January 19, 2005

Mr. Michael Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 - ISSUANCE OF AMENDMENT RE: CONTROL ROOM VENTILATION SYSTEM (TAC NO. MC4991)

Dear Mr. Kansler:

The Commission has issued the enclosed Amendment No. 223 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 October 26, 2004, as supplemented on December 22, 2004.

The amendment revises TS 3.7.11, "Control Room Ventilation System (CRVS)," to allow, on a one-time basis, an extension of the allowed outage time to support the placement of the CRVS in an alternate configuration for tracer gas testing. The proposed amendment would also allow self-contained breathing apparatus and potassium iodide pills to be used as compensatory measures for the control room operators in the event that the tracer gas test results are not bounded by the dose consequence evaluations.

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,

/RA/

Patrick D. Milano, Sr. 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. 223 to DPR-64
2. Safety Evaluation

cc w/encls: See next page

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DATE	01/12/05	01/12/05	01/11/05	01/18/05	01/19/05

Official Record Copy

DATED: January 19, 2005

AMENDMENT NO. 223 TO FACILITY OPERATING LICENSE NO. DPR-64 INDIAN POINT UNIT 3

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Indian Point Nuclear Generating Unit No. 3

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Indian Point Nuclear Generating Unit No. 3

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ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-286

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 223
License No. DPR-64

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

   A. The application for amendment by Entergy Nucleaar Operations, Inc. (the licensee) dated October 26, 2004, as supplemented on December 22, 2004, 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. 223, 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. Implementation of the license amendment shall include the incorporation of the commitments described in the staff's safety evaluation dated January , 2005, into the license's commitment management program.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by Darrell J. Roberts for/

Richard J. Laufer, 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: January 19, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 223

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	Insert Pages
3.7.11-1	3.7.11-1
B 3.7.11-5	B 3.7.11-5

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 223 TO FACILITY OPERATING LICENSE NO. DPR-64

ENTERGY NUCLEAR OPERATIONS, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NO. 50-286

1.0 INTRODUCTION

By letter dated October 26, 2004, as supplemented on December 22, 2004, Entergy Nuclear Operations, Inc. (the licensee) submitted a request for changes to the Indian Point Nuclear Generating Unit No. 3 (IP3) Technical Specifications (TSs). The requested changes would revise TS 3.7.11, "Control Room Ventilation System (CRVS)," to allow, on a one-time basis, the extension of the allowed outage time for the CRVS to permit tracer gas testing. The CRVS would be placed in an alternate configuration as part of this testing. The proposed amendment would also allow self-contained breathing apparatus (SCBA) and potassium iodide (KI) pills to be used as compensatory measures for the control room operators in the event that the tracer gas test results are not bounded by the dose consequence evaluations. The December 22, 2004, letter provided information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on November 8, 2004 (69 FR 64792).

2.0 REGULATORY EVALUATION

The CRVS provides a protected environment from which the plant operators can control the operation of the facility following an uncontrolled release of radioactivity, chemicals, or toxic gas. The active components of the system are arranged in two redundant, safety-related ventilation trains. The location of components and ducting within the control building envelope ensures adequate supply of filtered air to all areas requiring personnel access. The CRVS provides airborne radiological protection for the control room operators, as demonstrated by the control room accident dose analyses for the most limiting design-basis accident (DBA) as described in Chapter 14 of the Final Safety Analysis Report. In this regard, the CRVS is designed to maintain the control room environment for 30 days of continuous occupancy after a DBA without exceeding a 5-rem whole body dose or 30 rem to the thyroid in accordance with General Design Criterion 19, "Control room," in Appendix A to Part 50 of Title 10 of the *Code of Federal Regulations*.

