

Entergy Nuclear Northeast Entergy Nuclear Operations, Inc. Indian Point Energy Center P.O. Box 308 Buchanan, NY 10511 Tel 914 736 8001 Fax 914 736 8012

Robert J. Barrett Vice President, Operations Indian Point 3

June 24, 2002 IPN-02-050

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, DC 20555

SUBJECT: Indian Point Nuclear Generating Unit No. 3 Docket No. 50-286 Proposed Change to Technical Specifications Regarding <u>City Water Tank Surveillance Requirements</u>

Dear Sir:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc., (ENO) hereby requests the following amendment to the Operating License for Indian Point 3 Nuclear Generating Unit No. 3.

This application for amendment to the Indian Point 3 Technical Specifications (TS) proposes to change surveillance requirement SR 3.7.7.1 to verify a volume of water in the City Water Tank (CWT) instead of verifying the header pressure. The proposed frequency for this verification is 24 hours.

In addition, an amendment to SR 3.7.7.2 is requested that increases the number of CW header isolation valves that must be verified open.

The requested amendment is needed to ensure that surveillance requirements for CWT volume, and position verification of the CW header isolation valves are properly reflected in the TS.

The proposed change has been evaluated in accordance with 10 CFR 50.91 (a)(1) using the criteria of 10 CFR 50.92 (c) and ENO has determined that this proposed change involves no significant hazards considerations. The bases for these determinations are included in the attached submittal.

There are no new commitments identified in this letter. If you have any questions or require additional information, please contact Mr. Kevin Kingsley at (914) 734-6034.

 \mathcal{V}_{00}

IPN-02-050

Docket No. 50-286 Page 2 of 2

I declare under penalty of perjury that the foregoing is true and correct. Executed on

24 2002

Very truly yours, Robert J. Barrett

Vice President Operations-IP3

Attachments:

- I. Analysis of Proposed Technical Specification Change
- II. Proposed Technical Specification and Bases Changes (markup)
- cc: Mr. Hubert J. Miller Regional Administrator Region I U.S. Nuclear Regulatory Commission 475 Allendale Road King of Prussia, PA 19406

Resident Inspector's Office Indian Point Unit 3 U.S. Nuclear Regulatory Commission P.O. Box 337 Buchanan, NY 10511

Mr. William M. Flynn New York State Energy, Research and Development Authority Corporate Plaza West 286 Washington Avenue Extension Albany, NY 12203-6399

Mr. Patrick D. Milano, Project Manager Project Directorate I, Division of Reactor Projects I/II U.S. Nuclear Regulatory Commission Mail Stop 0-8-C2 Washington, DC 20555

Mr. Paul Eddy NYS Department of Public Service 3 Empire Plaza Albany, NY 12223

ATTACHMENT I TO IPN-02-050

.

ANALYSIS OF PROPOSED TECHNICAL

SPECIFICATION CHANGE REGARDING CITY WATER TANK

SURVEILLANCE REQUIREMENTS

ENTERGY NUCLEAR OPERATIONS, INC. INDIAN POINT 3 NUCLEAR POWER PLANT DOCKET NO. 50-286 DPR-64

1.0 DESCRIPTION

This letter is a request to amend Operating License DPR-64, Docket No. 50-286 for Indian Point Nuclear Generating Unit No. 3.

This application for amendment to the Indian Point 3 Technical Specifications (TS) proposes to change surveillance requirement SR 3.7.7.1 to verify a volume of water in the City Water Tank (CWT) instead of header pressure. The proposed frequency for this verification is 24 hours.

In addition, an amendment to SR 3.7.7.2 is requested that increases the number of CW header isolation valves that must be verified open.

2.0 PROPOSED CHANGE

- Change Surveillance Requirement SR 3.7.7.1 to read, "Verify the City Water Tank volume is ≥ 360,000 gallons; Frequency - 24 hours".
- Change Surveillance Requirement SR 3.7.7.2 to read, "Verify the Unit 3 CW Header Isolation <u>Valves</u> are open." The current TS has surveillance requirement for position verification for only <u>one</u> CW header supply isolation valve CT-49 (Ref. TS Bases, Page B 3.7.7-4). The proposed change includes position verification of isolation valves that were added, as part of a CW line back-flow preventer modification, CT-1300 and CT-1302, in the flow path to the Auxiliary Feedwater System (AFS) pump suction from the CWT.

