



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555-0001

March 21, 1994

Docket No. 50-286

Mr. William A. Josiger, Acting
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Josiger:

SUBJECT: ISSUANCE OF AMENDMENT FOR INDIAN POINT NUCLEAR GENERATING
UNIT NO. 3 (TAC NO. M86454)

The Commission has issued the enclosed Amendment No. 144 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 (TS) in response to your application transmitted by letter dated May 18, 1993, as supplemented by letter dated March 3, 1994.

The amendment revises the Technical Specifications (Appendix A) and the Radiological Environmental Technical Specifications (Appendix B) to incorporate the changes listed below:

- (1) The frequency of city water connection to charging pumps and boric acid piping testing (specified in Appendix A Table 4.1-3) has been changed to accommodate operation on a 24-month cycle.
- (2) The frequency of boric acid tank level instrument calibration (specified in Appendix A Table 4.1-1) has been changed to accommodate operation on a 24-month cycle.
- (3) The frequency of boric acid makeup flow instrument calibration (specified in Appendix A Table 4.1-1) has been changed to accommodate operation on a 24-month cycle.
- (4) The frequency of primary water storage tank level instrument calibration and functional testing (specified in Appendix B Table 3.1-1) has been changed to accommodate operation on a 24-month cycle.

These changes followed the guidance provided in Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," as applicable.

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Mr. William A. Josiger

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March 21, 1994

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

Sincerely,



Nicola F. Conicella, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 144 to DPR-64
2. Safety Evaluation

cc w/enclosures:

See next page

Mr. William A. Josiger
Power Authority of the State
of New York

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Station Unit No. 3

cc:

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DATED: March 21, 1994

AMENDMENT NO. 144 TO FACILITY OPERATING LICENSE NO. DPR-64-INDIAN POINT UNIT 3

Docket File

NRC & Local PDRs

PDI-1 Reading

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cc: Plant Service list



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

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. 144
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 May 18, 1993, as supplemented March 3, 1994, 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:

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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 144, 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 to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



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: March 21, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 144

FACILITY OPERATING LICENSE NO. DPR-64

DOCKET NO. 50-286

Revise Appendix A as follows:

Remove Pages

Table 4.1-1 (sheet 2 of 6)
Table 4.1-1 (sheet 4 of 6)
Table 4.1-3 (sheet 1 of 2)

Insert Pages

Table 4.1-1 (sheet 2 of 6)
Table 4.1-1 (sheet 4 of 6)
Table 4.1-3 (sheet 1 of 2)

Revise Appendix B Part II as follows:

Remove Page

3.1-2

Insert Page

3.1-2

TABLE 4.1-1 (Sheet 2 of 6)

<u>Channel Description</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks</u>
10. Steam Generator Level	S	18M (1) 24M (2)	Q	1) Indicating circuits only 2) Reactor protection circuits only
11. Residual Heat Removal Pump Flow	N.A.	18M	N.A.	
12. Boric Acid Tank Level	S	24M	N.A.	Bubbler tube rodded during calibration
13. Refueling Water Storage Tank Level	W	18M	N.A.	Low level alarms
14. Containment Pressure	S	18M	Q	High and High-High
15. Process and Area Radiation Monitoring:				
a. Fuel Storage Building Area Radiation Monitor (R-5)	D	24M	Q	
b. Vapor Containment Process Radiation Monitors (R-11 and R-12)	D	24M	Q	
c. Vapor Containment High Radiation Monitors (R-25 and R-26)	D	18M	Q	
d. Wide Range Plant Vent Gas Process Radiation Monitor (R-27)	D	24M	Q	
e. Main Steam Lines Process Radiation Monitors (R-62A, R-62B, R-62C, and R-62D)	D	24M	Q	
f. Gross Failed Fuel Detectors (R-63A and R-63B)	D	24M	Q	

TABLE 4.1-1 (Sheet 4 of 6)

