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**James Knubel**  
Senior Vice President and  
Chief Nuclear Officer

August 2, 1999  
IPN-99-083

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Stop P1-137  
Washington, DC 20555

Subject: Indian Point 3 Nuclear Power Plant  
Docket No. 50-286  
**60-Day Response to NRC Generic Letter (GL) 99-02**  
**Laboratory Testing of Nuclear Grade Activated Charcoal**

References: NRC Generic Letter 99-02, "Laboratory Testing of Nuclear Grade Activated Charcoal," dated June 3, 1999.

Dear Sir:

The purpose of this letter is to respond to the Nuclear Regulatory Commission's Generic Letter 99-02 (Reference 1) regarding the laboratory testing of nuclear grade activated charcoal.

In general, NYPA will revise Technical Specification charcoal testing programs to use the new standard, except where the plant's design, or filter application, dictates deviating in part from the test standard. The 180-day response will address the other action items, including the associated Technical Specifications changes.

Attachment 1 addresses the 60-day action items 4 and 5 of GL 99-02 for the Indian Point 3 Nuclear Power Plant. Attachment 2 summarizes the Authority's commitments regarding GL 99-02.

If you have any questions, please contact Ms. C. Faison.

Very truly yours,

A large, stylized handwritten signature in black ink, appearing to read 'J. Knubel'.

J. Knubel  
Senior Vice President and  
Chief Nuclear Officer

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**Attachments:**

1. Indian Point 3 Nuclear Power Plant, 60-Day Response to NRC Generic Letter (GL) 99-02, Laboratory Testing of Nuclear Grade Activated Charcoal
2. Summary of Commitments – Indian Point 3 Nuclear Power Plant

cc: Regional Administrator  
US Nuclear Regulatory Commission  
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Resident Inspector's Office  
Indian Point 3 Nuclear Power Plant  
US Nuclear Regulatory Commission  
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Attachment 1 to IPN-99-083

**New York Power Authority  
Indian Point 3 Nuclear Power Plant, 60-Day Response to NRC Generic Letter (GL) 99-02,  
Laboratory Testing of Nuclear Grade Activated Charcoal**

Requested Action 4

"At the next required laboratory surveillance test of a charcoal sample that is 60 or more days after the date of this generic letter, test your charcoal samples in accordance with ASTM D3803-1989 or replace all of the charcoal with new charcoal that has been tested in accordance with ASTM D3803-1989. In all cases, the results should meet the acceptance criterion that is derived from applying a safety factor as low as 2 (see the note in Enclosure 2) to the charcoal filter efficiency assumed in your design-basis dose analysis and the charcoal samples should continue to be tested in accordance with ASTM D3803-1989, in lieu of the current TS-required laboratory testing, until the TS amendment is approved by the NRC."

Response to Action 4

Indian Point 3 will commit to the new standard (ASTM D3803-1989) for testing efficiency of charcoal for Technical Specification Engineered Safety Features (ESF) ventilation systems with a few exceptions. Indian Point 3 ESF ventilation systems' design would dictate using some different parameters for the testing parameters and possibly not meeting the safety factor of 2 for the control room filtration system. We are also evaluating the test temperature of 86 degree F for the filter application in vapor containment.

First, the new standard requires testing the charcoal sample at a depth of two inches or less and calculating the efficiency to a standard for two inches. Indian Point 3 Control Room Air Filtration System is designed with Type I charcoal adsorbers at a bed depth of one inch and as such the sample will be tested at one inch depth or more and the charcoal efficiency will be calculated to one inch bed depth. Additionally, 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. The evaluation will be completed and the results will be incorporated into the 180-day response for the GL-99-02 and/or into the associated Technical Specification change request.

Secondly, the new standard requires testing the charcoal sample with a face velocity of 40 ft/min with stringent tolerances. Indian Point 3 design of the Containment Building Vent and Purge System, Fuel Storage Building Emergency Ventilation System and the Containment Air Filtration System includes a designed filter flow face velocity of approximately 50 ft/min. Therefore, testing of charcoal samples from these systems will be conducted at a face velocity of 50 ft/min nominally. Additionally, for the Containment Air Filtration System, an exception to the standard is being evaluated specific to the test temperature versus the application that would at best experience higher temperatures than the standard's test temperature of 86 degree F. The evaluation will be completed and the results will be incorporated into the 180-day response for the GL-99-02 and/or into the associated Technical Specification change request.

