

February 5, 2003

Mr. Michael R. Kansler
Senior Vice President and
Chief Operating Officer
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440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING CITY WATER
TANK SURVEILLANCE REQUIREMENTS, INDIAN POINT NUCLEAR
GENERATING UNIT NO. 3 (TAC NO. MB5506)

Dear Mr. Kansler:

In a letter dated June 24, 2002, Entergy Nuclear Operations, Inc. (ENO) submitted a proposed amendment to change the Technical Specifications (TSs) for Indian Point Nuclear Generating Unit No. 3 (IP3). The proposed amendment would revise TS Surveillance Requirements 3.7.7.1 and 3.7.7.2 for the city water system.

The U.S. Nuclear Regulatory Commission staff is reviewing the information provided in the June 24 submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). During a telephone call on January 30, 2003, the ENO staff indicated that a response to the RAI would be provided within 60 days.

If you should have any questions, please do not hesitate to call me.

Sincerely,

/RA/

Patrick D. Milano, Sr. Project Manager, Section 1
Project Directorate 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-286

Enclosure: RAI

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

REGARDING CITY WATER SYSTEM SURVEILLANCE REQUIREMENTS

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 (IP3)

In a letter dated June 24, 2001, Entergy Nuclear Operations, Inc. (the licensee) submitted a proposed amendment to revise Technical Specifications (TSs) surveillance requirements (SR) 3.7.7.1 and 3.7.7.2. Specifically, SR 3.7.7.1 would be changed to require the verification of the city water (CW) tank volume rather than CW header pressure and increase the SR frequency from 12 hours to 24 hours. SR 3.7.7.2 would be revised to verify all CW header isolation valves are open rather than only the one header supply isolation valve. The U.S. Nuclear Regulatory Commission (NRC) staff has the following questions regarding the information provided in the proposed amendment:

1. The NRC staff's interpretation of the current TS 3.7.7 (which includes Limiting Condition for Operation (LCO) 3.7.7 and SR 3.7.7.1) is that the operability requirements apply to the CW system offsite supply and not to the CW tank. The staff has based its interpretation on the TS Bases discussion in Section B 3.7.7 and the former licensee's Improved Technical Specifications (ITS) submittal (which established TS 3.7.7). Specifically, the current TS Bases discussion concerning LCO 3.7.7 includes the statement that "[t]he City Water Storage Tank is not required to contain a specific volume of water ..." In addition, the TS Bases discussion concerning SR 3.7.7.1 includes the statement that "[t]his SR verifies that CW header pressure is greater than 30 psig which provides a high degree of assurance that the offsite CW supply is available to the site and properly aligned." In contrast, the June 24, 2002, application contains the statement that "[t]he CW header pressure of ≥ 30 psig does not provide a true indication of availability of adequate volume of water in the CWT [city water tank]."

Based upon the TS Bases citations above, the staff does not believe that the proposed change adequately reflects the intent of the current TS 3.7.7. Specifically, the staff believes that the proposed SR 3.7.7.1 must be evaluated, not on the basis of whether it prescribes a more accurate indication for determining what volume exists in the CWT, but as a proposed change in the specific components or sub-system of the CW system that must be operable to satisfy LCO 3.7.7 (i.e., the CWT rather than the CW offsite supply). Therefore, provide the basis for the licensee's interpretation of TS 3.7.7.

2. In Section 10.2 of the Final Safety Analysis Report (FSAR), in the section entitled "Auxiliary Feedwater System," in the subsection entitled "Single Failure Criteria," the licensing basis for the minimum volume for the auxiliary feedwater system (AFWS) primary suction source (i.e., the condensate storage tank or CST) is defined as that quantity "... which is sufficient to remove residual heat generation for 24 hours at hot shutdown conditions." A similar statement exists in the section entitled "Condensate System," which is also in Section 10.2 of the FSAR. A similar basis for the AFWS can also be found in the "Safety Evaluation Report for Indian Point Nuclear Generating Unit No. 3," dated September 21, 1973. For the back-up AFWS suction source proposed in June 24 application (i.e., the CWT), however, the licensee has proposed a different licensing basis, namely that quantity "... adequate for a plant cooldown from 102% rated thermal power to RHR entry conditions in 10 hours ...". Although the volume

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requirement calculated for the CST and CWT using these different bases is identical (i.e., 360,000 gallons), it is not clear why the CWT licensing basis should be different from the approved licensing basis of the AFWS, the system the required CWT volume would support. Therefore, either: (1) justify the acceptability of the proposed licensing-basis volume requirement that the CWT contain sufficient inventory to cool the reactor from 102% power to RHR entry conditions in 10 hours, or (2) confirm that 360,000 gallons of CWT inventory is sufficient to meet the current licensing-basis requirement for the AFWS for maintaining the reactor at hot shutdown for 24 hours following a trip from full power.

3. Provide the following information concerning the calculation of the failure probabilities of both the CST and CWT:
 - a. At what wind speeds are these tanks assumed to fail?
 - b. What is the analytical basis for the wind speeds assumed to cause the tanks' failure?
 - c. What tank levels are assumed in the failure probability calculations?
 - d. If tank levels greater than those required by TS are assumed in the calculations, please justify their use.
4. What is the estimated frequency of the CST and CWT both failing due to phenomena generated by a tornado that is within the IP3 design-basis envelope (e.g., considering both high wind loadings alone and high winds combined with a tornado missile impact on one of the tanks)? Excluding the information already provided concerning the calculation of the CST and CWT failure probabilities, explain how the frequency of the tanks' concurrent failure due to tornado-related phenomena was derived, including what model and important assumptions were used.
5. The June 24, 2002, application states that the proposed "frequency of 24 hours for surveillance [3.7.7.1] has been determined to be acceptable based on the conditional core damage probability evaluated by a PRA [probabilistic risk assessment] study." To support the staff's independent review of the proposed surveillance period extension for SR 3.7.7.1, provide the following additional information:
 - a. What is the calculated conditional core damage probability (CCDP) for the proposed interval extension?
 - b. What model and important assumptions were used in calculating this CCDP?
 - c. To what acceptance criterion was the calculated CCDP compared to determine its acceptability?
 - d. What is the basis for using the chosen acceptance criterion?
6. The Individual Plant Examination for External Events for IP3 states that the CWT is shared with Indian Point Unit 2. The IP3 FSAR also describes other functions performed by the CW system, in addition to serving as a back-up supply to the AFWS. It is not clear from the TS Bases discussion concerning SR 3.7.7.1 that the 360,000 gallons required to be in the CWT must be dedicated to the IP3 AFWS. Please (1) confirm that the acceptance criterion for SR 3.7.7.1 for minimum volume is a dedicated volume for the IP3 AFWS, and (2) explain why the proposed TS surveillance interval of 24 hours is considered acceptable, despite the possibility that the CWT volume may be depleted by unrelated evolutions at IP3 or IP2.