<u>Channel Description</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks</u>
25. Level Sensors in Turbine Building	N.A.	N.A.	24M	
26. Volume Control Tank Level	N.A.	18M	N.A.	
27. Boric Acid Makeup Flow Channel	N.A.	24M	N.A.	
28. Auxiliary Feedwater:				
a. Steam Generator Level	S	18M	Q	Low-Low
b. Undervoltage	N.A.	18M	24M	
c. Main Feedwater Pump Trip	N.A.	N.A.	24M	
29. Reactor Coolant System Subcooling Margin Monitor	D	18M	N.A.	
30. PORV Position Indicator	N.A.	N.A.	24M	Limit Switch
31. PORV Position Indicator	D	24M	24M	Acoustic Monitor
32. Safety Valve Position Indicator	D	24M	24M	Acoustic Monitor
33. Auxiliary Feedwater Flow Rate	N.A.	18M	N.A.	
34. Plant Effluent Radioiodine/ Particulate Sampling	N.A.	N.A.	18M	Sample line common with monitor R-13
35. Loss of Power				
a. 480v Bus Undervoltage Relay	N.A.	18M	M	
b. 480v Bus Degraded Voltage Relay	N.A.	18M	M	
c. 480v Safeguards Bus Undervoltage Alarm	N.A.	18M	M	
36. Containment Hydrogen Monitors	D	Q	M	

TABLE 4.1-3 (Sheet 1 of 2)

<u>FREQUENCIES FOR EQUIPMENT TESTS</u>		
	<u>Check</u>	<u>Frequency</u>
1. Control Rods	Rod drop times of all control rods	24M
2. Control Rods	Movement of at least 10 steps in any one direction of all control rods	Every 31 days during reactor critical operations
3. Pressurizer Safety Valves	Set Point	24M
4. Main Steam Safety Valves	Set Point	24M
5. Containment Isolation System	Automatic actuation	24M
6. Refueling System Interlocks	Functioning	Each refueling, prior to movement of core components
7. Primary System Leakage	Evaluate	5 days/week
8. Diesel Generators Nos. 31, 32 & 33 Fuel Supply	Fuel Inventory	Weekly
9. Turbine Steam Stop Control Valves	Closure	Yearly
10. L.P. Steam Dump System (6 lines)	Closure	Monthly
11. Service Water System	Each pump starts and operates for 15 minutes (unless already operating)	Monthly
12. City Water Connections to Charging Pumps and Boric Acid Piping	Temporary connections available and valves operable	24M

TABLE 3.1-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS				
INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRA- TION	CHANNEL FUNC- TIONAL TEST
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Effluent Line (R-18 and R-61****)	D*	D*	24M(3)	Q(1)*
b. Steam Generator Blowdown Effluent Line (R-19)	D*	M*	24M(3)	Q(1)*
2. GROSS BETA OR GAMMA RADIOACTIVITY MONITORS PROVIDING ALARM BUT NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Service Water System Effluent Line (R-16A and R-16B)	D*	M*	24M(3)	Q(2)*
b. Service Water System Effluent Line (R-23)	D*	M*	18M(3)	Q(2)*
3. FLOW RATE MEASUREMENT DEVICES				
a. Liquid Radwaste Effluent Line	D(4)	N.A.	18M	Q
b. Steam Generator Blowdown Effluent Line	D(4)	N.A.	24M	N.A.
4. RADIOACTIVITY RECORDERS				
a. Liquid Radwaste Effluent Line	D*	N.A.	24M	Q****
b. Steam Generator Blowdown Effluent Line	D*	N.A.	24M	Q****
5. TANK LEVEL INDICATING DEVICES***				
a. Refueling Water Storage Tank	D**	N.A.	18M	18M
b. Primary Water Storage Tank	D**	N.A.	24M	24M
c. Monitor Tank #31	D**	N.A.	18M	18M
d. Monitor Tank #32	D**	N.A.	18M	18M

TABLE NOTATIONS

* When this pathway is utilized for releases, with frequency no more than indicated.

** During liquid additions to the tank.



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 144 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

1.0 INTRODUCTION

By letter dated May 18, 1993, as supplemented March 3, 1994, the Power Authority of the State of New York (the licensee) submitted a request for changes to the Indian Point Nuclear Generating Unit No. 3 (IP3) Technical Specifications (Appendix A) and the Radiological Environmental Technical Specifications (Appendix B). The requested changes would revise Appendix A and Appendix B to incorporate the following chemical and volume control system (CVCS) changes:

- (1) The frequency of city water connection to charging pumps and boric acid piping testing (specified in Appendix A Table 4.1-3) would be changed to accommodate operation on a 24-month cycle.
- (2) The frequency of boric acid tank level instrument calibration (specified in Appendix A Table 4.1-1) would be changed to accommodate operation on a 24-month cycle.
- (3) The frequency of boric acid makeup flow instrument calibration (specified in Appendix A Table 4.1-1) would be changed to accommodate operation on a 24-month cycle.
- (4) The frequency of primary water storage tank level instrument calibration and functional testing (specified in Appendix B Table 3.1-1) would be changed to accommodate operation on a 24-month cycle.

The requested changes are needed to accommodate operation on a 24-month fuel cycle. The licensee commenced operating on a 24-month fuel cycle, instead of the previous 18-month fuel cycle, with fuel cycle 9. Fuel cycle 9 started in August 1992. The proposed changes follow the guidance provided in Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," as applicable. The March 3, 1994, letter provided clarifying information and did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The licensee considered the following factors in evaluating the CVCS system calibration and surveillance interval extensions from 18 to 24 months:

- Does on-line testing adequately demonstrate operability or are failures only being detected during these refueling tests?
- Did past equipment performance have an effect on system safety functions?
- Does performing the surveillance test at power present a burden?

2.1 City Water Connection Testing

The CVCS provides a means for injection of control poison in the form of boric acid solution, chemical additions for corrosion control, and reactor coolant cleanup degasification. The system also adds makeup water to the reactor coolant system (RCS), reprocesses water letdown from the RCS, provides seal water injection to the reactor coolant pumps, and provides makeup to the safety injection accumulators after sampling.

The city water system is used as a source of water for emergency cooling of the charging pump fluid drive coolers and as a source of flush water to remove concentrated boric acid from the piping between the outlet of the boric acid storage tanks and the inlet of the charging pumps in the unlikely event of a complete loss of electrical power and/or a complete loss of service water.

TS Table 4.1-3, Item 12, specifies refueling interval surveillance requirements for the city water connections to the charging pumps and boric acid piping. The surveillance requires a check that all temporary connections are available and the associated valves are operable. This surveillance also involves actually operating the city water supply valves.

The licensee reviewed data from 1986 to 1991 related to the CVCS city water connections. The data indicated that there were no failures during the performance of the refueling tests. Therefore, the licensee concluded that this surveillance test interval could be extended since the results of the refueling tests were satisfactory and there was no evidence that CVCS city water connection performance was a function of the surveillance interval. In addition, the licensee stated that modifications and other physical changes to this system would not occur with the plant at power, thus, resulting system failures would not occur.

However, subsequent to the licensee's May 8, 1993, submittal, it was discovered that four valves (AC-701A, AC-701B, AC-756A, and AC-756B) were required to be tested per TS Table 4.1-3, Item 12, but had not been included in the surveillance program. The licensee submitted Licensee Event Report (LER) 93-049-00, dated December 3, 1993, describing the details of the issue and the corrective actions taken. The licensee's TS amendment request

supplement letter dated March 3, 1994, provided the basis for extending the refueling surveillance testing requirements to accommodate a 24-month operating cycle for these four valves. The licensee stated, in part, that a corrosion inhibitor in the auxiliary cooling water system should minimize degradation of these valves and piping. In addition, although the valves had not been previously tested as part of the surveillance program, a recent stroke test demonstrated operability. The licensee also indicated that since valves AC-701A and AC-701B could be tested at power, they would be tested quarterly as part of the IP3 Inservice Testing Program.

The NRC staff has reviewed the information presented by the licensee regarding CVCS city water connection testing and concludes the requested changes are acceptable.

2.2 CVCS Instrument Calibration

The CVCS instruments for which calibration interval extensions are being requested are: boric acid tank level, boric acid makeup flow, and primary water storage tank level. These CVCS instruments are used for indication and alarm purposes only. The licensee states that these instruments are not needed for actuation of safety related equipment for accident mitigation.

The instrument channel calibration is intended to correct for instrument drift, if it is occurring, and to adjust each instrument loop component to the midpoint of its tolerance limit. These instruments are currently calibrated on an interval of 22.5 months (18-month refueling interval plus 25% extension). In order to accommodate a 24-month refueling interval, the calibration periodicity could be as long as 30 months (24 months plus 25% extension). Therefore, the licensee has estimated the 30-month instrument drift values to justify calibration interval extensions for these instruments. In addition, the licensee's review of the performance data associated with each instrument indicated that failures, if they did occur, were being detected by daily channel checks, quarterly surveillance tests, or other on-line tests.

An evaluation of past instrument drift data for each of these CVCS instruments indicated that drift is predictable. The licensee then compared the vendor drift allowance for 30 months (VDA30) to the best estimate of drift for 30 months (BED30) and concluded that the VDA30 and BED30 were equivalent for each instrument. The VDA is the calibration tolerance limits or the combination of reference accuracy, drift, and measuring and test equipment. The BED30 is the average observed drift extrapolated to 30 months. To calculate the BED30 for each instrument, the licensee used the square root sum of the squares technique to extrapolate actual worst case drift values (as-found minus the previous as-left) to 30 months. These extrapolated 30-month values were then averaged to obtain the BED30.

2.2.1 Boric Acid Tank (BAT) Level

Bistables associated with the BAT level instrumentation provide a tank low level alarm and automatically deenergize the BAT heaters. There is no automatic safety related function provided by this instrumentation. The licensee's analysis indicates that the increased bistable inaccuracy resulting from a slightly higher calculated BED30 would yield an error of 1/8 inch of water, which is negligible compared to the 105 1/2 inches of water for the span of the instrument. In summary, the licensee's analysis indicated that the BED30 would be less than the VDA30. Therefore, the licensee concluded that this surveillance test interval could be extended.

The NRC staff has reviewed the information presented by the licensee regarding BAT level instrument calibration and concludes the requested change is acceptable.

2.2.2 Boric Acid Makeup Flow

The boric acid flow instrumentation consists of an indicator and a recorder. These instruments are used only for indication or alarm. There is no automatic safety related function provided by this instrumentation. The licensee stated that prior to 1991, the indicator and recorder calibration was performed as part of the overall boric acid flow channel calibration. In 1991, the calibration procedure was revised to include separate calibrations for both the indicator and recorder. Based on the available data that was analyzed, the licensee has determined that the postulated drift associated with the longer calibration interval is expected to remain within the VDA30. Therefore, the licensee concluded that this surveillance test interval could be extended.

The NRC staff has reviewed the information presented by the licensee regarding boric acid makeup flow instrument calibration and concludes the requested change is acceptable.

2.2.3 Primary Water Storage Tank (PWST) Level

The PWST level instrumentation is used only for indication or alarm. There is no automatic safety related function provided by this instrumentation. The PWST level instrumentation provides tank volumes used in the calculations for the Effluent and Waste Disposal Semi-Annual Reports. The licensee has determined that changes in the PWST indicated volume due to instrument drift would have a minimal effect since PWST volume is only a small contribution to the total plant liquid effluent volume. The surveillance testing for the PWST level instrumentation includes a calibration and a functional test. Both surveillances are on a refueling interval periodicity. Therefore, the licensee concluded that both surveillance test intervals could be extended.

The NRC staff has reviewed the information presented by the licensee regarding PWST level instrument calibration and functional testing and concludes the requested changes are acceptable.

2.3 Summary

The licensee has evaluated the effect of the increase in the surveillance/calibration interval on safety for each of the proposed changes and has concluded that the effect is small. The licensee has confirmed that historical plant maintenance and surveillance data do not invalidate this conclusion. The increase in each of the surveillance/calibration intervals to accommodate a 24-month fuel cycle does not invalidate any assumption in the IP3 licensing basis.

The staff has reviewed the information presented by the licensee and concludes that the proposed changes do not have a significant effect on safety and they follow the guidance of GL 91-04, as applicable. Therefore, all the proposed changes are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official 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 (58 FR 34089). 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:
Nicola F. Conicella

Date: March 21, 1994

Mr. William A. Josiger

- 2 -

March 21, 1994

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

Sincerely,

Original signed by:

Nicola F. Conicella, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 144 to DPR-64
2. Safety Evaluation

cc w/enclosures:
See next page

*See previous concurrence

OFFICE	PDI-1:LA	PDI-1:PM <i>✓</i>	*HICB	*OGC	PDI-1:D
NAME	CVogan <i>CV</i>	NConicella:avl	JWermiel		RACapra <i>RA</i>
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