

June 5, 1991

*See Correction ltr. of 7/2/91*

Docket No. 50-219

DISTRIBUTION

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Dear Mr. Barton:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 79148)

The Commission has issued the enclosed Amendment No. 152 to Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station, in response to your application dated November 19, 1990.

The amendment revises the Oyster Creek Nuclear Generating Station Technical Specifications (TS) surveillance intervals for Table 4.1.1: Item 1 - High Reactor Pressure; Item 3 - Low Reactor Water Level; Item 4 - Low-Low Reactor Water Level; Item 5b - High Water Level in the Scram Discharge Volume Analog Scram; Item 27a - Scram Discharge Volume Water Level High Analog Rod Block; and Item 5a - High Water Level in the Scram Discharge Volume Digital Scram. A change correcting the bases for the control functions of the High Drywell Pressure Trip System, referenced in TS Section 3.1, is also included.

A copy of the related Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

/s/

Alexander W. Dromerick, Senior Project Manager  
Project Directorate I-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 152 to DPR-16
- 2. Safety Evaluation
- 3. Notice of Issuance

cc w/enclosures:  
See next page

OFC	:PDI-4:LA	:PDI-4:PM	:PDI-4:D	:OCB
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*J. Fol 7/11*

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Oyster Creek Nuclear Generating Station

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

GPU NUCLEAR CORPORATION

AND

JERSEY CENTRAL POWER & LIGHT COMPANY

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 152  
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by GPU Nuclear Corporation, et al., (the licensee), dated November 19, 1990, 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.

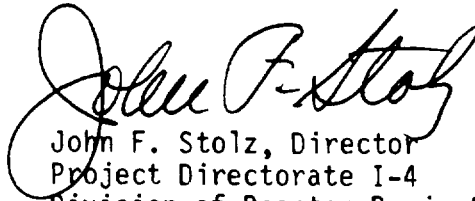
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Provisional Operating License No. DPR-16 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 152, 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 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 - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 5, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 152  
PROVISIONAL OPERATING LICENSE NO. DPR-16  
DOCKET NO. 50-219

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

Remove

Page 3.1-4  
Page 4.1-5  
Page 4.1-8

Insert

Page 3.1-4  
Page 4.1-5  
Page 4.1-8

particular protection instrument is not required; or the plant is placed in the protection or safe condition that the instrument initiates. This is accomplished in a normal manner without subjecting the plant to abnormal operations conditions. The action and out-of-service requirements apply to all instrumentation within a particular function, e.g., if the requirements on any one of the ten scram functions cannot be met then control rods shall be inserted.

The trip level settings not specified in Specification 2.3 have been included in this specification. The bases for these settings are discussed below.

The high drywell pressure trip setting is  $\leq 3.5$  psig. This trip will scram the reactor, initiate containment spray in conjunction with low low reactor water level, initiate core spray, initiate primary containment isolation, initiate automatic depressurization in conjunction with low-low-low-reactor water level, initiate the standby gas treatment system and isolate the reactor building. The scram function shuts the core down during the loss-of-coolant accidents. A steam leak of about 15 gpm and a liquid leak of about 35 gpm from the primary system will cause drywell pressure to reach the scram point; and, therefore, the scram provides protection for breaks greater than the above.

High drywell pressure provides a second means of initiating the core spray to mitigate the consequences of loss-of-coolant accident. Its trip setting of  $\leq 3.5$  psig initiates the core spray in time to provide adequate core cooling. The break size coverage of high drywell pressure was discussed above. Low-low water level and high drywell pressure in addition to initiating core spray also causes isolation valve closure. These settings are adequate to cause isolation to minimize the offsite dose within required limits.

It is permissible to make the drywell pressure instrument channels inoperable during performance of the integrated primary containment leakage rate test provided the reactor is in the cold shutdown condition. The reason for this is that the Engineered Safety Features, which are effective in case of a LOCA under these conditions, will still be effective because they will be activated (when the Engineered Safety Features system is required as identified in the technical specification of the system) by low-low reactor water level.\*

The scram discharge volume has two separate instrument volumes utilized to detect water accumulation. The high water level is based on the design that the water in the SDIV's, as detected by either set of level instruments, shall not be allowed to exceed 29.0 gallons; thereby, permitting 137 control rods to scram. To provide further margin, an accumulation of not more than 14.0 gallons of water, as detected by either instrument volume, will result in a rod block and an alarm. The accumulation of not more than 7.0 gallons of water, as detected in either instrument volume will result in an alarm.

Detailed analyses of transients have shown that sufficient protection is provided by other scrams below 45% power to permit bypassing of the turbine trip and generator load rejection scrams. However, for operational convenience, 40% of rated power has been chosen as the setpoint below which these trips are bypassed. This setpoint is coincident with bypass valve capacity.

A low condenser vacuum scram trip of 23 inches Hg has been provided to protect the main condenser in the event that vacuum is lost. A loss of condenser vacuum would cause the turbine stop valves to close, resulting in a turbine trip

TABLE 4.1.1  
MINIMUM CHECK, CALIBRATION AND TEST FREQUENCY FOR PROTECTIVE INSTRUMENTATION

	<u>Instrument Channel</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks (Applies to Test and Calibration)</u>
	1. High Reactor Pressure	1/d	Note 3	1/Mo	
	2. High Drywell Pressure (Scram)	N/A	1/3 mo.	Note 1	By application of test pressure
	3. Low Reactor Water Level	1/d	Note 3	1/Mo	
	4. Low-Low Water Level	1/d	Note 3	1/Mo	
	5. High Water Level in Scram Discharge Volume				
	a. Digital	N/A	1/3 mo.	1/3 mo.	By varying level in sensor columns
	b. Analog	N/A	Note 3	1 mo.	
4.1-5	6. Low-Low-Low Water Level	N/A	1/3 mo.	Note 1	By application of test pressure
	7. High Flow in Main Steamline	1/d	1/3 mo.	Note 1	By application of test pressure
	8. Low Pressure in Main Steamline	N/A	1/3 mo.	Note 1	By application of test pressure
	9. High Drywell Pressure (Core Cooling)	1/d		Note 1	By application of test pressure
	10. Main Steam Isolation Valve (Scram)	N/A	N/A	1/3 mo.	By exercising valve.

**NOTE 1:** Initially once/month, thereafter according to Figure 4.1.1, with an interval not less than one month not more than three months.

**NOTE 2:** At least daily during reactor power operation, the reactor neutron flux peaking factor shall be estimated and flow-referenced APRM scram and rod block settings shall be adjusted, if necessary, as specified in Section 2.3 Specifications (1) (a) and (2) (a).

**NOTE 3:** Calibrate electronic bistable trips by injection of an external test current once per 3 months. Calibrate transmitters by application of test pressure once per 12 months.

TABLE 4.1.1  
(cont'd)

<u>Instrument Channel</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks (Applies to Test and Calibration)</u>
27. Scram Discharge Volume (Rod Block)				
a) Water level high	N/A	Each re-fueling outage	1/3 Mo	Calibrate by varying level in sensor column
b) Scram Trip bypass	N/A	N/A	Each re-fueling outage	
28. Loss of Power				
a) 4.16 KV Emergency Bus Undervoltage (Loss of voltage)	Daily	1/24 mos.	1/mo.	
b) 4.16 KV Emergency Bus Undervoltage (Degraded Voltage)	Daily	1/24 mos.	1/mo.	
29. Drywell High Radiation	N/A	Each re-fueling outage	Each re-fueling outage	

\* Calibrate prior to startup and normal shutdown and thereafter check 1/s and test 1/wk until no longer required.

Legend: N/A = Not Applicable; 1/s = Once per shift; 1/d = Once per day; 1/3d = Once per three days; 1/wk = Once perweek; 1/3 mo = Once every 3 months; 1/18 mos. = Once every 18 months

The following notes are only for Item 15 of Table 4.1.1:

A channel may be taken out of service for the purpose of a check, calibration, test or maintenance without declaring the channel to be inoperable.

- a. The channel functional test shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:
- 1) Instrument indicates measured levels above the alarm setpoint.
  - 2) Instrument indicates a downscale failure.
  - 3) Instrument controls not set in operate mode.
  - 4) Instrument electrical power loss.

OYSTER CREEK

4.1-8

Amendment Nos: 63, 80, 108, 116, 141, 152  
Change 5, 7





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 152

TO PROVISIONAL OPERATING LICENSE NO. DPR-16

GPU NUCLEAR CORPORATION AND  
JERSEY CENTRAL POWER & LIGHT COMPANY

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 INTRODUCTION

By an application for an amendment dated November 19, 1990, GPU Nuclear Corporation requested a revision of the Oyster Creek Nuclear Generating Station Technical Specifications (TS) surveillance intervals for Table 4.1.1. The proposed amendment modifies the calibration interval for High Reactor Pressure, Low Reactor Water Level, Low-Low Reactor Water Level, and High Water Level in Scram Discharge Volume. An editorial change to correct the bases for the control function of the High Drywell Pressure Trip System in TS section 3.1 is also proposed.

