July 10, 1990

Docket No. 50-286

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Mr. John C. Brons
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Brons:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 73101)

The Commission has issued the enclosed Amendment No.100 to Facility Operating License No. DPR-64 for the Indian Point Nuclear Generating Unit No. 3. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated April 12, 1989, as supplemented June 11, 1990.

The amendment revises Technical Specification Table 3.5-5 and Table 4.1-1 to reflect the sensor locations, and the operability and surveillance requirements for a new temperature detection system located in the Primary Auxiliary Building.

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

Sincerely,

ORIGINAL SIGNED BY:

Joseph D. Neighbors, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No.100 to DPR-64
2. Safety Evaluation

cc: w/enclosures
See next page

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of New York

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

POWER AUTHORITY OF THE STATE OF NEW YORK

DOCKET NO. 50-286

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 100
License No. DPR-64

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

   A. The application for amendment by Power Authority of the State of New York (the licensee) dated April 12, 1989, as supplemented June 11, 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 Facility Operating License No. DPR-64 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 100, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

acting for Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 10, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 100

FACILITY OPERATING LICENSE NO. DPR-64

DOCKET NO. 50-286

Revise Appendix A as follows:

Remove Pages	Insert Pages
Table 3.5-5 (Sheet 1 of 3)	Table 3.5-5 (Sheet 1 of 3)
Table 3.5-5 (Sheet 2 of 3)	Table 3.5-5 (Sheet 2 of 3)
Table 3.5-5 (Sheet 3 of 3)	Table 3.5-5 (Sheet 3 of 3)
Table 4.1-1 (Sheet 3 of 5)	Table 4.1-1 (Sheet 3 of 5)

TABLE 3.5-5 *(Sheet 1 of 3)*

TABLE OF INDICATORS AND/OR RECORDERS AVAILABLE TO THE OPERATOR

PARAMETER	1 NO. OF CHANNELS AVAILABLE	2 MIN. NO. OF CHANNELS REQUIRED**	3 INDICATOR/ RECORDER**
1) Containment Pressure	6	2	INDICATOR
2) Refueling Water Storage Tank Level	2	1	INDICATOR
3) Steam Generator Water Level (Narrow Range)	3/Steam Generator	*	INDICATOR
4) Steam Generator Water Level (Wide Range)	1/Steam Generator	*	RECORDER
5) Steam Line Pressure	3/steam line	1/steam line	INDICATOR
6) Pressurizer Water Level	3	2	INDICATOR/ONE CHANNEL IS RECORDED
7) RHR Recirculation Flow	4	3	INDICATOR
8) Reactor Coolant System Pressure (Wide Range)	1	1	RECORDER
9) Cold Leg Temperature (Tc) (Wide Range)	4	1	RECORDER
10) Hot Leg Temperature (Th) (Wide Range)	4	1	RECORDER
11) Containment Sump Water level (Narrow Range, Analog)+	2	1	INDICATOR/ RECORDER
12) Recirculation Sump Water Level (Narrow Range, Analog)+	2	1	INDICATOR/ RECORDER
13) Temperature Sensors in: a. Piping Penetration Area b. Mini-Containment Area c. Steam Gen. Blowdown Heat Exchanger Room d. Auxiliary Boiler Feedwater Pump Bldg.	2/area	1/area	ALARM

