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IPN-99-012

U.S. Nuclear Regulatory Commission
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Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
**Supplement To Proposed Technical Specification Change Relocating
The Chemical Volume and Control System Specification**

Reference: IPN-98-113 dated October 16, 1998, "Proposed Relocation of Technical
Specifications Regarding Chemical Volume and Control System."

Dear Sir:

This letter supplements the application for an amendment to the Indian Point 3 Technical Specifications to relocate Technical Specification 3.2, "Chemical Volume and Control System" (CVCS) and associated surveillance requirements and Bases submitted in IPN-98-113, referenced above. Relocation of CVCS requirements from the Technical Specifications to a licensee controlled document was identified as an improvement during the development of the Standard Technical Specifications (NUREG 1431, April 1995).

During a December 7, 1998 teleconference, the NRC Staff asked NYPA to clarify the information provided in IPN-98-113 to address several questions. Attachment I contains the safety evaluation with supplemental information, identified by a revision bar in the right margin, addressing the NRC request during the teleconference. There were no changes to the "No Significant Hazards Evaluation" or other attachments of IPN-98-113.

No new commitments are made by the Authority in this submittal.

In accordance with 10 CFR 50.91, a copy of this information is being submitted to the designated New York State official.

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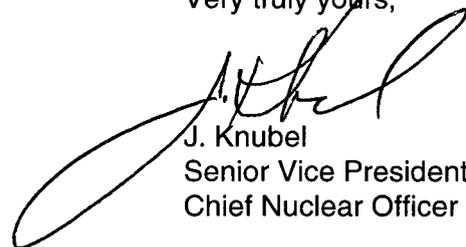


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If you have any questions, please contact Mr. K. Peters.

Very truly yours,



J. Knubel
Senior Vice President and
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Attachment

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Section I - Description of Changes

This application for amendment to the Indian Point 3 (IP3) Technical Specification (TS) proposes to relocate (i.e., remove from TS) the Chemical Volume and Control System (CVCS) TS 3.2 to the IP3 Operational Specifications. The proposed change relocates TS 3.2, the bases and the associated surveillances in Table 4.1-1 (items 12, 26, and 27), Table 4.1-2 (item 2), and Table 4.1-3 (item 12). The TS relocation is proposed since NYPA has not yet implemented the improved TS and the relocation is expected to save time and resources because several items of the CVCS TS require amending (e.g., the city water LCO has no action statement).

An implementation period of 60 days has been requested because NYPA plans to reformat and revise the relocated requirements during the implementation period to reflect the format of the Standard Technical Specification (STS) (Reference 1), the current licensing basis, and the guidance of older STS (Reference 2).

Section II - Evaluation of Changes

NYPA proposes a line item change to relocate the CVCS TS. This TS relocation is being proposed since NYPA has not yet implemented improved TS which do not contain CVCS TS. NYPA is proposing no changes to the TS (other than relocation) for review and approval by the NRC. However, NYPA does not plan to issue administrative controls based on the unchanged TS. During the TS implementation period, NYPA plans to revise the relocated TS requirements and then issue the plant Operating Specifications (OS) with the revised requirements. The OS are administrative controls and the provisions of 10 CFR 50.59 are followed to implement changes to these controls.

The NRC developed four criteria for determining when a TS was required. These criteria were incorporated into 10 CFR 50.36(c)(2)(ii) as part of the TS improvement effort. The NRC policy statement (Reference 3) related to this revision acknowledged that implementation of the criteria might cause requirements of the TS to be relocated. The CVCS TS may be relocated because they do not meet the requirements of 10 CFR 50.36(c)(2)(ii) which define when TS are required. For this reason, the current STS (Reference 1) no longer contain CVCS TS. A review of the provisions of 10 CFR 50.36(c)(2)(ii) with respect to Indian Point 3 confirm that the CVCS TS may be relocated. That review shows the following relative to the four criteria for needing a TS:

- The first criterion is for instrumentation used to detect significant reactor coolant pressure boundary degradation. The CVCS is used to borate the RCS to provide shutdown margin and to control RCS inventory. The CVCS function does not include detecting significant degradation of the RCS boundary. Therefore, a CVCS TS is not required by the first criterion.
- The second criterion is for process variables, design features or operating restrictions that are an initial condition of a design basis accident or transient that assumes the failure of or presents a challenge to the integrity of a fission product barrier. The CVCS is not an engineered safety feature and is not credited with mitigating any design basis accident. The CVCS malfunction that causes the inadvertent boron dilution event is a failure of the system and manual action terminates the event without challenging the

fission product barrier. Therefore, a CVCS TS is not required by the second criterion.

