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

June 25, 1992

Docket No. 50-286

Mr. Ralph E. Beedle
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Beedle:

SUBJECT: ISSUANCE OF AMENDMENT FOR INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 (TAC NO. M82566)

The Commission has issued the enclosed Amendment No. 122 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 January 8, 1992, as supplemented February 4, 1992.

The amendment revises Technical Specifications Section 3.11 (Moveable In-Core Instrumentation) to specify 38 as the minimum number of detector guide thimbles required operable. The amendment also corrects administrative and typographical errors in Section 3.11.

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,

N. F. Conicella

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

Enclosures:
1. Amendment No. 122to DPR-64
2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. Ralph E. Beedle
Power Authority of the State
of New York

Indian Point Nuclear Generating
Station Unit No. 3

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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. 122
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 January 8, 1992, as supplemented February 4, 1992, 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. 122, 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

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: June 25, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 122

FACILITY OPERATING LICENSE NO. DPR-64

DOCKET NO. 50-286

Revise Appendix A as follows:

Remove Pages	Insert Pages
iii	iii
3.11-1	3.11-1
3.11-2	3.11-2

3.11 MOVABLE INCORE INSTRUMENTATION

Applicability

Applies to the operability of the movable detector instrumentation system.

Objective

To specify functional requirements on the use of the incore instrumentation system, for the recalibration of the excore axial off-set detection system.

Specification

A. A minimum of 2 thimbles per quadrant and sufficient movable incore detectors shall be operable during recalibration of the excore axial off-set detection system.

B. Power shall be limited to 90% of rated power if recalibration requirements for the excore axial off-set detection system, identified in Table 4.1-1, are not met.

C. During the incore/excore calibration procedure, all full core flux maps will be made only when at least 38 of the movable detector guide thimbles are operable.

Basis

The Movable Incore Instrumentation System[1] has six drives, six detectors, and 58 movable detector guide thimbles in the core. Fifty (50) of these thimbles were provided as part of the original design basis of the plant. The other eight thimbles are supplemental thimbles that were connected during the 8/9 refueling outage. The eight supplemental thimbles are maintained to the same standards as the original 50 thimbles. These eight supplemental thimbles can be used to satisfy the 38 thimble requirement for flux mapping. An appropriate evaluation will be performed prior to the initial use of the supplemental thimbles to satisfy technical specification requirements for flux mapping. The eight supplemental thimbles improve the reliability of the Movable Incore Instrumentation System. Each of the six movable incore detectors can be routed to sixteen or more thimbles. Consequently, the full system has a great deal more capability than would be needed for the calibration of the excore detectors.

To calibrate the excore detectors, it is only necessary that the Movable Incore Instrumentation System be used to determine the gross power distribution in the core as indicated by the power balance between the top and bottom halves of the core.

After the excore system is calibrated initially, recalibration is needed only infrequently to compensate for changes in the core, due for example to fuel depletion, and for changes in the detectors.

If the recalibration is not performed, the mandated power reduction assures safe operation of the reactor as it will compensate for an error of 10% in the excore protection system. Experience at Beznau No. 1 and R.E. Ginna plants has shown that drift due to changes in the core or instrument channels is very slight. Thus the 10% reduction is considered to be very conservative.

Reference

(1) FSAR - Section 7.6

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 122 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 January 8, 1992, as supplemented February 4, 1992, 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 (TS). The requested changes would revise TS Section 3.11 (Moveable In-Core Instrumentation) to specify 38 as the minimum number of detector guide thimbles required operable. The current TS requirement is that 75 percent of the installed guide thimbles must be operable. There are 50 installed guide thimbles, and the 38 results from 75 percent of the 50. Therefore, the proposed operability requirement is effectively the same operability requirement that currently exists. This TS amendment was requested since the licensee intends on performing a plant modification to install eight (8) supplemental guide thimbles making 58 the total number installed. The amendment also corrects administrative and typographical errors in Section 3.11.

