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SUBJECT: Application for amend to License NPF-21 re amend to Tech Spec 3.3.7.5 for safety-relief valve position indication.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

December 4, 1989
G02-89-221

Docket No. 50-397

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

Gentlemen:

Subject: **NUCLEAR PLANT NO. 2; OPERATING LICENSE NPF-21
REQUEST FOR AMENDMENT TO TECHNICAL SPECIFICATION
3.3.7.5 FOR SAFETY RELIEF VALVE POSITION INDICATION**

Reference:
1) Letter, G02-87-265, GC Sorensen (SS) to NRC dated October 13, 1987
2) Letter, G02-88-161, GC Sorensen (SS) to NRC dated July 25, 1988
3) NRC SER dated October 16, 1987
4) NRC SER dated July 27, 1988

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, the Supply System hereby submits a request for amendment to the WNP-2 Technical Specifications. Specifically, the Supply System is requesting that the required action for inoperable SRV position indication be revised. A new Action 82 in Table 3.3.7.5-1 will allow one of two indications to be inoperable until the next outage of sufficient duration to effect repairs, provided the remaining position indication and suppression pool temperature is frequently monitored. In addition, this change will allow both indicators to be inoperable on one SRV for 7 days with the same suppression pool temperature monitoring requirements.

The existing action for SRV position monitoring instrumentation requires that the plant be shutdown with one of two monitors inoperable for more than 7 days. On two separate occasions (Reference 1 and 2) the Supply System requested, and was granted (Reference 3 and 4), an emergency Technical Specification change due to the failure of one SRV position monitoring channel. These amendments allowed operation to continue until the next outage of sufficient duration to effect repairs. Without the emergency amendments, a forced shutdown would have been required. The Supply System has made modifications to the acoustic monitors and

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changed procedures to increase the reliability of the monitors. However due to the inherent sensitivity of the acoustic monitors future failures of the devices are to be expected. As in the previous instances cited above, the repairs could require entry into the drywell with the unit shutdown. To preclude the need for these emergency Technical Specification change requests the Supply System is requesting a permanent change. Absent approval of this request, continued plant operation given similar failures will remain soley dependent on the ability to process Emergency Technical Specification changes.

The operability of the accident monitoring instrumentation is based on providing assurance that sufficient information is available on selected plant parameters (e.g., SRV position indication) to monitor and assess important variables following an accident. TMI Action Plant Item II.D.3 - Direct Indication of Relief and Safety Valve Position, requires that "Reactor coolant system relief and safety valves shall be provided with a positive indication in the control room derived from a reliable valve position detection device or a reliable indication of flow in the discharge pipe." The Technical Specifications for WNP-2 require two instrumentation channels for providing this information on valve position. One channel utilizes an acoustic monitor, and the second channel utilizes a thermocouple to detect a temperature increase indicative of flow past the valve. The loss of either channel on one or more SRVs does not prevent accurate determination of the position of the associated SRV(s). Further should an SRV open and remain stuck open the resulting transient does not represent the same magnitude of challenge to a BWR (such as WNP-2) as does a stuck open pressurizer relief or safety valve on a PWR. As discussed in the safety analysis of this event (WNP-2 FSAR 15.1.4) the operator response to this event is based on a suppression pool temperature alarm not an open alarm from the SRV position indication instruments. The mitigating actions are to attempt to close the open SRV and establish suppression pool cooling within 20 minutes. As discussed in this analysis even if the valve fails to close (worst case) the consequences of the event are mild. Hence the failure of an acoustic monitor causing an operator to review other instrumentation (as listed below) to determine which valve is open does not increase the severity of the transient. The valve can remain open. Additionally, the loss of one or both channels on any number of SRVs does not affect the capability of any SRV to perform its intended function.

To support the operator in determining if any SRV may be open, the following exist in addition to the channels described above:

1) Numerous plant parameters are affected by an open SRV such as steam/feedwater flow mismatch, main turbine governor valve position change, generator output decrease, steam flow increase and reactor pressure perturbation.

2) Cross talk due to noise pickup from acoustic monitors on SRV's adjacent to the SRV with the failed monitor. This capability has been demonstrated to be reliable and accurate on several occasions in the past.