3.0 TECHNICAL EVALUATION

3.1 Proposed TS Changes

By letter dated October 26, 2004, the licensee proposed to amend the IP3 TSs. This request involved approval of the operation of the CRVS in a configuration different than that currently licensed. The October 26 application was also submitted to allow the performance of tracer gas testing of the control room envelope (CRE) prior to the March 2005 refueling outage. The amendment would include credit for protective actions for control room operators in the event that the tracer gas testing identified unfiltered inleakage greater than that in current licensing basis assumptions. The amendment request would also permit operation of the CRVS in a configuration that the licensee has proposed as the new licensing basis mode of operation following the Cycle 13 refueling outage in March 2005. To implement this request, the licensee proposed a reviewer's note to TS 3.7.11. This reviewer's note indicated that the CRVS could be aligned in an alternate configuration for purposes of tracer gas testing and for the remainder of the Cycle 13 operating period. The note would expire March 31, 2005.

The October 26 amendment application was supplemented in the licensee's letter dated December 22, 2004. In this letter, the licensee proposed to re-align the CRVS only for purposes of tracer gas testing. In this re-alignment, the CRVS would be rendered inoperable based upon the current design and licensing basis of the CRVS. The current completion time for an inoperable CRVS train in TS 3.7.11 Action A is 7 days and for two inoperable CRVS trains is 72 hours in Action B. The licensee requested an extension of these completion times to 14 days. The licensee indicated that such an extension would permit tracer gas testing of the CRE. With this change in approach, the interim request to change SR 3.7.11.4, as proposed in the October 26, 2004, letter, would no longer be necessary. Therefore, the note which had been proposed to SR 3.7.11.4 in the October 26 letter was no longer necessary.

In a similar fashion, a reviewer's note, which was proposed for the limiting condition for operation of TS 3.7.11 would not be necessary. Instead, it would be replaced by a footnote that would be added to the completion times of TS 3.7.11 Actions A and B. This footnote would state, "This completion time may be extended to 14 days on a one-time only basis to permit tracer gas testing. This applies to tracer gas testing only and is for no other purpose."

In a letter dated December 15, 2004, the licensee proposed to make permanent the TS changes as detailed in the October 26 application. In addition, this letter contained additional TSs changes which reflected the permanent changes to the CRVS and the implementation of the alternate source term (AST), which was requested in a June 2, 2004, amendment request. The December 15 letter supplements the June 2 application for AST. This request is currently undergoing Nuclear Regulatory Commission (NRC) staff review and will be the subject of a separate safety evaluation.

Presently, the IP3 CRVS has four modes of operation. CRVS Mode 1 is "Off" with the CRVS shutdown. Mode 2 is "Normal," with the CRVS supplying a mixture of conditioned return air from the control room and outside air. Mode 3 is the "10% Incident Mode", with the CRVS taking a portion of the return air from the control room and mixing it with outside air before going through a charcoal filter unit and then supplying it to the control room following conditioning of the air. Mode 4 is the "100% Incident Mode" where the system takes a portion

of the return air, directs it through the charcoal filter unit and then supplies it to the control room after conditioning. In Mode 4, no outside air is provided to the control room. Mode 3 is used for radiological challenges, and Mode 4 is used for hazardous chemical challenges.

In the new configuration of the CRVS, changes will be made to operational Modes 3 and 4. For Mode 3, the recirculation of control room air through the charcoal filter unit would be eliminated. Filtered makeup flow to the control room would be increased from #400 cfm to $1500 cfm. For Mode 4, recirculation through the charcoal filter unit would be eliminated.

The October 26 submittal contained a note in the Bases of TS 3.7.11 which stated, “In the event that tracer gas testing identifies unfiltered inleakage in excess of limit established in applicable dose consequence analyses, SCBA and KI pills may be implemented as compensatory measures as long as an evaluation concludes that the operator dose limits of GDC 19 continue to be met.” As originally proposed, no time limit was proposed for the utilization of these compensatory measures. In the December 22, 2004 letter, the licensee committed to removing the note so that the note applies only until startup from the Cycle 13 refueling outage.