3.0 BACKGROUND

The requested amendment is needed to ensure that surveillance requirements for CWT volume, and position verification of the CW header isolation valves are properly reflected in the TS.

The current TS SR 3.7.7.1 requires verification that CW header pressure is≥30 psig. The CW header pressure of ≥30 psig does not provide a true indication of availability of adequate volume of water in the CWT. Due to the difference in elevation between the CWT and the pressure gauge PI-1205 located in the AFS pump room, the pressure gauge could read 30 psig even when there is very little water available in the CWT and the header filled. The CST is not designed to withstand the effect of a tornado-generated missile, however, the AFS is provided sufficient redundancy of water supplies such that an alternate source of water from the CWT is available in the event the CST is damaged by a tornado-generated missile. FSAR Section 10.2 states that an alternate supply of water to the AFS pumps is provided by a connection to the 1.5 million gallon CWT. Therefore, the proposed surveillance requirement SR 3.7.7.1 to verify that CWT volume is ≥ 360,000 gallons would ensure that adequate volume of CW is available in the CWT for the AFS, if the CST was unavailable or depleted for any reason. This volume of water has been determined by engineering calculation to be adequate for plant cooldown from 102% rated thermal power to RHR entry conditions in 10 hours (Reference 4). The volume of water in the CWT will be confirmed every 24 hours. The frequency of 24 hours for surveillance has been determined to be acceptable based on the conditional core damage probability evaluated by a PRA study.

The current TS SR 3.7.7.2 requires verification of a single CW Header Supply Isolation Valve CT-49 (Ref. TS Bases, Page B 3.7.7-4) to be open. Two manual isolation valves, CT-1300 and CT-1302, were added as part of a CW line back-flow preventer modification. By including additional isolation valves, for surveillance, that are in the flow-path from the CWT to the AFS pump suction, the proposed TS change would ensure that proper positioning of all applicable isolation valves is confirmed. The applicable valve numbers are included in the TS Bases.

4.0 TECHNICAL ANALYSIS

1. Changing Surveillance Requirement SR 3.7.7.1 to verify CWT volume ≥ 360,000 gallons, every 24 hours.

City Water is an alternate source of water to the CST for the AFS. The CST provides cooling water to remove decay heat. The CST is not designed to withstand the effect of a tornado-generated missile, however, the AFS is provided sufficient redundancy of water supplies such that an alternate source of water from the CWT is available in the event the CST is damaged by a tornado-generated missile. The TS Surveillance for the CST requires that the volume of water in the CST is \geq 360,000 gallons. When the CST supply is unavailable or depleted for any reason, CW is used as an alternate source. FSAR Section 10.2 credits CWT as an alternate source of water to the AFS pumps. The current TS SR 3.7.7.1 to verify CW header pressure is ≥30 psig does not ensure that adequate volume of CW is available in the CWT. Based on the difference in elevation between the CWT and the pressure gauge in the AFS pump room, SR 3.7.7.1 would still be met even if the CWT contained verv little water and the header filled. Therefore, the proposed change to the surveillance requirement to verify that CWT volume is ≥ 360,000 gallons would ensure that adequate volume of CW is available from the CWT for cooling the RCS from 102% rated thermal power to RHR entry conditions in 10 hours, if the CST was unavailable or depleted for any reason. The adequacy of this volume has been confirmed by an engineering calculation (Reference 4). The level of water in the CWT will be confirmed every 24 hours. This frequency for surveillance has been determined to be acceptable based on the conditional core damage probability evaluated by a PRA study.