2.0 EVALUATION

As currently shown in the bases of Oyster Creek Nuclear Generating Station TS Section 3.1, a High Drywell Pressure Trip includes reactor isolation as a High Drywell Pressure Trip function. The licensee stated that reactor isolation is not initiated by a High Drywell Pressure Trip and the bases is in error. The proposed change removes the reference to reactor isolation from the bases for the High Drywell Pressure Trip referenced in TS 3.1. This change is acceptable to the staff.

The licensee also proposed changes to TS Table 4.1.1, Item 1 - High Reactor Pressure, Item 3 - Low Reactor Water Level, and Item 4 - Low-Low-Reactor Water Level. The present calibration interval for these instrument channels is specified as at least once per 3 months. The proposed TS change revises the calibration interval to 12 months and maintains the instrumentation testing interval at once per month by removing the reference to Note 1 on Table 4.1.1. To justify the calibration interval extension, the licensee reviewed the as-found and the as-left calibration data from plant instrumentation surveillance and maintenance records, ensuring that no adverse trends were present. The licensee also utilized the plant data to determine plant-specific drift values for the subject instrumentation. The plant-specific drift values were then determined for a bounding calibration interval of 12 months for each instrument. The licensee then performed a comparison of the projected instrument drift with the drift values presently incorporated

into the setpoint analysis. The licensee determined that the plant-specific drift values were bounded by the values in the setpoint calculations and no revision to setpoints, safety limits, or safety analysis assumptions were required. During a February 27, 1991 telephone conversation the licensee stated that the Oyster Creek Nuclear Generating Station setpoint methodology used to determine drift values and to verify the setpoint calculations endorsed Regulatory Guide 1.105 and ISA-A67.04-1982. Additionally, the vendor data for the analog instruments is specified to remain below the drift value utilized in the Oyster Creek Nuclear Generating Station setpoint calculations for a period of 30 months. This interval is well within the 12-month calibration interval proposed by the licensee. A daily channel check is performed on these instruments and is not being revised by this TS revision. The licensee is revising Note 3 of Table 4.1.1 to specify a 12-month calibration interval for the high reactor pressure, low reactor water level, and low-low water level transmitters. Note 3 will also specify that the electronics, and bistable trips will be tested by the injection of an external test current at the previous once every 3 month interval requirement. Based on our review of the proposed change, the staff finds the revised calibration frequency for this instrumentation acceptable.

Table 4.1.1 Item 5b - High Water in the Scram Discharge Volume is also being revised by the licensee to reflect modifications that provided for both digital and analog trip instrumentation. The analog instrumentation calibration interval is being extended from once every 3 months to once per year. The licensee performed a review of the Scram Discharge Volume analog instrumentation surveillance calibration data and confirmed that the instrument drift for the analog instrumentation will remain within acceptable limits for the proposed yearly calibration interval. The licensee stated that over 6 years of data was available for the evaluation of these instruments. Additionally, Note 3 of Table 4.1.1 requires the testing of the electronics and output bistables once every 3 months by the injection of an external test current. A monthly functional test is also required for the High Water Level in Scram Discharge Volume instrumentation and is not being revised by the licensee. Based on the above, the staff finds the proposed calibration interval extension for the High Water Level in the Scram Discharge Volume analog instrumentation to be acceptable.

Table 4.1.1 Item 27a - Scram Discharge Volume Water Level High, analog rod block calibration interval is being revised from the present once per 20 months interval to once each refueling outage. This change results from calculations performed by the licensee based on surveillance test results documented since the instrumentation modifications were installed during the refueling outage of 1983-1984. The evaluation determined that the Scram Discharge Volume Water Level High, analog rod block instrumentation drift data would support an extended calibration interval of once per refueling outage (nominally 24 months). The remarks section of Item 27a is also revised to limit varying the level in the sensor column to calibration only. The functional test will continue to test the Scram Discharge Volume Water Level High, analog rod block, instrumentation electronics once every 3 months by the injection of a simulated test signal. The staff finds the proposed changes to Table 4.1.1, Item 27a Scram Discharge Volume Water Level High, analog rod block instrumentation to be acceptable.

