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September 14, 1984

Re: Indian Point Unit No. 2
Docket No. 50-247

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

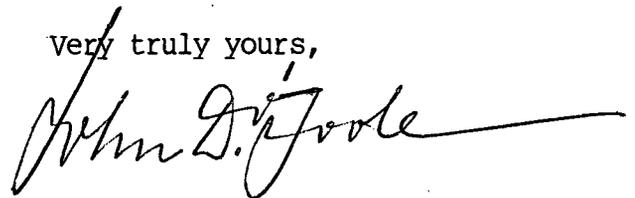
ATTN: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Dear Mr. Varga:

Transmitted as Attachment A to this letter is our response to your June 22, 1984 request for additional information concerning our February 14, 1983 license amendment and technical specification change request pertaining to decay heat removal capability.

Should you or your staff have any additional questions, please contact us.

Very truly yours,



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ATTACHMENT A

Response to NRC's June 22, 1984
Request for Additional Information Concerning
Proposed Technical Specifications
Pertaining to Decay
Heat Removal Capability

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
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Item 1. During startup and power operations, the Standard Technical Specifications (STS) require verification of reactor coolant loop operation on a 12 hour basis. The STS also require that all reactor coolant loops be operating during the startup and power operation mode; otherwise the plant must be brought to at least the hot standby mode within one hour. The intent of the STS requirement is to ensure the RC pumps and other associated equipment are monitored to detect degrading performance and safe plant operation. Indian Point 2's technical specifications (TS) do not have these surveillance requirements and action items or their equivalent. The technical justification for Indian Point 2 not meeting the STS requirement is not clear to the staff since other PWRs have not had difficulty meeting the STS's intent. Provide justification to demonstrate why the action item and the surveillance requirement are not necessary. For example, cite other surveillance procedures that would meet the STS's intent. Alternately, propose suitable technical specifications meeting the STS intent.

Response:

During startup and power operations, reactor coolant loop operation (i.e., reactor coolant pump operation) is readily detectable by the plant operator. Among the indications available to the plant operator for making such determinations are reactor coolant temperature and reactor coolant flow. Existing Indian Point Unit No. 2 Technical Specifications (Table 4.1-1 items 3 and 4) subject these parameters to a channel check once per shift (twice per calendar day). Requiring the operator to specifically log reactor coolant loop operation on a twelve hour basis is redundant and an unnecessary burden that does little to enhance safety, and in light of the other indications available and existing monitoring requirements is considered unwarranted.

Concerning the proposed action times when a reactor coolant

loop is found not operating, specifications 3.1.A.1.a. and 3.1.A.1.b., as proposed in our February 14, 1983 submittal collectively, permit one reactor coolant pump to be out of service for a period not to exceed four hours. Four hours is required to permit sufficient time to make a containment entry, diagnose the problem and initiate corrective action. Experience indicates that one hour is insufficient and would likely result in unnecessary and unwarranted cycling of the reactor.

Item 2. For hot standby operation the STS require that at least two reactor coolant loops shall be operable, including their associated RC pump and SGs and at least one of the RC loops to be operating. If these conditions are not met and corrective actions cannot restore the required loops to operable status within 72 hours, the reactor is to be in the hot shutdown mode within the next 12 hours. Boron dilution operations are to be stopped if an RC loop is not operating. The Indian Point 2 TS have these requirements.

The STS also require periodic verification of the RC pump's operability once every 7 days; verification of the steam generator's operability once every 12 hours; and verification that at least one RC loop is operating once every 12 hours. The Indian Point 2 TS do not have these surveillance requirements. Provide justification as to why these surveillance requirements are not necessary, or propose suitable modification to your Technical Specifications to meet the STS intent.

Response:

The need for a Technical Specification provision requiring the determination of reactor coolant pump operability once per seven days when at hot standby by verifying correct breaker alignments and indicated power availability is considered an unnecessary burden to the operator in view of the low frequency and short duration of reactor operation at hot standby conditions. Verification of RCP operability prior to going above cold shutdown will adequately assure RCP operability for those infrequent instances that the reactor is maintained at hot standby for durations greater than seven days.