TABLE 3.5-5 *(Sheet 2 of 3)*

PARAMETER	1 NO. OF CHANNELS AVAILABLE	2 MIN. NO. OF CHANNELS REQUIRED**	3 INDICATOR/ RECORDER**
14) Level Sensors in Lower Level of Turbine Building	2	1	ALARM
15) Reactor Coolant System Subcooling Margin Monitor	1	1	RECORDER
16) PORV Position Indicator (Acoustic Monitor)	1/Valve	1/Valve	INDICATOR
17) PORV Position Indicator (Limit Switch)	1/Valve	1/Valve****	INDICATOR & ALARM
18) PORV Block Valve Position Indicator (Limit Switch)	1/Valve***	1/Valve	INDICATOR
19) Safety Valve Position Indicator (Acoustic Monitor)	1/Valve	1/Valve	INDICATOR
20) Auxiliary Feedwater Flow Rate	1/Pump	1/Pump	INDICATOR
21) Containment Water Level (Wide Range)	2	1	INDICATOR/ RECORDER
22) Containment Hydrogen Monitor	2	1	INDICATOR/ RECORDER
23) High-Range Containment***** Radiation Monitors (R25 R26)	2	1	ALARM
24) Core Exit Thermocouples	4/quad-rant	2/quadrant	INDICATOR
25) Reactor Vessel Level Indication System (RVLIS)	2	1	INDICATOR

TABLE 3.5-5 *(Sheet 3 of 3)*

* One level channel per steam generator (either wide range or narrow range) with at least two wide range channels.

** Columns 2 and 3 may be modified to allow the instrument channels to be inoperable for up to 7 days and/or the recorder to be inoperable for up to 14 days.

*** Except at times when valve operator control circuit is de-energized.

**** Except when the respective block valve is closed.

***** If the high-range containment radiation monitor is determined to be inoperable when the reactor is above the cold shutdown condition, then restore the monitoring capability within 7 days,

and

a) Initiate an alternate monitoring capability as soon as practical, but no later than 72 hours after identification of the failure of the monitor. If the monitor is not restored to operable status within 7 days,

then

b) Submit a Special Report to the NRC pursuant to Technical Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperabiblity and the plans and schedule for restoring the system.

\+ If both narrow range analog monitor channels are determined to be inoperable, at least one channel will be restored to operable status within 30 days or the plant will be brought to hot shutdown within the next 12 hours.

With the exception of the High Range Containment Radiation Monitors, if the minimum number of channels required are not restored to meet the above requirements within the time periods specified, then:

1. If the reactor is critical, it shall be brought to the hot shutdown condition utilizing normal operating procedures. The shutdown shall start no later than at the end of the specified time period.

2. If the reactor is subcritical, the reactor coolant system temperature and pressure shall not be increased more than 25°F and 100 psi, respectively, over existing values.

3. In either case, if the requirements of Columns 2 and 3 are not satisfied within an additional 48 hours, the reactor shall be brought to the cold shutdown condition utilizing normal operating procedures. The shutdown shall start no later than the end of the 48 hour period.

TABLE 4.1-1 (Sheet 3 of 5)

Channel Description	Check	Calibrate	Test	Remarks
23. Temperature Sensor in Auxiliary Boiler Feedwater Pump Building	N.A.	N.A.	R	
24. Temperature Sensors in Primary Auxiliary Building				
a. Piping Penetration Area	N.A.	N.A.	R	
b. Mini-Containment Area	N.A.	N.A.	R	
c. Steam Generator Blowdown Heat Exchanger Room	N.A.	N.A.	R	
25. Level Sensors in Turbine Building	N.A.	N.A.	R	
26. Volume Control Tank Level	N.A.	R	N.A.	
27. Boric Acid Makeup Flow Channel	N.A.	R	N.A.	
28. Auxiliary Feedwater:				
a. Steam Generator Level	S	R	M	Low-Low
b. Undervoltage	N.A	R	R	
c. Main Feedwater Pump Trip	N.A	N.A.	R	
29. Reactor Coolant System Subcooling Margin Monitor	D	R	N.A.	
30. PORV Position Indicator	N.A.	R	R	Limit Switch
31. PORV Position Indicator	D	R	R	Acoustic Monitor
32. Safety Valve Position Indicator	D	R	R	Acoustic Monitor
33. Auxiliary Feedwater Flow Rate	N.A.	R.	N.A.	