2. Including additional valves for position verification in SR 3.7.7.2.

The current TS SR 3.7.7.2 requires verification of a single CW Header Supply Isolation Valve (Ref. TS Bases, Page B 3.7.7-4, Valve # CT-49) to be open. Two manual isolation valves, CT-1300 and CT-1302, were added as part of a CW line back-flow preventer modification. By including additional isolation valves for surveillance that are in the flow path from the CWT to the AFS, the proposed TS change would ensure that proper positioning of all applicable isolation valves is established. The applicable valve numbers are included in the TS Bases.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

Entergy Nuclear Operations, Inc. has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

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

Response: No.

The current TS surveillance to verify City Water (CW) header pressure did not provide assurance that adequate volume of water was available in the City Water Tank (CWT) as an alternate source of cooling if Condensate Storage Tank (CST) was not available. The CST is not designed to withstand the effect of a tornado-generated missile. However, the Auxiliary Feedwater System (AFS) is provided sufficient redundancy of water supplies such that an alternate source of water from the CWT is available in the event the CST is damaged by a tornado-generated missile. The proposed amendment to verify CWT volume is ≥ 360,000 gallons would ensure that adequate volume of CW is available in the CWT to cool the RCS from 102% rated thermal power to RHR entry conditions in 10 hours, if the CST is unavailable or depleted for any reason. The surveillance frequency for the CWT volume is 24 hours. The proposed amendment to change SR 3.7.7.2 to include additional isolation valves that are in the flow path from CWT to AFS suction would ensure that all applicable isolation valves in the flow path are properly positioned. Thus, the proposed amendment involves changes to the Technical Specifications that would properly reflect the Surveillance Requirements for CWT. The CWT is not an initiator of any accident addressed in the FSAR and the proposed amendment does not have any change to the accident analysis addressed in the FSAR.

Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No.

The proposed amendment involves changes to the Technical Specifications to properly reflect the surveillance requirements of City Water Tank. The proposed change provides assurance of availability of adequate volume of water in the CWT to cool the RCS from 102% rated thermal power to RHR entry conditions in 10 hours, if the CST is unavailable or depleted for any reason, and verifies the correct position of isolation valves in the flow path between the CWT and the AFS pump suction. These changes do not affect any accident initiators.

Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

Response: No.

The proposed amendment involves changes to the Technical Specifications to properly reflect the surveillance requirements of City Water Tank. The proposed change to verify the CWT volume would ensure that an adequate volume of CW is available in the tank to cool the RCS from 102% rated thermal power to RHR entry conditions in 10 hours, if the CST is unavailable or depleted for any reason. The proposed change to verify the valve position for isolation valves in the flow path between the CWT and the AFS pump suction would ensure that isolation valves in the flow path are properly positioned. The proposed amendment does not involve any changes to plant equipment, or the way in which the plant is operated.

Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

Based on the above, Entergy Nuclear Operations, Inc., concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92 (c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

The proposed changes have been evaluated to determine whether applicable regulatory requirements continue to be met. The proposed changes are consistent with the Indian Point 3 FSAR, and no change is needed to implement the proposed surveillance requirements. Changes to the Technical Specification Bases provide information on the CWT volume requirement, and inclusion of additional valves for position verification in the flow path between CWT and AFS pump suction.

ENO has determined that the proposed changes do not require any exemptions or relief from regulatory requirements other than the change requested to Technical Specification Section 3.7.7. The proposed change to the Technical Specification does not affect conformance to any design criteria described in the FSAR and the revised Technical Specification will continue to satisfy Criterion 3 of 10 CFR 50.36.

5.3 Environmental Considerations

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 PRECEDENCE

The Standard Technical Specifications (STS) NUREG-1431 does not have a Specification for City Water System. In the STS, the Service Water System is used as a backup water supply to the Auxiliary Feedwater System. However, City Water TS was included as part of the Indian Point Unit 3 Improved Technical Specifications submittal and was approved by the NRC.

7.0 REFERENCES

4

. •

- 1. Indian Point 3, Updated Final Safety Analysis Report; Section 10.1 (Table 10.1.1), Section 10.2-6 and Section 16.2.
- 2. Design Basis Document IP3-DBD-303, "Auxiliary Feedwater System".
- 3. Design Basis Document IP3-DBD-319, "Condensate and Condensate Polishing Systems".
- 4. IP3-CALC-MW-03548, Rev 0, "Unit 2 City Water Storage Tank Minimum Water Volume Requirement".