Concerning the need to verify steam generator operability once every twelve hours under hot standby conditions by verifying minimum secondary side inventory requirements, existing

Technical Specification 3.5 requires Engineered Safety Features initiation instrumentation to be operable prior to bringing the reactor above cold shutdown. Specifically Lo-Lo Steam Generator Water Level trip channels per loop must be operable with trip settings $\geq 5\%$ of narrow range span. The Lo-Lo Steam Generator Water Level trip will trip the reactor and initiate auxiliary feedwater flow. The requirement to maintain steam generator water level at or above 5% of narrow range span in order to avoid a reactor trip serves to verify that adequate secondary side water level is maintained on a continuous basis whenever the reactor is above cold shutdown. Accordingly, an explicit Technical Specification requirement to verify steam generator operability by determining secondary side water level is maintained at minimum required level, at least once per 12 hours is unnecessary and unwarranted.

Refer to the response to item 1 for justification concerning the need to verify RC loop operation.

Item 3. The STS for the hot shutdown mode require at least two loops that are capable of removing decay heat to be operable. Either two reactor coolant loops (including their associated SGs and at least one associated RC pump) or the two RHR loops or one of each loop must be operable. Also, one of the above loops must be operating. The Indian Point 2 TS have these requirements. The STS require that if the above conditions are not met and immediate corrective actions cannot restore the required loops to operable status, the reactor is to be in the cold shutdown mode within 24 hours and no boron dilution operations should take place if a reactor coolant loop is not operating. The Indian Point 2 TS meet these requirements. In addition, the STS also require periodic verification of the RC pump's operability once per 7 days; verification of the steam generator operability once per 12 hours; and verification that at least one RC loop or RHR loop is operating once every 12 hours. The Indian Point 2 TS do not have these surveillance requirements.

Provide justification as to why these surveillance requirements are not needed, or propose suitable modifications to your Technical Specification.

Response:

Refer to the response to item 2 for a discussion of the need to verify RC pump and steam generator operability on a 7 day and 12 hour frequency, respectively. Concerning the need to verify RC loop or RHR loop operation once every twelve hours in the hot shutdown mode, when either system is used for decay heat removal purposes, verification of operation is accomplished as a practical matter by monitoring reactor coolant temperature. A channel check of reactor coolant temperature is required by existing Technical Specifications (Table 4.1-1, item no. 4) at least once per shift (twice per calendar day), and serves to verify successful continued RC loop or RHR loop operation, as applicable. Thus to separately log "loop operation" is redundant and an unnecessary burden on the operator.

By way of clarification, in our February 14, 1983 submittal we proposed a Technical Specification provision requiring that two RCPs or two RHR pumps or one RCP and one RHR pump are operable with the reactor at hot shutdown and $T_{avg} \leq 350^{\circ}\text{F}$. The action required with only one pump operable (RHR or RCP), would be to restore a second pump to operable status or proceed to cold shutdown using the operable pump. With no pumps operable, the action requirement proposed would be to suspend all operations involving a reduction in boron concentration and immediately initiate action to restore at least one pump to operable status.

Item 4. For the cold shutdown mode ($T_{\text{ave}} \leq 200^{\circ}\text{F}$), the STS require that either two RHR loops be operable and one of the loops to be operating. Otherwise, immediate corrective action must be initiated to restore the required loops to operable status. The STS also require that any boron dilution operation be suspended if no RHR loop is operating. The STS further require that RHR operation be verified once every 12 hours. The Indian Point 2 TS do not have any limiting condition for cold shutdown mode operation. Provide justification as to why limiting condition for cold shutdown mode operation and the surveillance requirements are not included in the Indian Point TS, or propose suitable modifications to your Technical Specifications.

Response:

Limiting conditions for operation (LCOs) pertaining to decay heat removal capability during cold shutdown are included in Table 3.1.A-1 (pages 3 and 4) of our February 14, 1983 submittal. LCOs for the refueling mode with fuel in the reactor and the reactor vessel head less than fully tensioned are included in section 3.8.A of our February 14, 1983 submittal. LCOs for the period of time when fuel is in the reactor vessel, the reactor vessel head is being moved, during movement of the upper internals, while loading or unloading fuel from the reactor or when moving heavy loads greater than 2300 pounds (except for installed crane systems) over the reactor are included in section 3.8.B. of our February 14, 1983 submittal. Note that under section 3.8.B., DHR requirements are limited to maintaining $T_{\text{avg}} \leq 140^{\circ}\text{F}$ and sufficient boron concentration to maintain shutdown margin at least $10\% \Delta k/k$. Refer to our response to item 3 for a discussion of the need to verify RHR operation once every twelve hours.