

ATTACHMENT I TO IPN-97-090

**REVISED TECHNICAL SPECIFICATION PAGES ASSOCIATED WITH  
THE UPGRADE TO VANTAGE + FUEL**

NEW YORK POWER AUTHORITY  
INDIAN POINT 3 NUCLEAR POWER PLANT  
DOCKET NO. 50-286  
DPR-64

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8. The containment vent and purge system, including the radiation monitors which initiate isolation, shall be tested and verified to be operable within 100 hours prior to refueling operations.
9. No movement of irradiated fuel in the reactor shall be made until the reactor has been subcritical for at least 145 hours. In addition, movement of fuel in the reactor before the reactor has been subcritical for equal to or greater than 421\* hours will necessitate operation of the Containment Building Vent and Purge System through the HEPA filters and charcoal absorbers. For this case operability of the Containment Building Vent and Purge System shall be established in accordance with Section 4.13 of the Technical Specifications. In the event that more than 76 assemblies are to be discharged from the reactor, those assemblies in excess of 76 shall not be discharged earlier than 267 hours after shutdown.
10. Whenever movement of irradiated fuel is being made, the minimum water level in the area of movement shall be maintained 23 feet over the top of the reactor pressure vessel flange.
11. Hoists or cranes utilized in handling irradiated fuel shall be dead- load tested before movement begins. The load assumed by the hoists or cranes for this test must be equal to or greater than the maximum load to be assumed by the hoists or cranes during the refueling operation. A thorough visual inspection of the hoists or cranes shall be made after the deadload test and prior to fuel handling. A test of interlocks and overload cutoff devices on the manipulator shall also be performed.
12. The fuel storage building emergency ventilation system shall be operable whenever irradiated fuel is being handled within the fuel storage building. The emergency ventilation system may be inoperable when irradiated fuel is in the fuel storage building, provided irradiated fuel is not being handled and neither the spent fuel cask nor the cask crane are moved over the spent fuel pit during the period of inoperability.
13. To ensure redundant decay heat removal capability, at least two of the following requirements shall be met:

\* Movement of irradiated VANTAGE + fuel assemblies before the reactor has been subcritical for  $\geq 550$  hours requires operation of the Containment Building Vent and Purge System through the HEPA filters and charcoal adsorbers.

The waiting time of 267 hours required following plant shutdown before unloading more than 76 assemblies from the reactor assures that the maximum pool water temperature will be within design objectives as stated in the FSAR. The calculations confirming this are based on an inlet river temperature of 95°F, consistent with the FSAR assumptions<sup>(2)</sup>.

The requirement for the fuel storage building emergency ventilation system to be operable is established in accordance with standard testing requirements to assure that the system will function to reduce the offsite dose to within acceptable limits in the event of a fuel-handling accident. The fuel storage building emergency ventilation system must be operable whenever irradiated fuel is being moved. However, if the irradiated fuel has had a continuous 45 day decay period, the fuel storage building emergency ventilation system is not technically necessary, even though the system is required to be operable during all fuel handling operations. Fuel Storage Building isolation is actuated upon receipt of a signal from the area high activity alarm or by manual operation. The emergency ventilation bypass assembly is manually isolated, using manual isolation devices, prior to movement of any irradiated fuel. This ensures that all air flow is directed through the emergency ventilation HEPA filters and charcoal adsorbers. The ventilation system is tested prior to all fuel handling activities to ensure the proper operation of the filtration system.

When fuel in the reactor is moved before the reactor has been subcritical for at least 421 hours (See footnote on page 3.8-2), the limitations on the containment vent and purge system ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorbers prior to discharge to the atmosphere.

The limit to have at least two means of decay heat removal operable ensures that a single failure of the operating RHR System will not result in a total loss of decay heat removal capability. With the reactor head removed and 23 feet of water above the vessel flange, a large heat sink is available for core cooling. Thus, in the event of a single component failure, adequate time is provided to initiate diverse methods to cool the core.

The minimum spent fuel pit boron concentration and the restriction of the movement of the spent fuel cask over irradiated fuel were specified in order to minimize the consequences of an unlikely sideways cask drop.

#### 4.13 Containment Vent and Purge System

##### Applicability

This specification applies to the surveillance requirements of the containment vent and purge system during normal operations and when reactor fuel is anticipated to be moved before the reactor has been subcritical for at least 421\* hours.

##### Objective

To verify the operability of the containment vent and purge system.

##### Specification

The following surveillance shall be performed as stated.

##### A. Isolation Valves

1. Each month verify that the containment purge supply and exhaust isolation valves are closed during operation above cold shutdown.
2. At least once per 24 months verify that the mechanical stops on the containment vent isolation valve (PCV-1190, -1191, -1192) actuator is limited to the valve opening angle to 60° (90° = full open).

##### B. HEPA Filters and Charcoal Absorbers

If fuel movement is to take place before the reactor has been subcritical for at least 421\* hours, the containment vent and purge system shall be demonstrated operable as follows:

1. Within 18 months prior to fuel movement and (1) after each complete or partial replacement of a HEPA filter or charcoal adsorber bank within 18 months prior to fuel movement, or (2) after structural maintenance on the HEPA filter or charcoal adsorber housing within 18 months prior to fuel movement, which could effect system operation:
  - a. Verify that the charcoal adsorbers remove  $\geq 99\%$  of halogenated hydrocarbon refrigerant test gas when they are tested in-place while operating the ventilation system at the operating flow  $\pm 10\%$ .
  - b. Verifying that the HEPA filter banks remove  $\geq 99\%$  of the DOP when they are tested in-place while operating the ventilation system at the operating flow rate  $\pm 10\%$ .
2. Within 18 months prior to fuel movement and after every 720 hours of system operation, subject a representative sample of carbon from the charcoal adsorbers to a laboratory analysis and verify within 31 days a removal efficiency of  $\geq 90\%$  for radioactive methyl iodine at an operating air flow velocity  $\pm 20\%$  per test 5.b in Table 2 of Regulatory Guide 1.52, March 1978.

\* Movement of irradiated VANTAGE + fuel assemblies before the reactor has been subcritical for  $\geq 550$  hours requires operation of the Containment Building Vent and Purge System through the HEPA filters and charcoal adsorbers.