

Mr. James Knubel  
Chief Nuclear Officer  
Power Authority of the State of  
New York  
123 Main Street  
White Plains, NY 10601

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 - ISSUANCE OF  
AMENDMENT RE: EXTENSION FOR PRESSURE/TEMPERATURE LIMIT  
CURVES AND OVERPRESSURE PROTECTION SYSTEM SETPOINTS (TAC  
NO. MA8813)

Dear Mr. Knubel:

The Commission has issued the enclosed Amendment No. \_\_\_\_\_ 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 (TSs) in response to your application transmitted by letter dated April 27, 2000. The amendment would revise TS Sections 3.1 and 4.3 to extend the Pressure/Temperature Limit Curves and the Overpressure Protection System setpoints from 13.3 Effective Full-Power Years (EFPY) to 16.2 EFPY.

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,

George F. Wunder, Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-286

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

cc w/encls: See next page

Indian Point Nuclear Generating Unit No. 3

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Power Authority of the State of  
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George F. Wunder, Project Manager, Section 1  
Project Directorate I  
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2. Safety Evaluation

cc w/encls: See next page

Accession No. ML003749198

OFFICE		E			E				

Official Record Copy

DATED: \_\_\_\_\_

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

PUBLIC

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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.  
License No. DPR-64

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Power Authority of the State of New York, (the licensee) dated April 27, 2000, 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. \_\_\_\_\_, 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

Marsha Gamberoni, Chief, Section I  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance:

ATTACHMENT TO LICENSE AMENDMENT NO. \_\_\_\_\_

FACILITY OPERATING LICENSE NO. DPR-64

DOCKET NO. 50-286

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

Remove Pages

viii  
3.1-11  
3.1-12  
3.1-15  
3.1-16  
3.1-17  
3.1-18  
3.1-23  
3.1-24  
4.3-1  
4.3-2  
4.3-3

Insert Pages

viii  
3.1-11  
3.1-12  
3.1-15  
3.1-16  
3.1-17  
3.1-18  
3.1-23  
3.1-24  
4.3-1  
4.3-2  
4.3-3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. \_\_\_\_\_ 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 April 27, 2000, 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 (TSs). The requested changes would extend the current Pressure/Temperature (P-T) Limit Curves, and the Overpressure Protection System (OPS) setpoints, from 13.3 Effective Full-Power Years (EFPY) to 16.2 EFPY. The request is based on the premise that the value of the fluence used in the evaluation of the current P-T curves for 13.3 EFPY is higher or equal to the presently estimated value for the end of 16.2 EFPY, i.e., the period of the requested extension. The licensee, therefore, requested that the present P-T curves and OPS setpoints remain unchanged.

## 2.0 EVALUATION

The present P-T curves and OPS setpoints, valid for 13.3 EFPY, were approved in Amendment No. 179, issued on April 10, 1998. In their application for Amendment No. 179, the licensee based its fluence calculation on the ENDF/B-IV cross section. Because discrepancies had been identified in the iron inelastic scattering for the ENDF/B-IV cross section, and because such discrepancies could be significant for a reactor that has a thermal shield such as IP3, the licensee added 15 percent to these fluence values. The staff found this approach acceptable. The discrepancies identified in the ENDF/B-IV cross section have been corrected in the ENDF/B-VI cross section.

The licensee has had a program of vessel flux reduction and has used low-leakage cores since the late 1980s; in addition, the licensee added hafnium sleeves in the outer assemblies to achieve further reduction in the areas of peak azimuthal fluence. The reduced flux from low-leakage cores was not accounted for in the fluence calculation for Amendment No. 179.

The current TS fluence limits will be reached at 13.3 EFPY. This will occur on or about October 26, 2000. In their April 27, 2000, submittal, the licensee included fluence values that were recalculated using the ENDF/B-VI based cross sections and taking low leakage into account. The recalculated fluence values also take into account the effect of the hafnium sleeves on the neutron leakage and provided the fast neutron flux ( $E > 1.0$  MeV) at the azimuthal location of maximum rate exposure ( $45^\circ$  off the main axis). For the purposes of the

April 27, 2000, submittal, the fluence was calculated at the end of Cycle 10; this corresponds to 12.88 EFPYs.

Based on the updated fluence calculation and on the value of the fluence used in Amendment No. 179, the licensee has calculated that the pressure vessel exposure saved due to low leakage loadings and the additional savings due to the hafnium sleeves, should allow for an additional 3.95 EFPYs of operation on the same P-T curves and OPS settings beyond the explicit fluence calculated at the end of Cycle 10. This calculation is based on the assumption that the cores for Cycle 11 and beyond will have leakage as low as or lower than the Cycle 10 core. The validity of this assumption is verified by periodic testing. In accordance with Appendix H to 10 CFR Part 50, the licensee has in place a program under which surveillance capsules are periodically removed from the reactor. Analyses of these capsules allow the licensee to determine the actual fluence received by the vessel and any changes to the vessel's fracture toughness.

The staff has reviewed the licensee's submittal. The staff agrees that the conservatism of adding 15 percent to the fluence values calculated for Amendment No. 179 combined with the fact that the licensee has not taken credit for reduced neutron leakage indicate that the current P-T curves should remain applicable for 16.2 EFPYs. The licensee's calculation is based on the assumption that neutron leakage does not increase over its Cycle 10 value and the licensee has in place a program to verify this assumption. The staff, therefore, finds the proposed amendment acceptable.

#### 2.1 Technical Specification Changes

The P-T curves do not change for the requested extension. The only changes to the TSs are in Sections 3.1 and 4.3 to indicate that the period of applicability increased from 13.3 EFPYs to 16.2 EFPYs. For the reasons stated above, the staff finds these changes 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 (65 FR 52451). 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: L. Lois

Date: