October 30, 2003

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: TECHNICAL SPECIFICATION AMENDMENT FOR LABORATORY TESTING OF NUCLEAR-GRADE ACTIVATED CHARCOAL PER GENERIC LETTER 99-02 (TAC NO. MB7224)

Dear Mr. Kansler:

The Commission has issued the enclosed Amendment No. 219 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 23, 2001, as supplemented by letters dated March 29, and December 17, 2002, and June 12, 2003.

The amendment revises TS 5.5.10, "Ventilation Filter Testing Program," to adopt the requirements of the American Society for Testing and Materials Standard D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon." The TS revisions are in response to Nuclear Regulatory Commission (NRC) Generic Letter 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal." Specifically, the amendment revises the TSs to: (1) provide a control room ventilation system (CRVS) methyl iodide removal efficiency of greater than or equal to 95.5% and remove the notation that there is a 1-inch charcoal bed depth; (2) allow for the continued use of the existing CRVS through Refueling Outage 13, in order to design, fabricate, and install a 2-inch charcoal filter bed; and (3) add a note in the TSs requiring a demonstration of charcoal efficiency of 93% when changing the charcoal in the existing CRVS bed prior to any fuel movement in the upcoming Refueling Outage 12 and every 6 months thereafter until the new beds are installed. In its December 17, 2002, letter, the licensee withdrew its request to change the maximum CRVS differential pressure in TS 5.5.10.d.

A copy of the related Safety Evaluation is also 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. 219 to DPR-64
2. Safety Evaluation

cc w/encls: See next page

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

Sincerely,

/RA/

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Accession Number: ML033070330

OFFICE	PDI-1\PM	PDIV\PM	PDI-1\LA	SPSB\SC	OGC	PDI-1\SC
NAME	PMilano	PMilano for MHoncharik	SLittle	JLee for RDennig	AHodgdon	RLaufer
DATE	10/10/03	10/10/03	10/10/03	10/14/03	10/24/03	10/28/03

Official Record Copy

DATED: October 30, 2003

AMENDMENT NO. 219 TO FACILITY OPERATING LICENSE NO. DPR-64 INDIAN POINT UNIT 3

PUBLIC
PDI R/F
R. Laufer
S. Little
P. Milano
M. Honcharik
J. Raval
R. Dennig
W. Beckner
J. Raval
B. Platchek, RI
OGC
G. Hill (2)

cc: Plant Service list

Indian Point Nuclear Generating Unit No. 3

cc:

Mr. Gary Taylor
Chief Executive Officer
Entergy Operations, Inc.
1340 Echelon Parkway
Jackson, MS 39213

Mr. John Herron
Senior Vice President and
Chief Operating Officer
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Fred Dacimo
Vice President, Operations
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
295 Broadway, Suite 2
P.O. Box 249
Buchanan, NY 10511-0249

Mr. Christopher Schwarz
General Manager, Plant Operations
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
295 Broadway, Suite 2
P.O. Box 249
Buchanan, NY 10511-0249

Mr. Dan Pace
Vice President Engineering
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Randall Edington
Vice President Operations Support
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. John Kelly
Director, Nuclear Safety Assurance
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Ms. Charlene Faison
Manager, Licensing
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Director of Oversight
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. James Comiotes
Director, Nuclear Safety Assurance
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
295 Broadway, Suite 2
P.O. Box 249
Buchanan, NY 10511-0249

Mr. John McCann
Manager, Licensing
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
295 Broadway, Suite 2
P. O. Box 249
Buchanan, NY 10511-0249

Mr. John M. Fulton
Assistant General Counsel
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Senior Resident Inspector, Indian Point 3
U. S. Nuclear Regulatory Commission
295 Broadway, Suite 1
P.O. Box 337
Buchanan, NY 10511-0337

Indian Point Nuclear Generating Unit No. 3

cc:

Mr. Peter R. Smith, Acting President
New York State Energy, Research, and
Development Authority
Corporate Plaza West
286 Washington Avenue Extension
Albany, NY 12203-6399

Mr. J. Spath, Program Director
New York State Energy, Research, and
Development Authority
17 Columbia Circle
Albany, NY 12203-6399

Mr. Paul Eddy
Electric Division
New York State Department
of Public Service
3 Empire State Plaza, 10th Floor
Albany, NY 12223

Mr. Charles Donaldson, Esquire
Assistant Attorney General
New York Department of Law
120 Broadway
New York, NY 10271

Mayor, Village of Buchanan
236 Tate Avenue
Buchanan, NY 10511

Mr. Ray Albanese
Executive Chair
Four County Nuclear Safety Committee
Westchester County Fire Training Center
4 Dana Road
Valhalla, NY 10592

Ms. Stacey Lousteau
Treasury Department
Entergy Services, Inc.
639 Loyola Avenue
Mail Stop: L-ENT-15E
New Orleans, LA 70113

Mr. William DiProfio
PWR SRC ConsultaNT
139 Depot Road
East Kingston, NH 03827

Mr. Dan C. Poole
PWR SRC Consultant
20 Captains Cove Road
Inglis, FL 34449

Mr. William T. Russell
PWR SRC Consultant
400 Plantation Lane
Stevensville, MD 21666-3232

Alex Matthiessen
Executive Director
Riverkeeper, Inc.
25 Wing & Wing
Garrison, NY 10524

Paul Leventhal
The Nuclear Control Institute
1000 Connecticut Avenue NW
Suite 410
Washington, DC, 20036

Karl Copeland
Pace Environmental Litigation Clinic
78 No. Broadway
White Plains, NY 10603

Jim Riccio
Greenpeace
702 H Street, NW
Suite 300
Washington, DC 20001

Mr. Robert D. Snook
Assistant Attorney General
State of Connecticut
55 Elm Street
P.O. Box 120
Hartford, CT 06141-0120

Indian Point Nuclear Generating Unit No. 3

cc:

Mr. David Lochbaum
Nuclear Safety Engineer
Union of Concerned Scientists
1707 H Street NW, Suite 600
Washington, DC 20006

ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-286

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 219
License No. DPR-64

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

   A. The application for amendment by Entergy Nuclear Operations, Inc. (the licensee) dated October 23, 2001, as supplemented on March 29 and December 17, 2002, and June 12, 2003, 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. 219, 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

/RA/

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: October 30, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 219

FACILITY OPERATING LICENSE NO. DPR-64

DOCKET NO. 50-286

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page	Insert Page
5.0-24	5.0-24

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 219 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 23, 2001, as supplemented on March 29 and December 17, 2002, and June 12, 2003, Entergy Nuclear Operations, Inc. (ENO or 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 5.5.10, "Ventilation Filter Testing Program," to adopt the requirements of the American Society for Testing and Materials Standard (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon." The proposed revisions to the TSs are in response to Nuclear Regulatory Commission (NRC) Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal." Specifically, the amendment would revise the TS 5.5.10 to: (1) provide a control room ventilation system (CRVS) methyl iodide removal efficiency of greater than or equal to 95.5% and remove the notation that there is a 1-inch charcoal bed depth; (2) allow for the continued use of the existing CRVS through Refueling Outage 13, in order to design, fabricate, and install a 2-inch charcoal filter bed; and (3) add a note in the TS requiring a demonstration of charcoal efficiency of 93% when changing the charcoal in the existing CRVS bed prior to any fuel movement in the upcoming Refueling Outage 12 and every 6 months thereafter until the new beds are installed. In its December 17, 2002, letter, the licensee withdrew its original request to change the maximum CRVS differential pressure in TS 5.5.10.d. The March 29 and December 17, 2002, and June 12, 2003, letters provided clarifying information that did not enlarge the scope of the amendment request or change the initial proposed no significant hazards consideration determination.

2.0 REGULATORY EVALUATION

The NRC staff finds that the licensee in Attachment 1 of the June 12, 2003, supplemental letter identified the applicable regulatory requirements. In GL 99-02, the NRC staff alerted licensees about an issue regarding testing nuclear-grade activated charcoal. Specifically, GL 99-02 informed licensees that testing nuclear-grade activated charcoal to standards other than ASTM D3803-1989 does not provide assurance for complying with current licensing bases with respect to the dose limits of General Design Criterion (GDC) 19 of Appendix A to Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR) and Subpart A of 10 CFR Part 100. The NRC staff based its acceptance upon the guidance presented in GL 99-02 as detailed below:

a. GL 99-02 requests that licensees adopt a new test protocol as defined in ASTM D3803-1989 for measuring methyl iodide removal efficiency of charcoal filters and

establishes test acceptance criteria in the TSs to ensure that the efficiencies assumed in accident analyses remain valid.

b. GL 99-02 clarifies that, to ensure that the charcoal filters used in these systems will perform in a manner that is consistent with the licensing basis of a facility, licensees have requirements in their TSs to periodically perform a laboratory test (in accordance with a test standard) of charcoal samples taken from these ventilation systems.

c. GL 99-02 requests that all licensees determine whether their TSs reference ASTM D3803-1989 for laboratory testing of charcoal filters. Licensees whose TSs do not reference ASTM D3803-1989 were requested to either amend their TSs to reference ASTM D3803-1989 or propose an alternative test protocol.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of its proposed license amendment, which are described in Attachment 1 of the licensee's October 23, 2001, application. The detailed evaluation below will support the conclusion 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.

3.1 Background

On June 3, 1999, the NRC issued GL 99-02 to alert licensees that testing of nuclear-grade activated charcoal to standards other than ASTM D3803-1989 does not provide assurance for complying with the current licensing basis as it relates to the dose limits of GDC 19 of Appendix A to 10 CFR Part 50 and subpart A of 10 CFR Part 100. The staff requested, in part, that all licensees whose TSs did not reference ASTM D3803-1989 to either amend the TSs to reference ASTM D3803-1989 or propose an alternative test protocol.

By letter dated August 2, 1999, the Power Authority of the State of New York (PASNY, the former licensee) submitted its 60-day response to the actions requested in GL 99-02 for IP3. By letter dated November 29, 1999, as supplemented October 27, 2000, PASNY applied for an amendment to the IP3 TSs to adopt ASTM D3808-1989 for charcoal filter laboratory testing with certain exceptions. On November 21, 2000, PASNY's ownership interest in IP3 was transferred to ENO to possess, use, and operate IP3. By letter dated January 26, 2001, ENO requested that the NRC continue to review and act on all requests before the Commission which had been submitted by PASNY before the transfer. Accordingly, the NRC staff continued its review of PASNY's license amendment application. Subsequently, by letter dated May 12, 2001, ENO withdrew the amendment request.

By letter dated October 23, 2001, as supplemented on March 29 and December 17, 2002, and June 12, 2003, ENO submitted an application to amend the IP3 TSs to adopt the requirements of ASTM D3803-1989.

3.2 Proposed Changes to TS 5.5.10

The licensee requested the following changes to TS 5.5.10:

1. In Section 5.5.10, item c, delete the words “at the conditions specified below" and insert the words “in accordance with ASTM D3803-1989, subject to clarification below, at a temperature of 86°F and a relative humidity of 95%."

2. In Section 5.5.10, item c, under the column entitled “Methyl iodide removal efficiency (%)[”] replace "≥ 90" with "≥ 95.5" for the Control Room Ventilation System.

3. In Section 5.5.10, item c, delete the four columns entitled “Methyl iodide inlet concentration (mg/m^3):", “Flow velocity equivalent to following flow rate (cfm):", [“]Temperature (degrees F):", and "Relative Humidity (%):" and delete the note referenced in these columns that says “* Per test 5.b in Table 2 of Regulatory Guide 1.52, March 1978.” Insert a new column entitled “ASTM D3803-1989 Clarification:" and insert next to the indicated ventilation systems the following:

   a. Fuel Storage Building Emergency Ventilation System (FSBVS) - "59 ft/min face velocity"
   b. Control Room Ventilation System (CRVS) - "78 ft/min face velocity"
   c. Containment Fan Cooler Units (CFCU) - "59 ft/min face velocity"
   d. Containment Purge System (CPS) - "31 ft/min face velocity"

4. Delete the existing note under the table that says “*Per test 5.b in Table 2 of Regulatory Guide 1.52, March 1978." Add a note that says "Note: For the 1" beds, the Control Room Ventilation System methyl iodide removal efficiency is verified greater than or equal to 93% rather than 95.5% at a face velocity of 50 ft/min under the above requirements. This is done prior to fuel movement in Refuel Outage 12 and every 6 months after Refuel Outage 12 until the end of Refuel Outage 13 or the 2" beds are installed."

The current and proposed TS surveillance requirements for laboratory testing of charcoal samples for the FSBVS, CRVS, CFCU, and CPS are summarized in Tables 1 and 2, respectively.

3.3 Evaluation of Proposed TS Changes

3.3.1 Adoption of ASTM D3803-1989 testing standard testing at a temperature of 86 °F (30°C) and a relative humidity (RH) of 95%:

The licensee stated that the proposed TS change adopts the ASTM D3803-1989 standard for testing nuclear-grade activated charcoal in order to conform with the guidance of GL 99-02.

The NRC received a letter from ASTM in response to a March 8, 2000, *Federal Register* notice (65 FR 12286) related to revising testing standards in accordance with ASTM D3803-1989 for laboratory testing of activated charcoal, in response to GL 99-02. ASTM notified the NRC that the 1989 standard was out of date and should be replaced by ASTM D3803-1991 (1998). The

staff acknowledges that the most current version of ASTM D3803 is ASTM D3803-1991 (reaffirmed in 1998). However, for consistency purposes, it is preferable to have all nuclear power reactors test to the same standard (ASTM D3803-1989) because, prior to the issuance of GL 99-02, about one third of the nuclear reactors had TSs that referenced ASTM D3803-1989 and there were no substantive changes between the 1989 and 1998 versions. Because the NRC staff considers ASTM D3803-1989 to be the most accurate and most realistic protocol for testing charcoal in safety-related ventilation systems, the NRC staff finds that the proposed TS revisions satisfy the actions requested in GL 99-02.

The NRC staff concludes that the proposed use of ASTM D3803-1989 is acceptable because it provides accurate and reproducible test results. The proposed test temperature of 86 °F (30°C) and RH of 95% are acceptable because they are consistent with ASTM D3803-1989. This change is consistent with the actions requested in GL 99-02.

3.3.2 Improved CRVS Methyl Iodide Removal Efficiency

The credited efficiency for radioactive organic iodine for the CRVS is 90%. The proposed test penetration for methyl iodide for the CRVS $\leq$4.5%. The proposed test penetrations were obtained by applying maximum safety factor (SF) of 1.818 for CRVS, including 1% system bypass around the charcoal filter, to the credited efficiencies of 90% for CRVS.

In the June 12, 2003, letter the licensee provided the following information in support of the SF of less than two for the CRVS:

- GL 99-02 specifies that an SF of two or greater should be used unless approved on a case-by-case basis. The licensee adopts the NRC's methodology for calculating an SF equal to [100% - accident methyl iodide efficiency] divided by [100% - (methyl iodide efficiency allowed by TS - bypass allowable)].

- There are two factors justifying a lower SF: (1) charcoal does not degrade rapidly over time, and (2) the past surveillances show that bypass is less than 1 percent to provide additional margin.

- That charcoal does not degrade rapidly over time is demonstrated by testing of the FSBVS since charcoal was last replaced in September 1999. The FSBVS charcoal test results are 99.13% in September 1999, 98.5% in January 2001 (the 1999 and 2001 tests were converted from 99.27% and 98.74% using Formula 1 in ASTM D3809-1989 to account for testing at a face velocity of 50 ft/min rather than 59 ft/min), 97.55% in January 2002, 96.41% in January 2003, 94.67% in February 2003, 94.52% in March 2003, and 93.18% in May 2003. The FSBVS provides a conservative basis to assess the CRVS margin. The FSBVS ran approximately 1700 hours between September 1999 and January 2002 with an efficiency drop of 1.58%. The FSBVS ran approximately 2300 hours between September 1999 and the last test with a drop of about 5.95%. The CRVS and CFCU charcoal system is not normally in operation and runs only for testing so a margin of 1.8% is adequate to assure dose calculation efficiencies are met. Since the past surveillances show that bypass is less than one percent, this provides additional margin.

The NRC staff performed independent calculations based on GL 99-02 guidance and verified the factor of safety for the CRVS. Based on the licensee's justification and staff's engineering judgment, the staff finds that the factor of safety for the CRVS is consistent with the intent of GL 99-02 and provides reasonable assurance that the efficiency credited in the accident analysis will be acceptable at the end of the surveillance interval. Therefore, the staff finds that the proposed TS change concerning the CRVS methyl iodide removal efficiency is acceptable. Additionally, the staff finds that the above assessment is equally applicable to the CFCU.

3.3.3 Face Velocities for the FSBVS, CRVS, CFCU, AND CPS

The NRC staff reviewed the proposed face velocities for the FSBVS, CRVS, CFCU, and CPS.

The licensee provided the following information in support of the face velocities:

- The FSBVS is designed with 30 Type II carbon trays that are 33" long, 28-7/8" wide, and 6-1/4" deep. For a 500 cfm system, the calculated (per American Society of Mechanical Engineers AG-1-1997, "Code on Nuclear Air and Gas Treatment") residence time is 0.226 seconds. The maximum system flow rate is 20,000 cfm giving a maximum flow rate of about 667 cfm per tray. For the 667 cfm flow rate the residence time is calculated [(500 cfm)(0.226sec)/(667 cfm)] to be 0.17 seconds. The corresponding face velocity (face velocity = thickness / residence time) used for testing is 58.8 ft/min. Surveillance testing allows an as left flow rate of 18,000 to 20,000 cfm. The TS includes the system face velocity of 59 ft/min as required by GL 99-02 since the face velocity deviates more than 10% from 40 ft/min. The ASTM standard specifies the allowable variation for air flow rate in the test rig.

- The CRVS has two filters with each having a 1-inch bed depth that was designed with a residence time of 0.075 seconds at 1,000 cfm. This equates to a face velocity of 66.7 ft/min. Based on the administratively controlled CRVS maximum flow rate through the filters of 1,500 cfm (750 cfm per filter), the associated face velocity is 50 ft/min and the associated residence time is 0.101 seconds. The maximum flow rate is less than maximum system filter rated flow rate of 2,000 cfm to assure that filter efficiency is maximized. To assure the maximum recirculation flow rate is limited to 1,500 cfm, the system functional test limits the combined flow rate from the outside air intake and the control room envelope. The minimum flow rate to meet accident analysis assumptions is 1,080 cfm of recirculated air and 40 cfm of outside air (there is a maximum of 400 cfm of outside air). The Note added to the TS indicates that the 1-inch charcoal beds will be in service until the 2-inch filter beds are installed which will be no later than start up from Refuel Outage 13. The above flow rates will be maintained during this time as indicated by the 50 ft/min in the Note. The TS includes the system face velocity of 50 ft/min for the 1-inch bed depth and 78 ft/min for the 2-inch bed as required by GL 99-02, since the face velocity deviates more than 10% from 40 ft/min. The ASTM standard specifies the allowable variation for air flow rate in the test rig.

- The new CRVS charcoal filter system will have a 2-inch bed depth with a calculated residence time of 0.128 seconds with a flow rate of 2,000 cfm (1,000 cfm per filter). The residence time of 0.128 seconds equates to a 78 ft/min face velocity for the 2-inch bed. This exceeds the 40 ft/min criteria of the ASTM by more than 10% and has been included in the proposed TS. The flow rate of 2,000 cfm was used for the proposed TS

because the charcoal filter modification will increase the current 1,500 cfm limit (750 cfm per filter), if feasible, to increase the cleanup rate. The CRVS will be adjusted to assure that the maximum cfm is not exceeded using the functional test.