- The third criterion is for structures, systems and components that are part of the primary success path and which functions or actuates to mitigate a design basis event that assumes the failure of or presents a challenge to the integrity of a fission product barrier. The CVCS is not an engineered safety feature and is not credited with mitigating any design basis accident. The CVCS malfunction that causes the inadvertent boron dilution event is a failure of the equipment and manual action terminates the event without challenging the fission product barrier. Therefore, a CVCS TS is not required by the third criterion.
- The last criterion is for structures, systems and components that operating experience or probabilistic risk analysis has shown to be significant to public health and safety. The IP3 individual plant examination (IPE) (Reference 4) identifies the CVCS boration function for ATWS and the RCP seal cooling function for the reactor coolant pump seal LOCA sequences. The use of the charging function with city water cooling for the turbine missile event (referred to in the TS bases) is not considered in the IPE and is a low probability event. The NRC guidance in SECY 95-128 "Final Rulemaking Package for 10 CFR 50.36, "Technical Specifications"," dated May 19, 1995 indicates that PRA insights should be utilized to indicate "whether the provisions to be relocated contain constraints of importance in limiting the likelihood or severity of the accident sequences that are commonly found to dominate risk." On December 7, 1998, the NRC Staff requested that we clarify the bases for compliance with this criteria. The areas of clarification requested and the clarification is as follows:

1. To demonstrate that the constraints are not of importance, show that the systems contribution to core damage frequency (CDF) do not exceed your acceptance criterion.

The mean core damage frequency for the four sequences where there is a loss of CVCS function (i.e., boration or seal cooling) represent 2.3 percent of the total CDF when utilizing the point estimate quantification (mean values are used to calculate the CDF) and including the human error contribution. This is conservative since the IPE takes into account parameter uncertainty and human error is not governed by the TS. With these conservatisms removed, the total CDF contribution from system related CVCS failures represents $6.5E-7$ per year or about 1.4 percent of the CDF. This conservatively demonstrates the provisions to be relocated do not have "constraints of importance" since TS relocation does not change system design, operation, operational set points or failure rate of system components and no credit has been taken for the existence of relocated requirements for system operation and testing.

2. Clarify why the city water is not significant.

The city water system to the charging pumps is not risk significant because its failure represents a contribution to the CDF of $1.9E-7$ per year or less than 0.5 percent of the CDF. The failure of city water for other functions (e.g., water to

auxiliary feedwater) are not subject to the provisions of this TS and are not included. The NRC SER (Reference 5) identifies city water to the charging pumps as a unique plant safety feature but not as significant.

3. Clarify why the IPE appears to say that the CVCS and city water represent 6 percent of CDF.

The IPE discussion (page 3-490) about a 6.6 percent contribution for CDF refers to the total Reactor Coolant Pump (RCP) seal LOCA contribution to CDF. The probability of a RCP seal LOCA due to CVCS failure represents about $3.9E-7$ per year or less than 1 percent of the CDF. The dominant contributors to RCP seal LOCA are random seal failure and loss of AC power. Loss of component cooling water and service water are also contributors.

4. Discuss the affect on probability of the lack of High Head Safety Injection (HHSI) Pumps to function as backup to the charging pumps.

The HHSI pumps have a shutoff head below the set point of the pressurizer power operated relief valves (PORV). Although the ATWS sequences do not credit HHSI for a backup boration function during an ATWS event, emergency boration failures represent a contribution to the CDF of $2.6E-7$ per year or less than 1 percent of the CDF and are dominated by human error. The HHSI pumps can provide boration with pressure relief from a PORV.

From the above, the CVCS TS do not "dominate risk." The constraints in the relocated TS are not important to "limiting the likelihood" of the accident sequences since relocated administrative controls will continue to provide constraints to system availability and the failure of the CVCS function presents a small contributor to CDF. The constraints are also not of importance in "limiting the severity" of the events since the capability to borate and provide seal cooling is important to normal operation, therefore any inoperable equipment would be accorded a high priority for repair. This is similar to the controls for other equipment relied upon for ATWS mitigation, Appendix R shutdown and station blackout which has not been classified safety grade or added to TS. It is required that this equipment be kept operable using administrative controls in order to maintain the plant design basis.

