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SUBJECT: Application for amend to license NPF-21,revising Tech Specs SR 3.5.2.2, "Condensate Storage Tank Water Level."

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C A T E G O R Y 1 D O C U M E N T

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
P.O. Box 968 • Richland, Washington 99352-0968

July 29, 1999
GO2-99-144

Docket No. 50-397

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

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21**
REQUEST FOR AMENDMENT
TECHNICAL SPECIFICATION SR 3.5.2.2
CONDENSATE STORAGE TANK WATER LEVEL

References:
1) Letter dated November 6, 1998, TF Stetka (NRC) to JV Parrish (SS), "NRC Inspection Report 50-397/98-15 and Notice of Violation"

2) Letter GO2-98-205, dated December 7, 1998, RL Webring (SS) to NRC, "NRC Inspection Report 98-15, Response to Notice of Violation"

3) NRC Administrative Letter 98-10, dated December 29, 1998, "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety"

In accordance with the Code of Federal Regulations, Title 10, Parts 2.101, 50.59 and 50.90, the Washington Public Power Supply System (Supply System) hereby submits a request for amendment to the WNP-2 Operating License. Specifically, the Supply System is requesting a revision to Technical Specification Surveillance Requirement (SR) 3.5.2.2. This requirement verifies the adequacy of the water supply in the Condensate Storage Tanks (CSTs) which support operation of the High Pressure Core Spray (HPCS) system during Modes 4 and 5. Current Technical Specification SR 3.5.2.2 requires that CST water level be maintained above 13.25 feet in a single tank or above 7.6 feet in each tank if the suppression pool level is below its minimum level. It is proposed that the CST water level be maintained above 14.8 feet in a single tank or above 9.1 feet in each tank.

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The Main Condensate system (COND) for WNP-2 is described in FSAR Section 9.2.6. The system is designed to store and provide a condensate supply to the Reactor Core Isolation Cooling (RCIC) system, the HPCS system and the Residual Heat Removal (RHR) system. It also supplies water to various other plant systems such as the condenser hotwell and the control rod drive pumps. The system consists of two storage tanks each with a nominal capacity of 400,000 gallons along with pumps, valves, and necessary piping and instrumentation. A minimum inventory of 135,000 gallons in the condensate storage tanks is reserved for the RCIC and HPCS pumps. This ensures an immediate availability of a sufficient quantity of condensate for emergency core cooling and reactor shutdown. Although a minimum of 135,000 gallons of water is maintained in the CSTs as a source for the RCIC and HPCS pumps, the supply of water in the suppression pool is the safety related source of water for these pumps.

Condensate Storage Tank water level is read in the control room on level indicator COND-LI-40A and COND-LI-40B. These level indicators get their signals from level transmitters mounted on the tanks. These instruments are used to monitor tank level during the Mode 4 or 5 surveillance above 13.25 feet (elevation 459 feet 9 inches) in a single tank or above 7.6 feet (elevation 454 feet 1 inch) in each tank. Level switches HPCS-LS-1A and HPCS-LS-1B provide for the change in suction (swap over) from the normal CST water source to the containment suppression pool. This level measurement for these switches is made in a standpipe located in the Reactor Building and some distance from the CSTs. The setpoint for these switches is 448 feet 3 inches. The water level between these elevations (the surveillance level and the swap over level) provides the reserve water volume of 135,000 gallons for use of the HPCS and RCIC Systems as stated in FSAR Section 6.3.2.2.1, "High Pressure Core Spray (HPCS) System Design." The Technical Specification Bases, Section 3.5.2, "ECCS - Shutdown," also state that these levels are equivalent to 135,000 gallons in the CST to ensure that the HPCS system could supply makeup water to the reactor pressure vessel.

The Reference 1 inspection identified a problem between the calculation of the level needed to support the 135,000 gallons of reserve water and the setpoint calculations for the HPCS level switches. In 1983 a calculation established the minimum required CST levels of 13.25 feet and 7.6 feet. In 1991, engineering personnel developed an improved estimate of when the automatic transfer (swap over) would occur. This setpoint calculation was performed in 1991 and revised in 1996. The calculation considered the pressure drop in the piping from the CSTs, as well as other factors, to more accurately establish the relationship between the water level in the instrument standpipe and the actual level in the CST. In this calculation, under some flow conditions, the level sensed by the instruments located at the instrument standpipe could differ from the CST level. It was shown the suction transfer could occur sooner than previously estimated. The HPCS pump suction could automatically transfer from the CSTs to the suppression pool prior to the full 135,000 gallons being supplied to the reactor pressure vessel under some flow conditions.

Calculations have now been revised consistent with the corrective action identified in Reference 2. It is proposed that Technical Specification 3.5.2.2 be modified to have the CST water level be maintained above 14.8 feet in a single tank or above 9.1 feet in each tank consistent with the new calculation. Administrative controls have been put in place to assure that the water level in the CSTs remains above these new levels. This change is consistent with the Reference 3 NRC Administrative Letter that requires action to correct the Technical Specifications for degraded or nonconforming conditions.