- The proposed TS amendment requires no change to the design or operation of the CFCU. The proposed TS retains the methyl iodide removal efficiency of $\geq$85% and specifies the requirements of ASTM D3803-1989 with a system face velocity of 59 ft/min. The CFCU is designed with 12 carbon filter cells that are 33-1/4" long, 30-1/8" wide, and 7-5/8" deep. For the nominal flow rate of about 666 cfm per filter cell, the Westinghouse Technical Manual says the face velocity is 53 ft/min. The maximum system flow rate is calculated to be 8,000 cfm under post accident conditions, and with a 10 percent allowance, the maximum system flow rate would be 8,800 cfm (about 733 cfm per filter cell). The face velocity for the maximum flow rate is 58.25 ft/min and the corresponding resident time is 0.172 sec (determined by dividing the charcoal thickness (2 inches) by the face velocity). The TS includes the system face velocity of 59 ft/min as required by GL 99-02 since the face velocity deviates more than 10% from 40 ft/min. The ASTM standard specifies the allowable variation for air flow rate in the test rig.

- The proposed TS amendment requires no change to the design or operation of the CPS. The proposed TS retains the methyl iodide removal efficiency of $\geq$90% and specifies the requirements of ASTM D3803-1989 with a system face velocity of 31 ft/min. The CPS is designed with seven carbon filter beds that have a calculated effective screen area of 143.22 ft^2. For the original design flow rate of 40,000 cfm, the face velocity is approximately 39.9 ft/min. However, the system flow rate has been reduced to 28,000 cfm, giving a face velocity of about 28 ft/min. The maximum system flow rate is 30,800 cfm (about 4,400 cfm per filter cell) since surveillance testing allows an as left flow rate of 28,000 cfm plus or minus 10%. The face velocity at maximum flow rate is 30.72 ft/min and the corresponding residence time for the 2-inch beds is 0.325 seconds. The TS includes the system face velocity of 31 ft/min as required by GL 99-02 since the face velocity deviates more than 10% from 40 ft/min. The ASTM standard specifies the allowable variation for air flow rate in the test rig.

In the August 23, 1999, errata to GL 99-02, the NRC staff clarified that, if the maximum actual face velocity is greater than 110% of 40 ft/min (i.e., 44 ft/min), then the test face velocity should be specified in the TSs. As stated in the licensee's submittal, the system face velocities at the charcoal absorber sections for the FSBVS, CRVS, CFCU, and CPS are 59 ft/min, 78 ft/min, 59 ft/min, and 31 ft/min, respectively, at the maximum system flow rates specified in the TSs. Since the proposed face velocities are greater than 110% of 40 ft/min, the TSs will specify the face velocities. The NRC staff finds that it is acceptable because it provides specific acceptance criteria to ensure that the testing will be consistent with the operation of the ventilation system during accident conditions. This is consistent with the August 23, 1999, errata to GL 99-02 and is acceptable.

3.3.4 Addition of the Note for use of the CRVS 1-inch charcoal beds until the end of Refueling Outage 13 or until the 2-inch beds are installed

The licensee stated the following in support of the revised Note in Section 5.5.10, Item c, concerning the 1-inch CRVS charcoal beds:

- The CRVS has two filters with each having a 1-inch bed depth that was designed with a residence time of 0.075 seconds at 1,000 cfm. This equates to a face velocity of 66.7 ft/min. Based on the administratively controlled CRVS maximum flow rate through the filters of 1,500 cfm (750 cfm per filter), the associated face velocity is 50 ft/min and the associated residence time is 0.101 seconds.

