

ATTACHMENT I TO IPN-99-037

PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING  
ALLOWED OUTAGE TIME FOR SAFETY INJECTION PUMPS

Affected page: 3.3-4

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

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- a. The accumulators may be isolated during the performance of the reactor coolant system hydrostatic tests.

For the purpose of accumulator check valve leakage testing, one accumulator may be isolated at a time, for up to 8 hours, provided the reactor is in the hot shutdown condition.

- b. One safety injection pump may be out of service, provided the pump is restored to an operable status within 72 hours.
- c. One residual heat removal pump may be out of service, provided the pump is restored to an operable status within 24 hours.
- d. One residual heat exchanger may be out of service provided that it is restored to an operable status within 48 hours.
- e. Any valve required for the functioning of the system during and following accident conditions may be inoperable provided that it is restored to an operable status within 24 hours and all valves in the system that provide the duplicate function are operable.
- f. DELETED
- g. One refueling water storage tank low level alarm may be inoperable for up to 7 days provided the other low level alarm is operable.

ATTACHMENT II TO IPN-99-037

**SAFETY EVALUATION FOR  
PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING  
ALLOWED OUTAGE TIME FOR SAFETY INJECTION PUMPS**

NEW YORK POWER AUTHORITY  
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## **Section I – Description of Changes**

This application for amendment to Section 3.3.A.4.b of the Indian Point 3 Technical Specifications proposes to increase the allowed outage time (AOT) for any one safety injection pump from 24 hours to 72 hours. The proposed change is consistent with the AOT provided in the Standard Technical Specifications (Reference 1) which provides for a 72-hour allowed outage time with one or more Emergency Core Cooling System trains inoperable. A more comprehensive adoption of the Standard Technical Specification requirements for the Emergency Core Cooling System, including the train concept, has been proposed as part of the Authority's conversion to Improved Standard Technical Specifications (Reference 2). The Authority is requesting this simplified line-item change at this time because the 24-hour AOT is unnecessarily restrictive and could result in a plant shutdown if it became necessary to perform maintenance activities such as pump seal replacement.

Specification 3.3.A.4.b, which applies to plant operation with  $T_{avg}$  greater than 350 °F, states:

One safety injection pump may be out of service, provided the pump is restored to an operable status within 24 hours.

The proposed change is:

One safety injection pump may be out of service, provided the pump is restored to an operable status within 72 hours.

## **Section II – Evaluation of Changes**

The proposed change is a line-item improvement that increases the current 24-hour allowed outage time for the safety injection (SI) pumps to the 72-hour allowed outage time stated in the Standard Technical Specifications (STS).

The Emergency Core Cooling System (ECCS) at Indian Point 3 consists of three systems; high head safety injection (HHSI), residual heat removal (RHR) injection, and passive accumulator injection. The function of the ECCS is to provide core cooling and negative reactivity to ensure that the reactor core is protected after certain design basis accident conditions. The HHSI system is divided into three 50% capacity subsystems, each consisting of one SI pump and associated piping and valves to transfer water from a suction source to the reactor core. Because of the redundancy of the system, the HHSI remains capable of providing 100% flow capacity with one SI Pump inoperable. Component redundancy is a design feature to provide protection from a single failure. In general, the single failure assumption is relaxed during the time period covered by the Technical Specification allowed outage time.

The generic acceptability of a 72-hour allowed outage time for a SI Pump is based on an NRC reliability evaluation (Reference 3), which was subsequently incorporated in the Standard Technical Specifications. The evaluation of ECCS unreliability assumed that a system was taken out-of-service for the full allowed outage time every month. It showed that the average unreliability would be 4.1E-3 if taken out of service 2 days per month, 4.3E-3 if taken out of service 3 days per month, and 4.5E-3 if taken out of service for 4 days per month. The NRC adopted a change from 2 days (48 hours) per month to 3 days (72 hours) per month based on the slight increase in average unavailability.

The change as proposed differs slightly in wording from the STS and the proposed Improved Technical Specifications (ITS) for IP3 in that only one pump may be inoperable at any one time. The STS and the proposed ITS allows one or more trains to be inoperable as long as at least 100% of the ECCS flow equivalent to operable ECCS trains is available. The change described in this application yields equivalent results because each of the 3 SI pumps is designed to deliver 50% of the ECCS design flow requirement. Therefore with only one pump inoperable, 100% of the ECCS design flow rate is available. The Authority is proposing the adoption of this portion of the STS as a line-item improvement at this time because the new allowed outage time may be needed to support future corrective maintenance activities prior to approval of the ITS. The more comprehensive adoption of the STS for ECCS is addressed by the Authority's ITS submittal (Reference 2).