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 100 TO FACILITY OPERATING LICENSE NO. DPR-64

POWER AUTHORITY OF THE STATE OF NEW YORK

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NO. 50-286

INTRODUCTION

By application dated April 12, 1989, as supplemented June 11, 1990, the Power Authority of the State of New York (the licensee) requested an amendment to Facility Operating License No. DPR-64 for the Indian Point Nuclear Generating Unit No. 3. The proposed amendment would revise Tables 3.5-5 and 4.1-1 to reflect the sensor locations, and the operability and surveillance requirements of a new temperature detection system in the Primary Auxiliary Building (PAB).

DISCUSSION AND EVALUATION

As a result of a Steam Generator Blowdown System upgrade, the size of the blowdown lines were increased from two inches to four inches. A new High Energy Line Break (HELB) analysis of the Steam Generator Blowdown (SGBD) piping was performed to determine the environmental effects of postulated pipe ruptures. The results of this analysis indicate the need for earlier rupture detection and automatic isolation of the SGBD lines to prevent harsh environments in the PAB. In addition, the system upgrade created the possibility of high energy line breaks in areas of the PAB which were not affected by the old blowdown system.

A line break in the SGBD piping is indicated by the presence of a high temperature condition in certain areas of the PAB. The upgraded Steam Generator Blowdown System requires automatic closing of the blowdown containment isolation valves upon detection of this high temperature condition in those areas of the PAB where the blowdown piping is located. The temperature sensors currently described in Table 3.5-5 and Table 4.1-1 of the Technical Specifications are qualified to detect line breaks of high energy lines in the piping penetration area only. As a result of the Steam Generator Blowdown System upgrade, these sensors can no longer satisfy the detection and mitigation requirements for a HELB. The licensee has installed new, environmentally qualified temperature sensors which satisfy the detection and mitigation requirements of high energy line breaks of the upgraded SGBD piping.

The new temperature detection system has a total of six temperature sensors in three areas of the PAB. There are a number of assorted high energy lines located in these three areas of the PAB. These include RCS letdown, sample, and Auxiliary Steam lines in the piping penetration area, and the new blowdown lines in the piping penetration area, mini-containment area and heat exchanger room. There are now two temperature sensors in the piping penetration area, two in the mini-containment area, and two in the steam generator blowdown heat exchanger room. One of the temperature sensors in each of these three areas will be required to be operable, therefore, assuring detection of a high temperature condition in areas where the new blowdown lines are located.

The new system utilizes two independent power supplies. This temperature detection system provides the redundant instrument loops necessary for the automatic closing of the blowdown containment isolation valves upon detection of a high temperature condition in the PAB. The sensors are electronically interlocked with the actuation circuitry for the SGBD containment isolation valves and will automatically close the valves upon detection of a high temperature in any of the areas previously mentioned. Therefore, if a pipe rupture were to occur, all blowdown lines would be isolated automatically to prevent harsh environments in the PAB. All high energy lines other than blowdown do not require automatic isolation. These lines will be manually isolated to prevent harsh environments in the PAB.

The new temperature sensors in the piping penetration area have alarm and actuation setpoints of 140°F. The setpoints of the new sensors combined with their shorter response time and automatic autuation circuitry provide earlier isolation capability than that provided by the piping penetration area temperature sensors they are replacing.

The improved features of the new temperature detection system advocate retirement of the old system. The proposed Technical Specification changes reflect the change in detection systems and replaces the operability and surveillance requirements of the old system with those of the new system.

The licensee, by letter dated June 11, 1990, provided supplemental information. This supplemental submittal information was not outside the scope of the proposed TS change noticed in the Federal Register (54 FR 23321) on May 31, 1989, and did not affect the staff's proposed determination that no significant hazards would result from these changes.

We have reviewed the proposed Technical Specification changes and conclude that they constitute an improvement in the temperature detection system. Based on our review of the changes, we conclude that they are acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 offsite, and that there is no significant

increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 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.

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

Dated: July 10, 1990

PRINCIPAL CONTRIBUTOR:

Joseph D. Neighbors, PDI-1