3.2 Staff Assessment

In support of its amendment application, the licensee provided dose analyses and evaluations with the December 22, 2004, letter. This supporting information established bounding limits for unfiltered inleakage. The bounding limits were established for two CRVS modes of operation. The first mode covered operation with 400 cfm of filtered and adsorbed makeup flow and 1000 cfm of filtered and adsorbed recirculation flow. The second mode covered $1500 cfm of filtered and adsorbed makeup flow and no recirculation. Compensatory measures in the form of KI pills and SCBA would be available in the event that tracer gas testing revealed that the unfiltered inleakage into the CRE exceeded inleakage rates assumed in the dose analyses and evaluations.

The licensee’s supporting information included assessments of the consequences of a large-break loss-of-coolant accident (LOCA), a small-break LOCA, and rod ejection, steam generator tube rupture (SGTR), main steam line break (MSLB) and locked rotor accidents.

The licensee utilized the analyses in the AST amendment submittal of June 2, 2004, as the basis for this supporting information. While the AST amendment proposal provided the supporting information, the metric, which was utilized in the assessment, was not the total effective dose equivalent (TEDE) dose but was the 30-rem thyroid and 5-rem whole body dose criteria. However, the thyroid dose was limiting.

In order that the 30 rem limit would not be exceeded for an assumed unfiltered inleakage of 240 cfm, the licensee’s supporting assessments included certain alterations of the AST analyses. For the LOCA, credit had to be taken for iodine removal by the containment’s fan cooler’s charcoal adsorber and high efficiency particulate filter. Removal was assumed to be 90% for the elemental and particulate forms of iodine and 70% for the organic form of iodine. The assumed emergency core cooling system post-LOCA leakage outside containment was reduced from an assumed total of 4 gallons per hour to 2 gallons per hour. For the SGTR and MSLB accidents, meeting the 30-rem thyroid criterion necessitated reducing the allowable

reactor coolant iodine activity level in primary coolant to 25% of the existing TS limit. For the locked rotor accident, primary to secondary leakage had to be limited to 500 gallons per day (gpd) total for all steam generators instead of the existing TS limit of 1440 gpd total from all steam generators. For the small-break LOCA and the rod ejection accident, no alterations were required to the AST analyses.

The licensee also provided in its December 22 submittal, an assessment which indicated that, with an unfiltered inleakage of 10,500 cfm, the control room operators' thyroid dose would remain less than 30 rem provided either KI or SCBAs were utilized. The licensee's assessment calculated a thyroid dose from a LOCA at 239.7 rem thyroid when the CRE unfiltered inleakage was 10,500. Assuming use of KI with dose reduction factor of 10 or SCBAs with a dose reduction factor of 10-10,000, the thyroid dose would still be below 30 rem.

The NRC staff has assessed the analyses that were utilized to demonstrate the ability of IP3 to maintain control room operators' thyroid dose within 30 rem for an unfiltered inleakage of 240 cfm. The staff has concluded that the licensee's demonstration is sufficient for the period of effectiveness of this amendment, which is from the date of issuance until March 31, 2005. However, this acceptance is contingent upon the licensee including the following commitments into its commitment management program:

1. to maintain its leakage reduction program to less than 1 gallon per hour;

2. to perform a laboratory test of the containment fan coolers' charcoal that demonstrates an organic iodine removal efficiency which equates to 70% efficiency when the methodology of Generic Letter 99-02 is used; and

3. to administratively control the activity level of iodine in primary coolant to below 25% of the TS values and primary-to-secondary leakage to a total of 500 gpd.

The NRC staff has also concluded that, should the tracer gas testing show that the unfiltered inleakage into the CRE exceeds 240 cfm but is less than 10,500 cfm, the control room operators' thyroid dose would remain less than 30 rem thyroid provided either KI or SCBAs are utilized to offset the potential consequences of an accident.

The staff finds that the use of these compensatory actions are acceptable because the projected dose to the operators remains with the regulatory limit and the duration of the compensatory actions are limited. The licensee has indicated that it will complete the tracer gas testing prior to March 31, 2005.

The NRC staff has also assessed the proposed changes to TS 3.7.11, which includes the footnote to TS 3.7.11 Actions A and B. The staff finds the addition of the footnote acceptable.

4.0 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.

5.0 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 (69 FR 64792). 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.

6.0 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: J. Hayes

Date: January 19, 2005