### Requested Action 5

"Addressees who choose not to do the above actions are requested to notify the NRC in writing of their decision, as soon as a decision is reached but no later than 60 days from the date of this generic letter. The 60 day written response should also discuss (1) addressee plans to pursue a proposed alternative course of action (including the basis for establishing its acceptability), (2) the schedule for submitting that proposal for NRC staff review (that proposal should be submitted to the NRC no later than 180 days from the date of this generic letter), and (3) the basis for continued operability of affected systems and components until such time that the proposed alternative course of action is approved by the NRC."

### Response to Action 5

Indian Point 3 will commit to the new standard for all Technical Specification (TS) ESF filtration systems by August 2, 1999 with exceptions to the test protocol parameters and safety factor as described above. It is recognized in GL-99-02 requested action 3 that the above described different test parameters constitute an alternate test protocol and as such must be submitted with the Technical Specification change request within 180 days of the GL-99-02 as per action 3. Indian Point 3 is considered to be in category 2 of GL-99-02, which includes plants in compliance with their TS that test in accordance with a test protocol other than ASTM-D3803-1989.

Indian Point 3 Technical Specification ESF filtration systems are considered operable and the following describes the basis for this conclusion. The Control Room Air Filtration System charcoal is replaced with new charcoal each plant operating cycle. 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 Control Room Air Filtration System. The results of the new tests were above 94% efficiency and therefore, it is reasonable to believe that the control room charcoal can perform its safety function with a required efficiency of at least 90%. The Fuel Storage Building Emergency Ventilation System charcoal is currently being replaced with new charcoal that was tested to the new standard for the upcoming refueling outage, scheduled for September 1999. The Containment Building Vent and Purge System charcoal will be sampled and tested to the new standard prior to its use for refueling.

For the Containment Air Filtration System (Fan Cooler Units), during the next refueling outage, charcoal samples will be obtained and tested to the new standard, in part. For this system, an exception to the standard is being evaluated specific to the test temperature versus the vapor containment application that would at best experience higher temperatures. Preliminary engineering reviews have identified factors that provide assurance that this systems' charcoal will be able to perform its safety function even though it was tested to 250 degrees F versus the standard of 86 degrees F. During a SBLOCA the efficiency of the charcoal needs to be at least 2% or better. Hence, the limiting accident is a Large Break LOCA that would result in Vapor Containment high temperature and humidity, at best, about halfway between the previous test condition of 250 degree F @ 95%RH and the 86 degrees F @ 95%RH in the new standard. Additionally, based on a preliminary engineering review, it was determined that the required efficiency for this systems' charcoal could be as low as 35% for the LBLOCA and still meet GDC-19 the limiting dose condition. This review used a recent analysis that was performed as part of the design basis reconstitution and is planned for implementation as the analysis of record. Therefore, it's reasonable to expect the charcoal will perform its intended safety function for this system.

Indian Point 3 refueling outage is planned for September 1999, and for this outage, charcoal sampling of Technical Specifications ESF Filtration Systems' charcoal and/or replacement charcoal for those systems will be tested to the new standard with differences as described above.

**Attachment 2 to IPN-99-083**

**Summary of Commitments – Indian Point 3 Nuclear Power Plant**

Commitment Identification	Commitment	Due Date
IPN-99-083-01	Indian Point 3 will commit to the new standard (ASTM D3803-1989) for testing efficiency of charcoal for Technical Specification Engineered Safety Features (ESF) ventilation systems with exceptions to the testing protocol where Indian Point 3 design or application would dictate using different parameters for the test protocol, i.e., one inch bed depth and safety factor less than 2 for the control room, 50 ft/min nominally for other systems, higher temperature for the vapor containment FCU system.	08/02/1999
IPN-99-083-02	Submit Technical Specification change to address GL-99-02 action 3 to adopt ASTM D3803-1989 and exceptions to the testing protocol where Indian Point 3 design or application would dictate using different parameters for the test protocol, i.e., one inch bed depth and safety factor less than 2 for the control room, 50 ft/min nominally for other systems, higher temperature for the vapor containment FCU system.	11/02/1999