3) Suppression Pool temperature indication is available and is set to alarm at 85^{0} F. An increase in suppression pool temperature could indicate an open SRV.

4) Suppression Pool level indication is available and is set to alarm at +0.5" and -1" of normal level (466'3"). An increase in suppression pool level could indicate an open SRV.

In addition to these independent indications, the requested action for one SRV position indication instrument channel inoperable includes a requirement to frequently monitor the remaining position indication channel. This provides sufficient capability to determine the SRV position to allow operation to continue. With this diversity and capability to assess the SRV position, the current action which requires a shutdown in 7 days is overly restrictive and may cause unnecessary transients during the resulting forced shutdown. The requested allowance to operate for up to 7 days with both indication channels inoperable is justified based on the remaining diverse parameters discussed above to support the operator's determination of actual SRV position. This 7 days allows time to attempt repairs or to schedule an outage to allow drywell entry for repairs not possible during operation.

The Supply System has evaluated this amendment request per 10CFR 50.92 and determined that it does not represent a significant hazard because it does not:

1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

   The SRV position indication channels are not assumed to function in the initiation of any analyzed accident. The inoperability of these indication channels does not affect the ability of the SRVs to function to relieve pressure nor do they affect ADS operation of the SRVs. The analysis for an inadvertent opening of an SRV (FSAR Section 15.1.4) assumes the function of these alarm-only instrument channels for the purpose of having the operator assess the need for commencing suppression pool cooling with RHR. As

discussed above, the operator has many diverse indications available to indicate the need for commencing suppression pool cooling as a result of an open SRV and the SRV position indication is not the primary indication. Loss of one or more SRV position indication channels will not adversely affect the operator's ability to respond to this event as assumed in the analysis. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

SRV operation, including the ADS function, remains unaffected. No new modes of operation of any equipment results due to this change. Sufficient diverse indication remains available to adequately determine whether an SRV is inadvertently open, therefore this change will not result in a failure to assess the need for suppression pool cooling. This change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3) Involve a significant reduction in a margin of safety.

As discussed above, the operator has many diverse indications available to indicate the need for commencing suppression pool cooling. Loss of one or more SRV position indication channels will not adversely affect the operator's ability to respond to this event as assumed in the analysis. The additional surveillances to monitor the remaining operable position indication channel and to monitor the suppression pool temperature while operation continues with an inoperable channel(s), as proposed in Action 82, will compensate for the loss of position indication channel(s). Therefore, this change will not involve a significant reduction in the margin of safety.

As the note on Page 3/4 3-71 is no longer applicable its deletion is considered an administrative matter and, as such, is not addressed in the above analyses.

As discussed above, the Supply System considers that this change does not involve a significant hazards consideration, nor is there a potential for significant change in the types or significant increase in the amount of any effluents that may be released offsite, nor does it involve a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10CFR 51.22(c)(9) and therefore, per 10CFR 51.22(b), an environmental assessment of the change is not required.

This Technical Specification change has been reviewed and approved by the WNP-2 Plant Operations Committee (POC) and the Supply System Corporate Nuclear Safety Review Board (CNSRB). In accordance with 10CFR 50.91, the State of Washington has been provided a copy of this letter.

Very truly yours,

R. Latone

for G. C. Sorensen, Manager
Regulatory Programs

PLP/bk
Attachments

cc: JB Martin - NRC RV
NS Reynolds - BCP&R
RB Samworth - NRC
DL Williams - BPA/399
NRC Site Inspector - 901A
C Eschels - EFSEC

STATE OF WASHINGTON)
)
COUNTY OF BENTON)

Subject: T. S. Amendment for Safety Relief Valve Position Indication

I, R. Latorre, being duly sworn, subscribe to and say that I am the Manager, Corporate Licensing and Environmental, for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief the statements made in it are true.

DATE Dec. 4, 1989

R. Latorre

R. Latorre, Manager
Corp. Lic. & Environmental

On this day personally appeared before me R. Latorre, 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 4th day of December 1989.

Teresa L. Roberts

Notary Public in and for the
STATE OF WASHINGTON

Residing at Richland, WA
My commission expires 7/14/91