Section III - No Significant Hazards Evaluation

Consistent with the criteria 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 analyzed?

Response:

Relocation (i.e., removal from TS) of TS 3.2, the bases and the associated surveillances in Table 4.1-1 (items 12, 26, and 27), Table 4.1-2 (item 2), and Table 4.1-3 (item 12) will not involve a significant increase the probability or consequences of an accident since the relocation of the Technical Specifications to administrative controls governed by 10 CFR 50.59 does not affect the availability or function of charging and boric acid flow paths. CVCS is not an initiator of an accident (the dilution event is equipment malfunction that is manually terminated) and the proposed change does not alter overall system operation, physical design, system configuration, or operational set points. There will be no significant increase in the consequences of an accident because the required boration flow paths will continue to be available for boration to the reactor coolant system.

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

Response:

Relocation (i.e., removal from TS) of TS 3.2, the bases and the associated surveillances in Table 4.1-1 (items 12, 26, and 27), Table 4.1-2 (item 2), and Table 4.1-3 (item 12) will not create the possibility of a new or different kind of accident from any previously evaluated since it does not alter the overall system operation, physical design, system configuration, or operational set points. The plant systems for boration are operated in the same manner as before and, consequently, the relocation does not introduce any new accident initiators or failure mechanisms and does not invalidate the existing dilution event response. The boration function is not an accident initiator.

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

Response:

Relocation (i.e., removal from TS) of TS 3.2, the bases and the associated surveillances in Table 4.1-1 (items 12, 26, and 27), Table 4.1-2 (item 2), and Table 4.1-3 (item 12) will not involve a significant reduction in margin of safety. The relocation is a change to the administrative controls that are used to assure system availability and those administrative controls are governed by 10 CFR 50.59. The manner in which the system is operated does not change and there is no change to physical design, system configuration, or operational set points. Previous analyses of system malfunction remain unchanged. The current Technical Specification does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for inclusion in the technical specifications.

Section IV - Effect of Changes

The proposed relocation does not adversely affect the operation or testing of the system and no modifications will be required. There would be no adverse effect on the ALARA Program since no additional dose would be foreseen. There would be no adverse effect on the Security and

Fire Protection Programs since there are no physical changes requiring security and Appendix R requirements for charging pumps are already subject to administrative controls. There would be no adverse effect on the Emergency Plan since the boration capability and system operation will not be changed and the Operational Specification changes are subject to 10 CFR 50.59. A review of the FSAR and SER conclusions identified no information that will be inconsistent with the proposed changes. Section 9.2 of the FSAR will be revised to reference administrative controls (the Operational Specifications) rather than the Technical Specifications for tests and inspections and boric acid storage tank operation. Section 9.2 will also be revised to clarify that, when one BAST was taken out of service and the other filled with the required quantity of borated water, there is no requirement that the plant "would" be placed in cold shutdown. This clarification is made at this time since the Technical Specifications being relocated do not currently require going to cold shutdown with one BAST out of service. There will be no effect on overall plant operations and the environment since system operation will remain the same and there will be no changes to plant effluents or radwaste.

Section V - Conclusions

The relocation of the CVCS TS will not involve a significant hazard since the relocation : a) will not significantly increase the probability nor the consequences of an accident previously evaluated; b) will not create the possibility of a new or different kind of accident than previously evaluated; and, c) will not significantly reduce the margin of safety.

Section VI - References

1. NUREG 1431, "Standard Technical Specifications - Westinghouse Plants," Revision 1, dated April 1995.
2. NUREG 0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," Revision 4, dated November 1981.
3. NRC "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," dated July 22, 1993.
4. IP3-RPT-MULT-01539, Rev. 0, "Indian Point Three Nuclear Power Plant Individual Plant Examination," dated June 1994.
5. NRC letter to NYPA, Jefferey F. Harold to William J. Cahill, Jr., dated December 11, 1995, regarding Staff Evaluation of Indian Point Nuclear Generating Unit No. 3 - Individual Plant Examination.