

Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 736.8001



Robert J. Barrett
Site Executive Officer

October 27, 2000
IPN-00-076

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
License No. DPR-64
**Response to Request for Additional Information for Proposed Activated
Carbon Test Technical Specification Amendment (TAC No. MA7854)**

REFERENCE: 1. NYPA Letter IPN-99-123 dated November 29, 1999.
2. NRC Letter dated September 20, 2000.

Dear Sir:

NYPA requested a Technical Specification (TS) amendment (Reference 1) to comply with Generic Letter 99-02. The purpose of this letter is to respond to an NRC request for additional information (Reference 2) on that request. These responses do not alter the safety evaluation submitted in Reference 1.

There are no new commitments made by the Authority in this letter. If you have any questions, please contact Ms. C. D. Faison.

Very truly yours,

Robert J. Barrett
Site Executive Officer
Indian Point 3 Nuclear Power Plant

STATE OF NEW YORK
COUNTY OF WESTCHESTER
Subscribed and sworn to before me
this 27 day of OCTOBER 2000.

Notary Public

cc: See next page

Christina Leitmann
Notary Public, State of New York
Registration #01LE5070946
Qualified In Putnam County
My Commission Expires Jan. 6, 2001

A081

cc: Regional Administrator
Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant
P.O. Box 337
Buchanan, NY 10511

Mr. William Valentino
New York State Energy Research
and Development Authority
Corporate Plaza West
286 Washington Avenue Extension
Albany, NY 12203-6399

Mr. George F. Wunder, Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Mail Stop 14 B2
Washington, DC 20555

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION

REQUEST FOR INFORMATION

"The following questions refer to all four systems, (1) Containment Air Filtration System (CAFS), (2) Control Room Air Filtration System (CRAFS), (3) Fuel Storage Building Emergency Ventilation System (FSBEVS), and Containment Vent and Purge System (CVAPS), unless otherwise noted:

- 1) The bed thickness was only provided for the CRAFS.

Except as noted for CRAFS, please refer to or provide docketed information which states:

- a) the current and proposed bed thickness
- b) actual charcoal residence times per bed depth.
- 2) a) For the CRAFS, the Response to Action 4 of GL 99-02 in the August 2, 1999 letter indicates that "... the design basis of Control Room Air Filtration System charcoal efficiency acceptance criteria is not derived from applying a safety factor of 2 and as such we are evaluating the ability of the system's design to meet a safety factor of 2. However, the current practice installs new charcoal for each plant operating cycle..."

In the November 29, 1999 TS amendment request, the test efficiency for the CRAFS is increased from 90% to 95%, to obtain a safety factor 2. In the August 2, 1999 letter, it was stated that:

"Using the new standard, samples of the in-stock replacement charcoal was tested at the one-inch depth to correspond to the design of the CRAFS. The results of the new tests were above 94% efficiency..."

Can the 1 inch charcoal filter consistently perform at 95% efficiency?

- b) It is not clear why TS page 5.0-24, Section 5.5.10.c - "Ventilation Filter Testing Program" was included with your submittal.
- Are you converting to the ITS (Improved Standard Technical Specifications)?
- 3) a) Per the sample TS in GL 99-02, your proposed TS amendment request for each ventilation system should be revised to specify the test temperature and relative humidity.

If the test relative humidity is less than 95%, you should indicate whether TS-

controlled heaters are available which have been approved by the NRC to maintain the RH during accident conditions at the lower value, typically for less than or equal to 70%.

- b) There seem to be many inconsistencies between the August 2, 1999 and the November 29, 1999 letters. For example, for the CAFS, the Response to Action 4 of GL 99-02 in the August 2, 1999 letter indicates that "...an exception to the standard is being evaluated specific to the test temperature versus the application that would at best experience higher test temperatures than the standard's test temperature of 86 degree F." In the November 29, 1999 TS amendment request, the proposed test temperature for the CAFS is not stated.

Does the November 29, 1999 letter take exception to the test temperature of 30^o C specified in ASTM D3803-1989?

- 4) a) Per Generic Letter 99-02, Requested Action 2, please indicate how the actual charcoal face velocities for each ventilation system were calculated.
- b) Please refer to or provide docketed information which indicates the actual charcoal face velocity for the CRAFS.

The actual system face velocities can be calculated by dividing the maximum system flow rates specified in the technical specification (TS) (nominal + typically 10% upper value) by the total exposed surface area of the charcoal filter media. Per GL 99-02, if this value is >110% of 40 ft/min, then the TS should be revised to specify that value as the test face velocity, as appears to be the case in your proposed TS amendment request. (The guidance on calculation of the residence times in ASME AG-1-1997, Division II, Sections FD and FE, Articles 1-1000, or in ANSI N510-1975 can be used to calculate the actual system face velocities)."

RESPONSE

- 1) a) The current bed thickness is 2" for CAFS, FSBEVS, and CVAPS and 1" for CRAFS. There are no proposed changes to the bed thicknesses.
- b) Residence time was not a design basis or a licensing basis for IP3 ventilation systems. For this reason, no formal calculations exist for residence time. An estimate of residence times and the bases for those estimates follows:
- CAFS - The vendor advised that the size Type II carbon tray used in the IP3 CAFS design is rated for approximately 0.236 second residence time with 480 cfm at a 1" pressure differential. The CAFS design is approximately 660 cfm at a 1" pressure differential. A ratio of the flow rates times residence time indicates that the residence time is approximately 0.171 seconds.

- FSBEVS - The vendor advised that the size Type II carbon tray used in the IP3 CAFS design is rated for approximately 0.236 second residence time with 480 cfm at a 1" pressure differential. The FSBEVS design is approximately 20,000 cfm (30 trays at about 667 cfm per unit) at 1" pressure differential. A ratio of the flow rates times residence time indicates that the residence time is approximately 0.170 seconds.
 - CRAFs - The original specification is 0.075 seconds residence time with 1000 cfm at 1" pressure differential.
 - CVAPS - NYPA does not currently have this data but is attempting to retrieve the data from the vendor.
- 2) a) Yes, the 1 inch charcoal filter can consistently perform at 95% efficiency. The current practice is to change the CRAFS charcoal every outage and test requirements have been met.
- b) Yes, NYPA is converting to the ITS (Improved Standard Technical Specifications). NYPA has been requested to identify the effect on the ITS, currently under review by NRC staff, that each requested change to the current Technical Specifications will have.
- 3) a) The Technical Specifications submitted by NYPA currently specify a test temperature of 30°C (86°F) and 95% relative humidity. NYPA has specified ASTM D 3803-1989 without taking exception to the ASTM requirements for test temperature and humidity. The ASTM standard test temperature of 86°F will be used for specified tests and, since the ventilation systems do not have humidity controls, the ASTM standard test relative humidity of 95% will be used for specified tests.
- b) No, the November 29, 1999 letter does not take exception to the test temperature specified in ASTM D3803. The November 29, 1999 letter identifies exceptions to ASTM D3803 as follows: "The proposed amendment would adopt ASTM D 3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," for charcoal filter laboratory testing with certain exceptions. The exceptions are: a bed depth of 1 inch or equivalent will be used in lieu of a 2 inch bed depth for the Control Room Air Filtration System; a velocity of 50 ft/min will be used in lieu of 40 ft/min for the Containment Air Filtration System, Fuel Storage Building Emergency Ventilation System and the Containment Vent and Purge System."
- 4) a) The actual face velocities for the CAFS, CRAFS and CVAPS were determined from the original specifications. The face velocity for the FSBEVS was calculated by dividing the maximum system flow rate (approximately 20,000 cfm) by the total exposed surface area of the charcoal filter media.

- b) No exception to ASTM D 3803-1989 was taken for CRAFS face velocity. The velocity acceptance criteria in ASTM D 3803-1989, less than 110% of 40 ft/min, is therefore applicable. The CRAFS face velocity is approximately 40 ft/min.