ATTACHMENT I TO IPN-91-037

PROPOSED TECHNICAL SPECIFICATION CHANGES

RELATED TO

THE SPENT FUEL POOL RERACK MODIFICATION

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

LIST OF FIGURES

a. No. 31 residual heat removal pump and heat exchanger, together with their associated piping and valves are operable.

b. No. 32 residual heat removal pump and heat exchanger, together with their associated piping and valves are operable.

c. The water level in the refueling cavity above the top of the reactor vessel flange is equal to or greater than 23 feet.

B. If any of the specified limiting conditions for refueling are not met, refueling shall cease until the specified limits are met, and no operations which may increase the reactivity of the core shall be made.

C. During fuel handling and storage operations, the following conditions shall be met:

1. Radiation levels in the spent fuel storage area shall be monitored continuously whenever there is irradiated fuel stored therein. If the monitor is inoperable, a portable monitor may be used.

2. The spent fuel cask shall not be moved over any region of the spent fuel pit which contains irradiated fuel. Additionally, if the spent fuel pit contains irradiated fuel, no loads in excess of 2,000 pounds shall be moved over any region of the spent fuel pit.

3. During periods of spent fuel cask or fuel storage building cask crane movement over the spent fuel pit, or during periods of spent fuel movement in the spent fuel pit when the pit contains irradiated fuel, the pit shall be filled with borated water at a concentration of >1000 ppm.

4. Whenever movement of irradiated fuel in the spent fuel pit is being made, the minimum water level in the area of movement shall be maintained 23 feet over the top of irradiated fuel assemblies seated in the storage rack.

Amendment No. 73, 74, 89, 88, 90,

5. Hoists or cranes utilized in handling irradiated fuel shall be deadload tested before fuel 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 fuel handling operation. A thorough visual inspection of the hoists or cranes shall be made after the deadload test prior to fuel handling.

6. 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 periods of inoperability.

7. Fuel Storage in Maximum Density Spent Fuel Racks:

   Fuel assemblies of initial enrichment less than or equal to 4.5 w/o U-235 can be stored in Region 1 (rows SS-ZZ, columns 35-64) of the spent fuel storage racks. Fuel assemblies to be stored in Region 2 (rows A-RR, columns 1-34) of the spent fuel storage racks shall have a minimum burnup exposure as a function of initial enrichment as specified in Figure 3.8-2. The locations of Region 1 and 2 of the spent fuel storage racks are shown in Figure 3.8-3.

D. When any fuel assemblies are in the reactor vessel and the reactor vessel head bolts are less than fully tensioned, the boron concentration of all filled portions of the Reactor Coolant System and the refueling canal shall be maintained uniform and sufficient to ensure that the more restrictive of the following reactivity conditions is met; either:

   a. A shutdown margin greater than or equal to 5% $\Delta K/K$

   or

   b. A boron concentration of greater than or equal to 1900 ppm.

The waiting time of 267 hours required following plant shutdown before unloading more than one region of fuel 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 87.8°F, service water flow to the component cooling heat exchangers of 7000 gpm (FSAR) and component cooling flow to the Spent Fuel Pit heat exchanger of 2800 gpm (FSAR).

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 365 hours, 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.

As shown in Figure 3.8-3 the maximum density spent fuel storage racks consist of two regions: Region 1 (rows SS - ZZ, columns 35-64) and Region 2 (rows A - RR, columns 1-34). Fuel assemblies of initial enrichment of less than or equal to 4.5 w/o U-235 may be stored in Region 1 of the replacement maximum density spent fuel storage racks. Fuel assemblies to be stored in Region 2 of the replacement racks must have a minimum burnup exposure as a function of initial enrichment as specified in Figure 3.8-2. Administrative controls will provide verification that each fuel assembly to be placed in Region 2 of the replacement racks satisfies the burnup criterion.

When the spent fuel cask is being placed in or removed from its position in the spent fuel pit, mechanical stops incorporated in the bridge rails make it impossible for the bridge of the crane to travel further north than a point directly over the spot reserved for the cask in the pit. Thus, it will be possible to handle the spent fuel cask with the 40-ton hook and to move new fuel to the new fuel elevator with a 5-ton hook, but it will be impossible to carry any object over the spent fuel storage area with either the 40 or 5-ton hook of the fuel storage building crane.