- The maximum flow rate is less than maximum system filter rated flow of 2000 cfm to assure that filter efficiency is maximized. To assure the maximum recirculation flow rate is limited to 1,500 cfm, the system functional test limits the combined flow rate from the outside air intake and the control room envelope. The minimum flow rate to meet accident analysis assumptions is 1,080 cfm of recirculated air and 40 cfm of outside air (there is a maximum of 400 cfm of outside air).

- The Note added to the TS indicates that the 1-inch charcoal beds will be in service until the 2-inch filter beds are installed, which will be no later than start up from Refuel Outage 13. The above flow rates will be maintained during this time as indicated by the 50 ft/min in the Note. The efficiency of >93% in the Note will provide an SF of 1.25 when calculated according to prior formulas. The TS Note specifies that the charcoal be tested to demonstrate an efficiency of >93% at a six-month interval. The six-month interval was derived by assuming that charcoal degrades linearly over the period of use.

- The SF of 1.25 for six months and an SF of 1.818 for 24 months provides approximately the same margin using this assumption. This assumption is considered conservative since the charcoal is seeing a flow rate about 15 minutes per month during testing. The 93% acceptance criterion is considered acceptable since the last two tests on new charcoal have results of 94.285% and 93.18% and the licensee intends to accomplish the six-month test by replacing the charcoal with tested charcoal.

The NRC staff concludes that the licensee's rationale for the proposed TS Note for testing of the existing 1-inch charcoal beds for CRVS is acceptable as a temporary measure until 2-inch charcoal beds are installed to conform with GL 99-02. The NRC staff also agrees that testing in the current configuration, "prior to fuel movement in Refuel Outage 12 and every 6 months after Refuel Outage 12 until the end of Refuel Outage 13 or the 2-inch beds are installed," is acceptable because the frequent laboratory testing of a representative charcoal sample will ensure that the filter efficiency credited in the accident dose analysis is maintained. The proposed revisions to the TSs are consistent with GL 99-02 and will ensure that efficiency credited in the accident analysis will remain valid at the end of the surveillance interval.

3.3.5 Technical Evaluation Summary

In view of the above, and because the NRC staff considers ASTM D3803-1989 to be the most accurate and most realistic protocol for testing charcoal in safety-related ventilation systems, the NRC staff finds that the proposed TS changes satisfy the actions requested in GL 99-02, and are acceptable. The proposed revisions to the TS are consistent with GL 99-02 such that (1) the proposed test temperature of 86 °F (30°C) and RH of 95% are acceptable because they are consistent with ASTM D3803-1989 and the actions requested in GL 99-02, and ASTM D3803-1989 provides accurate and reproducible results, (2) the proposed factor of safety for the CRVS and CFCU will provide reasonable assurance that the efficiency credited in the accident analysis will be acceptable at the end of the surveillance interval, (3) FSBVS,

CRVS, CFCU, and CPS face velocities are greater than 110% of 40 ft/min but are specified in the TS and provides specific acceptance criteria to ensure that the testing will be consistent with the operation of the ventilation system during accident conditions, and (4) the TS Note for testing of the existing 1-inch charcoal beds for CRVS is acceptable as a temporary measure until 2-inch charcoal beds are installed, since the frequent laboratory testing of a representative charcoal sample of the 1-inch bed will ensure that the filter efficiency credited in the accident dose analysis are maintained.

3.3.6 Revisions to IP3 Final Safety Analysis Report (FSAR)

On the basis of the proposed TS changes and supporting evaluations, the licensee stated that the IP3 FSAR will be revised as follows:

- FSBVS

  The FSAR will be revised to clarify that the TS surveillance testing of the ventilation system is based upon a maximum flow rate of 20,000 cfm and a minimum safety factor of 2 for the assumed methyl iodide removal efficiency plus a 1% factor for bypass.

- CRVS

  The FSAR will be revised, when the modification is complete, to clarify that TS surveillance testing of the ventilation system is based upon a maximum flow to be defined by the filter modification and an SF of 1.81 for the assumed methyl iodide removal efficiency.

- CFCU

  The FSAR will be revised to clarify that TS surveillance testing of the ventilation system is based upon a maximum flow rate of 8,800 cfm and a safety factor of 1.87 for the assumed methyl iodide removal efficiency considering a 1% factor for bypass.