Additional information has been attached to this letter to complete the amendment request. Attachment 1 describes an evaluation of the proposed changes in accordance with 10CFR50.92 and concludes they do not result in a significant hazards consideration. Attachment 2 provides the Environmental Assessment Applicability Review and notes that the proposed change meets the eligibility criteria for a categorical exclusion as set forth in 10CFR51.22. Therefore, in accordance with 10CFR51.22, an environmental assessment of the change is not required. Attachment 3 provides marked up pages of the Technical Specifications and the associated bases. Attachment 4 consists of the typed Technical Specification pages as proposed by this amendment.

This request for an amendment has been approved by the WNP-2 Plant Operations Committee and reviewed by the Supply System Corporate Nuclear Safety Review Board. In accordance with 10CFR50.91, the state of Washington has been provided a copy of this letter.

Should you have any questions or desire additional information regarding this matter, please contact me or PJ Inserra at (509) 377-4147.

Respectfully,

RL Webring
Vice President, Operations Support/PIO
Mail Drop PE08

Attachments

cc: EW Merschoff - NRC RIV
JS Cushing - NRC NRR
NRC Senior Resident Inspector - 927N
DJ Ross - EFSEC
PD Robinson - Winston & Strawn
DL Williams - BPA/1399

STATE OF WASHINGTON)
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COUNTY OF BENTON)

Subject: Operating License NPF-21
Request for Amendment
Technical Specification SR 3.5.2.2
Condensate Storage Tank Water
Level

I, RL Webring, being duly sworn, subscribe to and say that I am the Vice President, Operations Support/PIO, for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief that the statements made in it are true.

DATE 7/29/ 1999

RL Webring
Vice President, Operations Support/PIO

On this date personally appeared before me RL Webring, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 29 day of July 1999

Notary Public in and for the
STATE OF WASHINGTON

Residing at W. Richland

My Commission expires 3-29-01

Evaluation of Significant Hazards Considerations

Summary of Proposed Change

The Washington Public Power Supply System is requesting a revision to Technical Specification Surveillance Requirement (SR) 3.5.2.2. This requirement verifies the adequacy of the water supply in the Condensate Storage Tanks (CSTs) which support operation of the High Pressure Core Spray (HPCS) system during Modes 4 and 5.

Technical Specification SR 3.5.2.2 requires that CST water level be maintained above 13.25 feet in a single tank or above 7.6 feet in each tank if the suppression pool level is below its minimum level. This surveillance requirement is only applicable during Modes 4 and 5. The associated Technical Specification Bases, Section 3.5.2, "ECCS - Shutdown," state that these levels are equivalent to 135,000 gallons which provide assurance of adequate core cooling and water makeup for HPCS during shutdown conditions. The 135,000 gallons must be available in the CSTs prior to the change of the suction (swap over) of HPCS to the containment suppression pool.

A refinement in the setpoint calculations was made for the instruments that initiate the change from CST suction to suppression pool suction. The calculations more accurately establish the relationship between the water level in the CST and the instrument standpipe for the swap over instruments that are located some distance away. In the calculations, during some flow conditions, the level sensed by the instruments located at the instrument standpipe could differ from the CST level. Under these conditions, the suction transfer could occur sooner than previously estimated. As a result, the HPCS pump suction could automatically transfer from the CSTs to the suppression pool prior to the full 135,000 gallons being supplied to the reactor pressure vessel. To alleviate this condition, the maintained level in the CSTs must be higher.

It is requested that Technical Specification SR 3.5.2.2 be changed to require the CST water level be maintained above 14.8 feet in a single tank or above 9.1 feet in each tank. This change would make the Technical Specifications consistent with the supporting plant calculations.

No Significant Hazards Consideration Determination

The Washington Public Power Supply System has evaluated the proposed change to the Technical Specifications using the criteria established in 10CFR50.92(c) and has determined that it does not represent a significant hazards consideration as described below:

- **The operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.**

  During Modes 4 and 5 HPCS may be required to provide water to the reactor vessel if the water level decreases. The revised condensate storage tank allowable levels increase the operating margins by providing an increased water inventory. The previously evaluated accident involving the loss of decay heat cooling inventory will not have an increase in probability because the inventory of water will be increased with the change being proposed.

  The consequences of any accident involving the loss of decay heat cooling inventory will not change as the consequences are unaffected by the increased water inventory.

  Therefore, operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

- **The operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.**

  The proposed change will not create a new or different kind of accident since it only increases the amount of water held in reserve to support reactor vessel inventory loss. The proposed change does not introduce any credible mechanisms for unacceptable radiation release nor does it require physical modification to the plant. The inventory of water in the CSTs will increase to support any loss of water inventory in the reactor vessel during shutdown.

  The proposed change modifies the monitored values for CST level. The plant has operated well within the existing allowable values. The increased margin provided by the increased level will assure no new or different kinds of accidents result from the proposed change.

  Therefore, the operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

- **The operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.**

  The proposed amendment increases the allowable value for water level in the CSTs. This results in an increase in the inventory of water available for cooling and inventory control during reactor shutdown. This will result in an increase in the margin of safety.

  Therefore, operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.

Environmental Assessment Applicability Review

The Washington Public Power Supply System has evaluated the proposed amendment against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10CFR51.21.

The proposed change meets the criteria for categorical exclusion as provided for in 10CFR51.22(c)(9). The change request does not pose a significant hazards consideration nor does it involve an increase in the amounts, or a change in the types, of any effluent that may be released off-site.

Furthermore, this proposed request does not involve an increase in individual or cumulative occupational exposure.