Dead load tests and visual inspection of the hoists and cranes before handling irradiated fuel provide assurance that the hoists or cranes are capable of proper operation.

References

(1) FSAR - Section 9.5.2

FIGURE 3.8-1
DELETED

ATTACHMENT II TO IPN-91-037

SAFETY EVALUATION OF

TECHNICAL SPECIFICATION CHANGES

RELATED TO

THE SPENT FUEL POOL RERACK MODIFICATION

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SAFETY EVALUATION OF TECHNICAL SPECIFICATION CHANGES RELATED TO THE SPENT FUEL POOL RERACK MODIFICATION

Section I - Description of Changes

This application for amendment to the Indian Point 3 Technical Specifications seeks to revise section 3.8 of Appendix A of the Operating License. These proposed changes delete information no longer applicable to the Indian Point 3 Nuclear Power Plant (IP3) and correct a typographical error incorporated by operating license amendment number 90.

Section II - Evaluation of Changes

The spent fuel pool rerack modification was allowed by license amendment number 90 dated October 12, 1989. The modification replaced high density fuel storage racks with maximum density fuel storage racks. Since the spent fuel pool rerack modification has been completed, the Authority proposes the administrative technical specification changes discussed below.

The administrative technical specification changes include the deletion of provisional specifications associated with the movement of loads over the spent fuel pit, the deletion of information associated with the old (high density) storage racks, and the correction of a typographical error incorporated by license amendment number 90.

The provisional specifications associated with the movement of loads over the spent fuel pit were incorporated into pages 3.8-3 and 3.8-7 of the technical specifications in preparation of the spent fuel pool rerack modification. These provisional specifications allowed for the movement of the high density racks and the maximum density racks over certain regions of the spent fuel pit during the rerack effort. Since this effort has been completed, the provisional specifications are no longer applicable to IP3. Therefore, proposed changes to technical specification pages 3.8-3 and 3.8-7 delete the provisional specifications.

Since the high density storage racks were replaced with maximum density storage racks during the spent fuel pool rerack modification, the information associated with the old (high density) storage racks contained in pages 3.8-4, 3.8-6, 3.8-7 and Figure 3.8-1 of the technical specifications is no longer applicable to IP3. The proposed technical specification changes delete the information associated with the high density storage racks. Technical specifications for the maximum density racks were put in place by license amendment number 90 to appropriately control fuel storage in the new racks.

A typographical error on basis page 3.8-6 was incorporated by amendment number 90. A section of the paragraph regarding the fuel storage building emergency ventilation system was inadvertently omitted. The proposed technical specification changes replace the section to make the paragraph identical to the paragraph that existed prior to amendment number 90.

Section III - No Significant Hazards Evaluation

Consistent with the requirements of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based on the following information:

(1) Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response:

The proposed changes do not involve an increase in the probability of a previously-analyzed accident. The proposed changes are administrative in nature. The changes do not affect the current plant configuration or current plant operations. The proposed changes only delete information which is no longer applicable to IP3 and correct a typographical error.

(2) Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response:

The proposed license amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated since the proposed changes do not involve a change in the current plant configuration or current plant operations.

(3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response:

The proposed amendment does not involve a significant reduction in a margin of safety. The deletion of information no longer applicable to IP3 does not reduce a margin of safety since it will not affect the current plant configuration or current plant operations. The correction of the typographical error merely corrects the technical specification bases and therefore does not involve a reduction in a margin of safety.

Section IV - Impact of Change

This change will not adversely impact the following:

ALARA Program
Security and Fire Protection Programs
Emergency Plan
FSAR or SER Conclusions
Overall Plant Operations and the Environment

Section V - Conclusions

The incorporation of this change: a) will not increase the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not increase the possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any Technical Specification; d) does not constitute an unreviewed safety question; and e) involves no significant hazards considerations as defined in 10 CFR 50.92.

Section VI - References

a) IP-3 FSAR
b) IP-3 SER