis".

Helen N. Pastis, Sr. Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-219

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2. Safety Evaluation

cc w/encls: See next page

M. Roche  
GPU Nuclear, Inc.

cc:

Mr. David Lewis  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street, NW  
Washington, DC 20037

Deborah Staudinger  
Hogan & Hartson  
Columbia Square  
555 13<sup>th</sup> St., NW  
Washington, DC 20004

Manager Licensing & Vendor Audits  
GPU Nuclear, Inc.  
1 Upper Pond Road  
Parsippany, NJ 07054

Manager Nuclear Safety & Licensing  
Oyster Creek Nuclear Generating Station  
Mail Stop OCAB2  
P. O. Box 388  
Forked River, NJ 08731

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406-1415

Mayor  
Lacey Township  
818 West Lacey Road  
Forked River, NJ 08731

Resident Inspector  
c/o U.S. Nuclear Regulatory Commission  
P.O. Box 445  
Forked River, NJ 08731

Kent Tosch, Chief  
New Jersey Department of  
Environmental Protection  
Bureau of Nuclear Engineering  
CN 415  
Trenton, NJ 08625



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

GPU NUCLEAR, INC.

AND

JERSEY CENTRAL POWER & LIGHT COMPANY

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 209  
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by GPU Nuclear, Inc. et al., (the licensee), dated December 23, 1998, 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-16 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.209 are hereby incorporated in the license. GPU Nuclear, Inc. shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



S. Singh Bajwa, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: September 24, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 209

FACILITY OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3.8-2

4.8-1

Insert

3.8-2

4.8-1

Each condenser containing a minimum total water volume of 22,730 gallons provides 11,060 gallons above the condensing tubes. Based on scram from a reactor power level of 1950 MWt (the design basis power level for the isolation condensers) the condenser system can accommodate the reactor decay heat<sup>(2,3)</sup> (corrected for U-239 and NP-239) for 1 hour and 40 minutes without need for makeup water. One condenser with a minimum water volume of 22,730 gallons can accommodate the reactor decay heat for 45 minutes after scram from 1950 MWt before makeup water is required. In order to accommodate a scram from 1950 MWt and cooldown, a total of 107,500 gallons of makeup water would be required either from the condensate storage tank or from the fire protection system. Since the rated reactor power is 1930 MWt, the above calculations represent conservative estimates of the isolation condenser system capability.

The vent lines from each of the isolation condenser loops to the main steam lines downstream of the main steam lines isolation valves are provided with isolation valves which close automatically on isolation condenser actuation or on signals which close the main steam isolation valves. High temperature sensors in the isolation condenser and pipe areas cause alarm in the control room to alert the operator of a piping leak in these areas.

Specification 3.8.E allows reduction in redundancy of isolation capability for isolation condenser inlet (steam side) isolation valves. Reasonable assurance of isolation capability is provided by testing the operability of the redundant valve. Specification 3.8.F allows short term inoperability of the AC motor-operated isolation condenser outlet (condensate return) valve. It is not necessary to test the redundant DC motor-operated valve as this valve is normally in the closed position. These specifications permit troubleshooting and repair as well as routine maintenance, such as valve stem packing addition or replacement, to be performed during reactor operation without reducing the redundancy of the isolation condenser heat sink function. The out of service time of 4 hours is consistent with that permitted for primary containment isolation valves.<sup>(5)</sup>

Either of the two isolation condensers can accomplish the purpose of the system. If one condenser is found to be inoperable, there is no immediate threat to the heat removal capability for the reactor and reactor operation may continue while repairs are being made. Therefore, the time out of service for one of the condensers is based on considerations for a one out of two system.<sup>(4)</sup> The test interval for operability of the valves required to place the isolation condenser in operation is once/3 months (Specification 4.8). The allotted out of service time for an isolation condenser is conservatively set at seven days. However, if at the time the failure is discovered and the repair time is longer than 7 days, the reactor will be placed in the cold shutdown condition. If the repair time is not more than 7 days the reactor may continue in operation, but as an added factor of conservatism, the motor operated isolation condenser and condensate makeup valves on the operable isolation condenser are tested daily. Expiration of the 7 day period or inability to meet the other specifications requires that the reactor be placed in the cold shutdown condition which is normally expected to take no more than 18 hours. The out of service allowance when the system is required is limited to the run mode in order to require system availability, including redundancy, at startup.