- CPS

  The FSAR will be revised to clarify that TS surveillance testing of the ventilation system is based upon a maximum flow of 30,800 cfm (28,000 cfm plus 10%) and a minimum safety factor of 2 for the assumed methyl iodide removal efficiency when considering a 1% bypass.

The NRC staff finds that the proposed changes to the FSAR are consistent with the proposed TS changes.

3.3.7 Licensee Commitments

The following is a list of commitments made by the licensee in its December 17, 2002, submittal:

1. Design, issue, and track a plant modification to install 2-inch charcoal beds in the CRVS by Refueling Outage 13.
2. Prepare and submit a TS change to correct TS 5.5.10(d) pressure differential for CRVS 2-inch beds by Refueling Outage 13.
3. Prepare administrative controls to test 2-inch beds to a defined filter pressure drop until TS is approved, by Refueling Outage 13.
4. Test CRVS at 2-inch water gauge for filter differential pressure (delta P) until 2-inch filters are installed or the end of Refueling Outage 13.

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.

6.0 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 (66 FR 64292, dated December 17, 2001, and 68 FR 12951, dated March 18, 2003). 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.

7.0 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. H. Raval

Date: October 30, 2003

TABLE 1 - CURRENT TS REQUIREMENTS											
System Description						**Current TS Requirements**					
TS Section	System	Bed Thickness (in.)	Actual Charcoal		Credited Efficiency (% organic iodine)	Test Penetration (% methyl iodide)	Safety Factor	Test Standard **	Test Temp (° C) **	Test RH (%) **	Test Face Velocity (fpm)
			Res. Time (sec)	Face Velocity (fpm)							
5.5.10.c	Fuel Strg. Building Emerg. Vent. Sys. (FSBVS)	2	Not Stated	50	70	≤15 *	Not Stated (2)*	RG 1.52, June 1973 (Not in TS)	≥51.7	≥95	±20% of accident design flow rate
5.5.10.c	Control Room Ventilation System (CRVS)	1	Not Stated	40	90	≤10 *	Not Stated (1)*	RG 1.52, June 1973 (Not in TS)	≥51.7	≥95	±20% of accident design flow rate
5.5.10.c	Containment Fan Cooler Units (CFCU)	2	Not Stated	50	70	≤15 *	Not Stated (3)*	RG 1.52, June 1973 (Not in TS)	≥121.1	≥95	±20% of accident design flow rate
5.5.10.c	Containment Purge System (CPS)	2	Not Stated	50	70	≤10 *	Not Stated (3)*	RG 1.52, March 1978 (Revision 2)	Not Stated **	Not Stated **	± 20% of accident design flow rate

* Safety factors were calculated from the credited efficiencies and the test penetrations.

** Test temperature and relative humidity are per Test 5.b of RG 1.52, March 1978 (Revision 2).

TABLE 2 - PROPOSED TS REQUIREMENTS											
System Description						**Proposed TS Requirements**					
TS Section	System	Bed Thickness (in.)	Actual Charcoal		Credited Efficiency (% organic iodine)	Test Penetration (%methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH (%)	Test Face Velocity (fpm)
			Res. Time (sec)	Face Velocity (fpm)							
5.5.10.c	Fuel Srrg. Building Emerg. Vent. Sys. (FSBVS)	2	0.17	59	70	≤10	≥2 *	ASTM D3803-1989	30	95	59
5.5.10.c	Control Room Ventilation System (CRVS)	2	0.128	78	90	≤4.5	1.818 *	ASTM D3803-1989	30	95	78
5.5.10.c	Containment Fan Cooler Units (CFCU)	2	0.172	59	70	≤15	1.875 *	ASTM D3803-1989	30	95	59
5.5.10.c	Containment Purge System (CPS)	2	0.325	31	70	≤10	≥2 *	ASTM D3803-1989	30	95	31

* Safety factors were calculated from the credited efficiencies and the test penetrations.