ATTACHMENT II TO IPN-02-050

MARKUP OF TECHNICAL SPECIFICATION AND

BASES FOR PROPOSED CHANGE REGARDING

CITY WATER SYSTEM SURVEILLANCE REQUIREMENTS

Deleted text is shown as strikethrough Added text is shown in *italics*

ENTERGY NUCLEAR OPERATIONS, INC. INDIAN POINT 3 NUCLEAR POWER PLANT DOCKET NO. 50-286 DPR-64 FOR INFORMATION ONLY NO CHANGE ON THIS PAGE

3.7 PLANT SYSTEMS

.

- 3.7.7 City Water (CW)
- LCO 3.7.7 CW shall be OPERABLE.
- APPLICABILITY: MODES 1, 2, and 3, MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
Α.	CW inoperable.	A.1	Verify by administrative means OPERABILITY of Condensate Storage Tank.	Immediately <u>AND</u> Once per 12 hours thereafter
		<u>AND</u> A.2	Restore CW to OPERABLE.	7 days
В.	Required Action and associated Completion Time not met.	B.1 <u>AND</u> B.2	Be in MODE 3. Be in MODE 4, without reliance on steam generators for heat removal.	6 hours 18 hours

SURVEILLANCE REQUIREMENTS

•

SURVEILLANCE			FREQUENCY	
SR	3.7.7.1	Verify the CW header pressure is \ge 30 psig Tank volume is \ge 360,000 gallons.	12 24 hours	
SR	3.7.7.2	Verify the Unit 3 City Water Header Supply Isolation Valve is Valves are open.	31 days	
SR	3.7.7.3	Perform testing required by Inservice Testing Program for each valve needed to align CW to each AFW pump suction.	In accordance with the Inservice Testing Program	

B 3.7 PLANT SYSTEMS

B 3.7.7 City Water (CW)

BASES

BACKGROUND

City Water is the backup to the Condensate Storage Tank (CST) as a water supply for the Auxiliary Feedwater System. The CST, the preferred source of water for the Steam Generators (SGs), is capable of holding up to 600,000 gallons and is sized to meet the normal operating and maintenance needs of the main steam system. LCO 3.7.6. Condensate Storage Tank, requires that a minimum water level is maintained in the CST that is sufficient to remove residual heat for 24 hours at hot shutdown conditions following a trip from full power. The CST is not designed to withstand the effects of a tornado-generated missile. However, the Auxiliary Feedwater System is provided sufficient redundancy of water supplies such that an alternate source of water from the City Water Tank (CWT) is available in the event the CST is damaged by a tornado-generated missile. Only when the CST supply is exhausted or not available will city water be used to supply the Auxiliary Feedwater System.

> When the main steam isolation valves are open, the preferred means of heat removal from the RCS is to discharge steam to the condenser via the non-safety grade turbine steam bypass valves (High Pressure Steam Dump) with water supplied from the CST to the SGs using the AFW System. The condensed steam is returned to the CST by the condensate pump. This configuration conserves condensate and minimizes releases to the environment. The CST is the preferred source of water for the SGs.

When the CST supply is exhausted, city water is used to supply the Auxiliary Feedwater System for decay heat removal and plant cooldown. CW, although aligned to the IP3 site, is normally isolated from the AFW pump suctions.

The City Water System includes the site city water header consisting of the 1.5 million gallon city water storage tank and the connection to the offsite water supply. A description of the Reference to the CW system as an alternate supply to the Auxiliary Feedwater System is found in FSAR, Section 10 (Ref. 1).

APPLICABLE SAFETY ANALYSES

CW can be used to provide cooling water to remove decay heat and to cool down the unit following all events in the accident analysis as discussed in the FSAR; however, it has been established by engineering calculations that 360,000 gallons of water in the CWT is adequate to cooldown the plant from 102% rated thermal power to RHR entry conditions in 10 hours if the CST is not available or depleted. The CST is not designed to withstand the effects of a tornado generated missile and CW is used only when the CST is not available or depleted.