The change to TS Table 4.1.1 Item 5a - High Water Level In The Scram Discharge Volume Digital Scram revised the functional test interval from once per month based on Note 1 of Table 4.1.1 to once per 3 months. The calibration interval will continue to be once every 3 months. The licensee stated that a test interval of once every 3 months will ensure operation within acceptable drift limits.

The licensee also stated that incorporation of TS changes to Table 4.1.1 Items 5a, 5b, and 27a (Scram Discharge Volume instrumentation) will significantly reduce the man-rem exposure on the instrument and control technicians for these surveillances. A staff review of the above changes found them to be consistent with the Standard Technical Specifications (STS) and similar plant TS. Based on the above, the staff finds the proposed change to revise the surveillance requirements of Table 4.1.1, Item 5a to once every 3 months to be acceptable.

The surveillance history evaluation performed by the licensee reviewed the as-found, as-left calibration data for the referenced protective instrumentation. Plant-specific drift values were determined and compared to the values incorporated into the Oyster Creek Nuclear Generating Station setpoint calculations. The licensee provided additional information on the methodology used to determine the plant-specific drift values based on the revised surveillance intervals. The licensee determined that the projected drift values were bounded by the present setpoint analysis. Vendor drift data referenced by the licensee for high reactor pressure, low reactor water level, and low-low reactor water level is also specified to remain below the drift value utilized in the Oyster Creek Nuclear Generating Station setpoint calculations. The revision to the Scram Discharge Volume calibration intervals will also reduce the current man-rem burden of the plant instrument and control technicians. The licensee will continue to collect and trend the necessary data to ensure that an extended surveillance interval remains appropriate for the referenced instrumentation. The staff is currently reviewing the Oyster Creek Nuclear Generating Station setpoint methodology (Standard ES-002 Instrument Error Calculation and Setpoint Determination TAC 69012) which includes Oyster Creek setpoint calculations referenced in this submittal. Should this task determine that the Oyster Creek setpoint methodology requires re-evaluation, it is expected that the licensee will review the affected surveillance intervals as required. Based on the above, the staff finds the proposed surveillance interval extensions to be acceptable.

### 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 had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32 and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in the FEDERAL REGISTER on June 5, 1991(56 FR 25700 ). Accordingly, based upon the

environmental assessment, we have determined that the issuance of the amendment will not have 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: C. Doutt

Date: June 5, 1991

UNITED STATES NUCLEAR REGULATORY COMMISSION  
GPU NUCLEAR CORPORATION AND JERSEY CENTRAL POWER & LIGHT COMPANY

DOCKET NO. 50-219

NOTICE OF ISSUANCE OF AMENDMENT TO  
FACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 152 to Facility Operating License No. DPR-16, issued to GPU Nuclear Corporation (the licensee), which revised the Technical Specifications for operation of the Oyster Creek Nuclear Generating Station located in Ocean County, New Jersey. The amendment is effective as of the date of issuance to be implemented within 30 days.

The amendment modified the Technical Specifications (TS) surveillance intervals for Table 4.1.1: Item 1 - High Reactor Pressure; Item 3 - Low Reactor Water Level; Item 4 - Low-Low Reactor Water Level; Item 5 - High Water Level in the Scram Discharge Volume Analog Scram; Item 27a - Scram Discharge Volume Water Level High Analog Rod Block; and Item 5a - High Water Level in the Scram Discharge Volume Digital Scram. A change correcting the bases for the control functions of the High Drywell Pressure Trip System, referenced in TS Section 3.1, was also included.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment to Facility Operating Licence and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on December 19, 1990 (55 FR 52112). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment related to the action and has determined not to prepare an environmental impact statement. Based upon the environmental assessment, the Commission has concluded that the issuance of this amendment will not have a significant effect on the quality of the human environment.

For further details with respect to the action see (1) the application for amendment dated December 19, 1990, (2) Amendment No. 152 to License No. DPR-16, (3) the Commission's related Safety Evaluation, and (4) the Commission's Environmental Assessment. All of these items are available for public inspection at the Commission's Public Document Room, 2120 L Street N.W., Washington, D.C. 20555 and at the Ocean County Library, Reference Department, 101 Washington Street, Toms River, New Jersey 08753. A copy of items (2), and (3), and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects - I/II.

Dated at Rockville, Maryland this 5th day of June 1991.

FOR THE NUCLEAR REGULATORY COMMISSION



Alexander W. Dromerick, Senior Project Manager  
Project Directorate I-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation