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10 CFR 50.90

LR-N16-0044
LAR S16-02
February 11, 2016

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Salem Nuclear Generating Station Unit 2
Renewed Facility Operating License No. DPR-75
NRC Docket No. 50-311

Subject: Emergency License Amendment Request to Modify Technical Specification Requirements for One Inoperable Subcooling Margin Monitor Channel

Pursuant to 10 CFR 50.90, PSEG Nuclear LLC (PSEG) requests an amendment to the renewed facility operating license listed above. The proposed changes would modify the Technical Specification (TS) requirements for one inoperable reactor coolant system subcooling margin monitor channel to be consistent with the requirements for accident monitoring instrumentation in NUREG-1431, "Standard Technical Specifications – Westinghouse Plants."

Attachment 1 of this submittal provides an evaluation supporting the proposed changes. Attachment 2 provides the marked-up TS pages, with the proposed changes indicated. No regulatory commitments are contained in this submittal.

PSEG is requesting approval of the proposed TS change on an emergency basis as permitted by 10 CFR 50.91(a)(5). The emergency basis is discussed in Attachment 1. PSEG is required to restore the subcooling margin monitor channel A to OPERABLE status by February 14, 2016, at 0349.

These proposed changes have been reviewed by the Plant Operations Review Committee. PSEG has concluded that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92.

PSEG is notifying the State of New Jersey of this License Amendment Request (LAR) by transmitting a copy of this letter and its attachments to the designated State Official.

Due to the emergency nature of this request, this LAR is only for the specific line item for Salem Unit 2; however, PSEG is developing a subsequent LAR for Salem Unit 1 and 2 on a normal review basis to modify the Accident Monitoring Instrumentation TS to align with NUREG-1431.

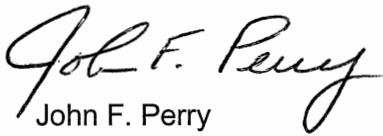
If you have any questions or require additional information, please contact Mr. Brian Thomas at 856-339-2022.

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

FEB 11 2016

Executed on _____
(Date)

Sincerely,



John F. Perry
Site Vice President
Salem Generating Station

Attachments:

1. Evaluation of Proposed Changes
2. Technical Specification Pages with Proposed Changes

- C. Administrator, Region I, NRC
Project Manager, NRC
NRC Senior Resident Inspector, Salem
Mr. P. Mulligan, Chief, NJBNE
Mr. L. Marabella, Corporate Commitment Tracking Coordinator
Mr. T. Cachaza, Salem Commitment Tracking Coordinator

Attachment 1

Emergency License Amendment Request to Modify Technical Specification Requirements for
One Inoperable Subcooling Margin Monitor Channel

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1.0 DESCRIPTION

In accordance with the provisions of 10 CFR 50.90, PSEG Nuclear LLC (PSEG) requests an amendment to renewed facility operating license DPR-75 for the Salem Nuclear Generating Station (Salem) Unit 2.

The proposed change would modify the Technical Specification Actions for one inoperable reactor coolant system (RCS) subcooling margin monitor (SMM) channel. The allowed outage time for one inoperable RCS subcooling monitor would be extended from seven days to 30 days. The action to shutdown if the inoperable channel is not restored to operable status within the allowed outage time would be replaced with an action to submit a special report to the NRC within the next 14 days.

The proposed change conforms to the provisions of 10 CFR 50.36 for the contents of Technical Specifications, and to the improved standard TS approved by the NRC in NUREG-1431, "Standard Technical Specifications – Westinghouse Plants" (Reference 1).

2.0 PROPOSED CHANGES

Action 1 in TS Table 3.3-11, Accident Monitoring Instrumentation, for line item 11, Reactor Coolant System Subcooling Margin Monitor, would be replaced by new Action 11:

ACTION 11 With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3-11, restore the inoperable channel to OPERABLE status within 30 days, or submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 14 days outlining the preplanned alternate method of monitoring, the cause of inoperability, and the plans and schedule for restoring the instrumentation to OPERABLE status.

3.0 BACKGROUND

Salem Unit 2 Technical Specification Limiting Condition for Operation (LCO) 3.3.3.7 requires the accident monitoring instrumentation channels shown in Table 3.3-11 to be OPERABLE in MODES 1, 2, and 3. TS Table 3.3-11 requires two OPERABLE RCS subcooling margin monitoring channels. With the number of OPERABLE accident monitoring channels less than the Required Number of Channels shown in Table 3.3-11, Action 1 requires the inoperable channel to be restored to OPERABLE status within seven days, or to be in HOT SHUTDOWN within the next 12 hours.

The subcooling margin monitoring function is performed by the Core Exit Thermocouple Processing System (CETPS) which calculates margin to saturation. The primary inputs to this calculation are core exit thermocouple (CET) temperature and RCS pressure. The SMM is used to determine reactor coolant system subcooling during accident conditions. The SMM instrumentation does not provide an input to any automatic trip function or engineered safety feature actuation system function, the SMM is only an indication. The SMM receives inputs from RCS Wide Range pressure, CETs, Containment Pressure, and Containment Accident Radiation Monitors (2R44A and 2R44B). These instruments are all included in Salem Unit 2 TS and are Regulatory Guide 1.97 Category 1 instruments - Reactor Coolant System Wide Range

pressure (TS 3.3.3.7, Item 3), Core Exit Thermocouples (TS 3.3.3.7, Item 18), Containment Pressure (TS 3.3.2.1 and TS 3.3.3.7 Item 16), and Containment Accident Radiation Monitors 2R44A and 2R44B (TS 3.3.3.7, Item 20).

Alternatively, subcooling margin can be calculated manually. PSEG emergency operating procedures (EOPs) include direction and tables for calculating subcooling margin in Adverse and Normal containment conditions when the SMM is not available. There are tables in the EOPs which direct routine recording and calculating subcooling margin while implementing the procedure. In the event of an accident where the SMM is not available, Operators can determine subcooling margin by use of the CETS and RCS Wide Range Pressure. CET temperatures may be read from the plant computer or from the CET cabinets in the control room equipment rooms. RCS Wide Range Pressure indication is available on the control room console and plant computer. TS 6.8.4.d requires PSEG to maintain a backup method for determining subcooling margin, specifically, a program which will ensure the capability to accurately monitor the reactor coolant system subcooling margin, including training of personnel, and procedures for monitoring.

During the development of the Improved Standard Technical Specifications (ISTS), it was determined that the seven day completion time was overly restrictive. The ISTS extended the completion time for one inoperable instrument channel from seven days to 30 days. The basis for this extension was industry operating experience, the operability of the remaining channels, the passive nature of the instruments (i.e., the instruments do not initiate critical automatic actions), and the low probability of an event requiring the accident monitoring instrumentation during this interval. The ISTS also requires submission of a special report within 14 days in lieu of a plant shutdown, because the report would formally document compensatory actions in place during the inoperability of the instrument, while avoiding an unnecessary plant transient.

PSEG is requesting approval of the proposed TS change on an emergency basis as permitted by 10 CFR 50.91(a)(5). The regulation at 10 CFR 50.91(a)(5) states that, where an emergency situation exists, in that failure to act in a timely way would result in shutdown of a nuclear power plant, the NRC may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment. The regulation states the NRC will decline to dispense with notice and comment on the determination of no significant hazards consideration if it determines that the licensee has abused the emergency provision by failing to make timely application for the amendment and thus itself creating the emergency. Whenever an emergency situation exists, a licensee requesting an amendment must explain why this emergency situation occurred and why it could not avoid this situation, and the Commission will assess the licensee's reasons for failing to file an application sufficiently in advance of that event.

PSEG could not avoid the emergency circumstance because the discovery of the inoperable RCS subcooling margin monitoring channel could not have been foreseen in sufficient time to allow the 30-day public comment period specified in 10 CFR 50.91(2)(ii). The suspected cause of the inoperable SMM channel is due to the failure of the channel to automatically discredit bad (low) CET inputs as designed. A review of SAP notifications did not reveal a similar failure of the SMM. The channel was determined to be inoperable at 0349 on February 7, 2016. TS Table 3.3-11, Action 1 requires the inoperable accident monitoring channel to be restored to OPERABLE status within 7 days. Otherwise, the plant is required to be in HOT SHUTDOWN within the next 12 hours. PSEG is required to restore subcooling margin monitor channel A to OPERABLE status by February 14, 2016, at 0349.

4.0 TECHNICAL ANALYSIS

The proposed license amendment would modify the Technical Specification Actions for one inoperable reactor coolant system (RCS) subcooling margin monitor channel for Salem Unit 2.

The proposed change allows 30 days to restore an inoperable channel to operable status. The 30-day allowed outage time is appropriate based on operating experience and takes into account the remaining operable channel, the passive nature of the instruments (no critical automatic action is assumed to occur from these instruments), the low probability of an event requiring the accident monitoring instrumentation during this interval, and the availability of the backup method for determining subcooling margin required by TS 6.8.4.d.

The proposed change also requires submission of a Special Report to the NRC within the next 14 days after the allowed outage time. A Special Report in lieu of a shutdown is appropriate because the instrument functional capability has not been lost (the other channel remains OPERABLE), the continued availability of the backup method for determining subcooling margin required by TS 6.8.4.d, and given the low likelihood of unit conditions that would require information provided by this instrumentation. The proposed Special Report will outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channel to OPERABLE status.

The proposed changes are consistent with NUREG-1431, "Standard Technical Specifications – Westinghouse Plants," Rev. 4 (ISTS) as discussed below.

Limiting Condition for Operation (LCO)

The LCOs in Salem Unit 2 TS 3.3.3.7, Accident Monitoring Instrumentation, and in ISTS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, require the operability of accident monitoring instrumentation. ISTS Table 3.3.3-1, Post Accident Monitoring Instrumentation, notes that the table shall be amended as necessary to list all Regulatory Guide 1.97, Type A instruments and all Category 1, non-Type A instruments in accordance with the unit's RG 1.97 Safety Evaluation Report. "Degrees subcooling" is a Type A variable as noted in Salem Updated Final Safety Analysis Report (UFSAR) Table 7.5-3.

Operating Mode Applicability

The ISTS and the Salem Unit 2 TS contain the same operating mode applicability: MODES 1, 2, and 3.

Surveillance Requirements

The ISTS and the Salem Unit 2 TS require a Channel Check of each accident monitoring instrument channel in accordance with the Surveillance Frequency Control Program. The ISTS requires a Channel Calibration of each accident monitoring instrument channel in accordance with the Surveillance Frequency Control Program. The Salem Unit 2 TS requires Channel Calibration of the instruments used to develop RCS subcooling margin in accordance with the Surveillance Frequency Control Program; as noted in TS Table 4.3-11, the monitor will be compared with calculated subcooling margin for known input values in accordance with the Surveillance Frequency Control Program.

5.0 REGULATORY ANALYSIS

10 CFR 50.36(c)(2)(i) states, in part:

Limiting conditions for operation [LCOs] are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow remedial action permitted by the technical specifications until the condition can be met.

The remedial actions and required completion times delineated in Technical Specifications minimize the potential impact of an unnecessary transient while still requiring that the plant be moved to a safe condition in a time-frame commensurate with the safety significance of the inoperable system.

No Significant Hazards Consideration

PSEG requests an amendment to the Salem Unit 2 Operating License. The proposed change would modify the Technical Specification Actions for one inoperable reactor coolant system (RCS) subcooling margin monitor channel. The allowed outage time for one inoperable RCS subcooling monitor would be extended from seven days to 30 days. The action to shutdown if the inoperable channel is not restored to operable status within the allowed outage time would be replaced with an action to submit a special report to the NRC within the next 14 days describing the preplanned alternate method of monitoring, the cause of inoperability, and the plans and schedule for restoring the instrumentation.

PSEG has evaluated the proposed changes to the TS, using the criteria in 10 CFR 50.92, and determined that the proposed changes do not involve a significant hazards consideration. The following information is provided to support a finding of no significant hazards consideration.

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed change to the TS would modify the required actions for one inoperable subcooling margin monitoring channel for Salem Unit 2. The failure of this instrumentation is not assumed to be an initiator of any analyzed event in the UFSAR. The proposed changes do not alter the design of any system, structure, or component (SSC). The proposed changes conform to NRC regulatory guidance regarding the content of plant TS, as identified in 10 CFR 50.36, and NUREG-1431. The proposed change does not cause the loss of any accident monitoring function.

Additionally, there is no change in the types or amounts of any effluent that may be released as a result of the proposed change. Therefore, these proposed changes do not represent a significant increase in the probability or consequences of an accident previously evaluated.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed changes to the TS would modify the required actions for one inoperable subcooling margin monitoring channel for Salem Unit 2. The proposed change does not involve a modification to the physical configuration of the plant or change in the methods governing normal plant operation. The proposed changes will not impose any new or different requirement or introduce a new accident initiator, accident precursor, or malfunction mechanism.

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

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No

The proposed changes to the TS would modify the required actions for one inoperable subcooling margin monitoring channel for Salem Unit 2. This instrumentation is not needed for manual operator action necessary for safety systems to accomplish their safety function for the design basis events. The subcooling margin monitoring instrumentation does not provide an input to any automatic trip function or engineered safety feature actuation system function. The proposed change does not impact the response of the plant to a design basis accident.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based upon the above, PSEG 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.

In conclusion, based on the considerations discussed above, (1) there is a reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the NRC's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, 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.

7.0 REFERENCES

1. NUREG-1431, Volume 1, Specifications, Revision 4.0, "Standard Technical Specifications – Westinghouse Plants," dated April 2012, ADAMS Accession No. ML121004A222
2. US NRC Regulatory Guide (RG) 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 2, dated December 1980

Attachment 2

TECHNICAL SPECIFICATION PAGES WITH PROPOSED CHANGES

The following Technical Specifications for Renewed Facility Operating License DPR-75 are affected by this change request:

Technical Specification	Page
3.3.3.7	3/4 3-51
	3/4 3-51c

Insert for Page 3/4 3-51c:

ACTION 11 With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3-11, restore the inoperable channel to OPERABLE status within 30 days, or submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 14 days outlining the preplanned alternate method of monitoring, the cause of inoperability, and the plans and schedule for restoring the instrumentation to OPERABLE status.

TABLE 3.3-11

ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>REQUIRED NO. OF CHANNELS</u>	<u>MINIMUM NO. OF CHANNELS</u>	<u>ACTION</u>
1. Reactor Coolant Outlet Temperature - T _{HOT} (Wide Range)	2	1	1, 2
2. Reactor Coolant Inlet Temperature - T _{COLD} (Wide Range)	2	1	1, 2
3. Reactor Coolant Pressure (Wide Range)	2	1	1, 2
4. Pressurizer Water Level	2	1	1, 2
5. Steam Line Pressure	2/Steam Generator	1/Steam Generator	1, 2
6. Steam Generator Water Level (Narrow Range)	2/Steam Generator	1/Steam Generator	1, 2
7. Steam Generator Water Level (Wide Range)	4 (1/Steam Generator)	3 (1/Steam Generator)	1, 2
8. Refueling Water Storage Tank Water Level	2	1	1, 2
9. deleted			
10. Auxiliary Feedwater Flow Rate	4 (1/Steam Generator)	3 (1/Steam Generator)	4, 6
11. Reactor Coolant System Subcooling Margin Monitor	2	1	1, 2
12. PORV Position Indicator	2/valve**	1	1, 2
SALEM - UNIT 2	3/4 3-51		Amendment No. 206

TABLE 3.3-11 (continued)

TABLE NOTATION

- ACTION 6 With the number of OPERABLE channels less than the ~~Minimum~~ Number of channels shown in Table 3.3-11, restore the inoperable channel(s) to OPERABLE status within 7 days, or be in HOT SHUTDOWN within the next 12 hours.
- ACTION 7 With the number of OPERABLE channels one less than the Required Number of Channels shown in Table 3.3-11, operation may proceed until the next CHANNEL CALIBRATION (which shall be performed upon the next entry into MODE 5, COLD SHUTDOWN).
- ACTION 8 With one RVLIS channel inoperable, restore the RVLIS channel to OPERABLE status within 30 days, or submit a special report in accordance with Specification 6.9.4.
- ACTION 9 With both RVLIS channels inoperable, restore one channel to OPERABLE status within 7 days or submit a special report in accordance with Specification 6.9.4.
- ACTION 10 With the number of OPERABLE Channels less than required by the minimum channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter within 72 hours, and:
- 1) either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or
 - 2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the actions taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

INSERT