2.0 EVALUATION

The moveable incore instrumentation system is used to generate flux maps for recalibration of the excore detection system. The incore system consists of guide thimbles which run the length of selected fuel assemblies to measure the neutron flux distribution within the reactor core. The incore system has six drives, six detectors, and 50 guide thimbles located in the core. Each detector can be routed to at least 16 guide thimbles, therefore, the full system has capability in excess of that required to calibrate the excore detection system. In addition, a common path is provided to permit cross calibration of the six detectors.

The 50 guide thimbles are distributed throughout the core in positions which provide symmetry checks and sufficient coverage to generate a full core three-dimensional power shape. With the present number and location of thimbles, the measurement accuracy for peak to average rod in an x-y plane is 3.65% and for peak to average pellet, including axial peaking, is 4.58%. These accuracies, which include flux thimble to hot rod calculational uncertainty and instrumentation repeatability, represent a 95% confidence level that fewer than 5% of the cases lie outside this error allowance. This confidence level

and accuracy are consistent with DNB criteria and these 50 guide thimbles were part of the design basis of the plant.

The licensee plans a plant modification that will make eight additional guide thimbles available for use with the moveable incore instrumentation system. The modification will provide the drive paths necessary for insertion of the moveable incore detectors. The licensee states that these eight supplemental guide thimbles are located in areas previously occupied by thimbles used with the fixed incore detection system. The fixed incore detection system was originally part of a research and development program and is no longer used or required at IP3. The supplemental guide thimbles, which would make the total available 58, will allow for improved reliability of the moveable incore system. The licensee states that the eight supplemental guide thimbles will be maintained to the same standards as the original 50 guide thimbles and an appropriate evaluation will be performed prior to the initial use of the supplemental guide thimbles.

The current IP3 TS require, in part, that at least 75% of the 50 guide thimbles must be operable in order to perform full core flux maps during the incore/excore calibration process. Therefore, at least 38 guide thimbles must be operable. The licensee proposed that the TS specifically state that 38 of the guide thimbles must be operable. The proposed requirement is the same as that which currently exists; however, for clarity, the requirement would be stated in terms of a specific number rather than a percentage. This would allow the licensee to enhance the quality of the flux mapping by using the eight supplemental guide thimbles without imposing a more stringent requirement for the minimum number of thimbles required operable. Otherwise, 75% of 58 guide thimbles would require at least 44 guide thimbles to be operable, an increase of six guide thimbles above the current requirement.

The NRC staff has reviewed the proposed TS change related to the number of operable guide thimbles and concludes that the change does not significantly change the current operability requirement and is acceptable since a sufficient number of guide thimbles remain to ensure safe operation. In addition, the eight supplemental guide thimbles will increase the quality of the flux maps produced.

The licensee also proposed corrections to administrative and typographical errors. TS Section 3.11 would be revised to indicate FSAR section 7.6 as the correct reference and reference to three loop operation would be deleted. Currently, Section 3.11 states, in part, that power shall be limited to 65% of rated power for operation with three reactor coolant loops, if the calibration requirements for the excore axial off-set detection system is not met. However, TS Section 3.1 (Reactor Coolant System), does not allow the reactor to be operated at power levels above 10% of rated, with less than four reactor coolant loops in operation. IP3 was never licensed to operate above 10% power with less than four reactor coolant loops in operation. Therefore, the current reference to three loop operation, as stated in Section 3.11,

would be deleted since it is not applicable to IP3. All other changes would be minor and needed for clarification or consistency. The staff has reviewed these proposed administrative and typographical changes and finds them 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. 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 (57 FR 7813). 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: June 25, 1992

June 25, 1992

Docket No. 50-286

Mr. Ralph E. Beedle
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
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Sincerely,
Original Signed By:
Nicola F. Conicella, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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cc w/enclosures:
See next page

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DATE	6/3/92	6/3/92	6/4/92	6/8/92	6/25/92

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DATED: June 25, 1992

AMENDMENT NO. 122 TO FACILITY OPERATING LICENSE NO. DPR-64-INDIAN POINT UNIT 3

Docket File
NRC & Local PDRs
PDI-1 Reading
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J. Calvo, 14/A/4
R. Capra
C. Vogan
N. Conicella
OGC-WF
D. Hagan, 3302 MNBB
G. Hill (4), P-137
Wanda Jones, P-130A
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