#### 4.8 ISOLATION CONDENSER

**Applicability:** Applies to periodic testing requirements for the isolation condenser system.

**Objective:** To verify the operability of the isolation condenser system.

**Specification:** A. Surveillance of each isolation condenser loop shall be as follows:

<u>Item</u>	<u>Frequency</u>
1. Operability of motor-operated isolation valves and condensate makeup valves.	Once/3 months
2. Automatic actuation and functional test.	Each refueling outage (interval not to exceed 20 months) or following major repair.
3. Shell side water volume check	Once/day
4. Isolation valve (steam side) a. Visual inspection b. External leakage check c. Area temperature check	Each refueling outage Each primary system Leak test Once/shift

**Basis:** Motor-operated valves on the isolation condenser steam and condensate lines and on the condensate makeup line that are normally on standby should be exercised periodically to make sure that they are free to operate. The valves will be stroked full length every time they are tested to verify proper functional performance. This frequency of testing is consistent with instrumentation tests discussed in Specification 4.1. Testing of these components per ASME section XI once every 3 months provides assurance of availability of the system. Also, at this frequency of testing, wearout should not be a problem throughout the life of the plant.

The automatic actuation and functional test will demonstrate the automatic opening of the condensate return line valves and the automatic closing of the isolation valves on the vent lines to the main steam lines. Automatic closure of the isolation condenser steam and condensate lines on actuation of the condenser pipe break detectors will also be verified by the test. It is during a major maintenance or repair that a system's design intent may be violated accidentally. This makes the functional test necessary after every major repair operation.

By virtue of normal plant operation the operators daily observe the water level in the isolation condensers. In addition, isolation condenser shell side water level sensors provide control room annunciation of condenser high or low water level.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 209

TO FACILITY OPERATING LICENSE NO. DPR-16

GPU NUCLEAR, INC. AND

JERSEY CENTRAL POWER & LIGHT COMPANY

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated December 23, 1998, GPU Nuclear, Inc. (the licensee) submitted a request for changes to the Oyster Creek Nuclear Generating Station Technical Specifications (TSs). The requested changes would revise the surveillance frequency for verifying the operability of motor-operated isolation valves and condensate makeup valves in the Isolation Condenser TS 4.8.A.1 and Bases page from once per month to once per 3 months.

2.0 EVALUATION

The Isolation Condenser System (ICS) is a standby, high-pressure system for the removal of fission product decay heat when the reactor vessel is isolated from the Main Condenser. The system prevents overheating of the reactor fuel, controls the reactor pressure rise, and limits the loss of reactor coolant through the relief valves.

The ICS consists of two full-capacity isolation condensers, four AC motor-operated isolation valves, four DC motor-operated isolation valves, and three vent lines to the atmosphere. The ICS operates by natural circulation without the need for electrical power other than the DC electrical system used to place the ICS in operation. The system operates with steam flowing from the reactor pressure vessel through the condenser tubes and condensate returning by gravity to the reactor pressure vessel, forming a closed loop. The valves in the steam inlet lines are normally open so that the tube bundles are at reactor pressure. The DC motor-operated condensate isolation valves, which are normally closed, are the only valves that need to be opened in order to place the ICS in operation.

TS 4.8.A.1 requires that the operability of motor-operated isolation valves and condensate makeup valves in each isolation condenser loop be verified once per month. These valves are normally on standby and should be exercised periodically to ensure their ability to operate freely. The licensee proposes to extend the frequency of testing to once every 3 months. The licensee states that surveillance test data from the previous 3 years indicate that the valves are reliable. Also, the risk of a plant transient from surveillance testing, personnel radiation

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exposure, and equipment degradation would be reduced as a result of the proposed increase in the surveillance test interval.

The 1986 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section IWBV-3411 requires that inservice testing (IST) of Category A and B valves be conducted at least once every 3 months. Testing at this frequency provides sufficient assurance that, when called upon, valves will operate as required. The licensee's proposed change in surveillance test frequency is consistent with the philosophy of the IST Code, and therefore will provide acceptable assurance of the valves operability. Also, this change is consistent with the surveillance requirements in the boiling-water reactor Standard Technical Specifications.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official was notified of the proposed issuance of the amendment. The State official stated that it had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 surveillance requirements. The NRC 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 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 17026). 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 the amendment.

### 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: M. Kotzalas

Date: September 24, 1999