CW satisfies Criterion 3 of 10 CFR 50.36.

LC0

This LCO requires that the CW supply header is aligned to the AFW pump suction headers except for the onsite isolation valves, which are normally closed. The City Water Storage Tank is not required to contain a specific volume of water; however, the static head on CW supply from the CW storage tank is used to indicate that the CW supply header and CW System are aligned to the IP3 site and available for use. Tank volume is \geq 360,000 gallons and the isolation valves in the flow path between the CWT and the AFW pumps suction are open. The CWT volume of 360,000 gallons has been determined by calculations to be adequate for a plant cooldown from 102% rated thermal power to RHR entry conditions in 10 hours (Reference 3).

The OPERABILITY of the CW is determined by maintaining the supply header pressure at or above the minimum required pressure tank volume at or above the minimum required volume and periodic verification that the required lineups can be established.

APPLICABILITY City Water is required to be OPERABLE in MODES 1, 2, and 3, and in MODE 4, when a steam generator is being relied upon for heat removal. In MODE 5 or 6, CW is not required because the SGs are not normally used to remove decay heat when in these MODES.

ACTIONS

A.1 and A.2

If the CW header pressure Tank volume is not within limits or system lineups are not as required. CW cannot be assumed to be available if needed as a backup water source for the CST. With CW not available. OPERABILITY of the CST must be verified by administrative means immediately and once every 12 hours thereafter. Operability of the CST means that LCO 3.7.6, Condensate Storage Tank, is met. The immediate Completion Time for verification of the OPERABILITY of the CST ensures that Condition B is entered immediately if both the CST and City Water are inoperable. This ensures that either the CST or CW is available for decay heat removal and to support a plant cooldown. CW must be restored to OPERABLE status within 7 days because CW is assumed to be available to supply the Auxiliary Feedwater System when the CST supply is exhausted. The 7 day Completion Time for restoration of CW is acceptable because the CST is OPERABLE and the low probability of an event requiring CW during the 7 day Completion Time.

B.1 and B.2

If CW cannot be restored to OPERABLE within the Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4, without reliance on the steam generator for heat removal, within 18 hours. The Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

If Condition B is entered when both the CST and City Water are not Operable, Conditions and Required Actions for LCO 3.7.5, Auxiliary Feedwater System, may be appropriate.

Revision

SURVEILLANCE REQUIREMENTS

<u>SR 3.7.7.1</u>

This SR verifies that the CWT contains a minimum of 360,000 gallons of water. 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. Operating experience has demonstrated that CW header pressure decays rapidly due to normal onsite consumption if the offsite supply is not properly aligned or pressurized. The 12 24 hour Frequency is based on the conditional core damage probability evaluated by Probabilistic Risk Analysis and provides a high degree of assurance of rapid identification of the inoperability of CW.

SR 3.7.7.2

This SR verifies that the valve valves that isolates Unit 3 from the site city water supply and the city water storage tank is are open. This The iIsolation valves are CT-49, in the IP1 Utility Tunnel, is (also identified as valve FP-1227), CT-1300 and CT-1302. This SR for CT-49 may be performed by Consolidated Edison Unit 2 personnel. The 31 day Frequency is acceptable because the valves is are locked open and because periodic verification provided by SR 3.7.7.1 2 provides a high degree of assurance that the valves is are positioned properly.

<u>SR 3.7.7.3</u>

This SR verifies the ability to cycle each valve between CW and the AFW pump suction. These are the only valves required to operate to align CW to the AFW pump suction. The testing requirements and Frequency for this SR are in accordance with the Inservice Testing Program.

BASES

.

REFERENCES

1. FSAR, Chapter 10.

- 2. Design Basis Document IP3-DBD-303, "Auxiliary Feedwater System".
- 3. Design Basis Document IP3-DBD-319, "Condensate and Condensate Polishing Systems".
- 4. IP3-CALC-MW-03548