### **Section III – No Significant Hazards Evaluation**

Consistent with the criteria of 10 CFR 50.92, the proposed change to the Technical Specification 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 analyzed?

Response:

The proposed 72-hour allowed outage time for any one safety injection pump does not involve a significant increase in the probability or consequences of an accident previously analyzed. The plant Technical Specifications provides allowed outage times for systems and components to accommodate preventive or corrective maintenance. A variation in the allowed outage time is not an accident initiator and thus does not result in a significant increase in the probability of an accident previously analyzed. The proposed change provides for an increase in allowed outage time for any one safety injection pump. The operability of the remaining two safety injection pumps is required by the Technical Specifications during this period. The Indian Point 3 High Head Safety Injection System consists of three safety injection pumps, each capable of providing 50% of the Emergency Core Cooling System design flow requirement. Therefore, with only one pump inoperable the remaining two pumps are capable (assuming that no single failure occurs during the period of the allowed outage time) of mitigating the consequences of previously analyzed accidents. In addition, a 72-hour allowed outage time for safety injection pumps was evaluated by the NRC (Reference 3) and generically approved in the Standard Technical Specifications (Reference 1).

- (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 72-hour allowed outage time for any one safety injection pump does not create the possibility of a new or different kind of accident from any accident previously evaluated. Changing the allowed outage time is accomplished through administrative changes, such as changes to plant procedures that implement Technical Specification requirements for allowed outage time. This change does not require physical changes

to plant systems or components and also does not involve changes to plant setpoints. This change also does not affect how the safety injection pumps are operated under design basis accident conditions. Therefore there are no changes resulting from the proposed new allowed outage time that alter system operation or that could create the possibility of a new or different kind of accident. In addition, a 72-hour allowed outage time safety injection pumps was generically approved in the Standard Technical Specifications.

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

Response:

The proposed 72-hour allowed outage time for any one safety injection pump does not involve a significant reduction in a margin of safety. With one safety injection pump inoperable, the remaining two pumps are capable of providing 100% of the fuel cooling flow assumed for pertinent accident analyses with the provision that the single-failure assumption is relaxed during the time period of the allowed outage time. The acceptability of a 72-hour allowed outage time for ECCS components was established in an NRC reliability analysis (Reference 3). The use of the 72-hour allowed outage time was generically approved in the Standard Technical Specifications.

#### **Section IV – Impact of Changes**

The proposed changes will not adversely affect the ALARA Program, the Security and Fire Protection Programs, or the Emergency Plan. This conclusion is based on the type of changes being made in comparison to the purpose, scope, and content of these programs. There also are no changes required for the FSAR because the FSAR does not discuss allowed outage times. The proposed increase in allowed outage time involves changes to plant procedures that implement the Technical Specification allowed outage time requirements. The proposed change does not require any changes to plant hardware or setpoints and does not affect prior conclusions of the NRC Safety Evaluation Report (Reference 4).

#### **Section V - Conclusions**

The incorporation of these changes:

- a) will not significantly increase the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report;
- b) will not create the possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report; and
- c) will not significantly reduce the margin of safety as defined in the bases for any Technical Specification.

Therefore, the proposed change involves no significant hazards considerations as defined in 10 CFR 50.92.

**Section VI - References**

1. NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 1, dated April 1995.
2. NYPA letter IPN-98-139, "Proposed Technical Specification Change, Conversion to Improved Standard Technical Specifications," J. Knubel to U.S. NRC, dated December 15, 1998.
3. NRC Memorandum, R. L. Baer to V. Stello, "Recommended Interim Revisions to LCOs for ECCS Components," dated December 1, 1975.
4. NRC Safety Evaluation Report for Indian Point 3, dated September 21, 1973.

ATTACHMENT III TO IPN-99-037

**MARKUP OF PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING  
ALLOWED OUTAGE TIME FOR SAFETY INJECTION PUMPS**

NOTE:

Deletions are shown in ~~strikeout~~ and additions are in **bold**.

Previous amendment revision bars are not shown on the markup page.



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