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NLR-N94215

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

Gentlemen:

TECHNICAL SPECIFICATION
CONTROLLED LEAKAGE DEFINITION
SALEM GENERATING STATION
UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311

In NRC Inspection Report Nos. 50-272/94-19 and 50-311/94-19, dated October 12, 1994, the NRC stated a concern relative to the current Technical Specification definition of Controlled Leakage and its application at the Salem Units.

Accordingly, in the attachment to this letter, PSE&G provides its response to the NRC's concern, as well as a schedule for resolution. Throughout the period, the NRC resident staff at Salem station has been kept informed of the investigation progress.

Should there be any questions with regard to this submittal, please do not hesitate to contact us.

Sincerely,

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Attachment (1)

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NLR-N94215 **ATTACHMENT I**

BACKGROUND

The Salem Technical Specifications (T.S.) Limiting Condition for Operation (LCO) 3.4.6.2 and 3.4.7.2, Units 1 and 2 respectively, establishes that Reactor Coolant System (RCS) Controlled Leakage be limited to 40 GPM at a RCS pressure of 2210 to 2250 psig.

The Salem T.S. define Controlled Leakage as:

> "CONTROLLED LEAKAGE shall be that seal water flow from the reactor coolant pump seals."

The Salem T.S. Bases Section describes controlled leakage as follows:

> " The Controlled Leakage Limitation restricts operation when the total flow from the RCP seals exceeds 40 GPM with valve CV 71 fully closed at a nominal RCS pressure of 2230 psig. This limitation ensures that in the event of a LOCA, the safety injection flow will not be less than assumed in the accident analysis."

In December 1992, the controlled leakage definition (and its application) was discussed with Westinghouse (Technical Specification/Licensing branch). It was determined that the LCO limit (40 GPM) and its basis (to ensure enough safety injection flow will be available to cool the core following a Loss of Coolant Accident (LOCA)) were correct. Therefore, the controlled leakage definition in Technical Specifications (...seal water flow from the RCP ....) was correct.

CURRENT SITUATION

As a result of other ongoing discussions between PSE&G and Westinghouse (analysis group) regarding Emergency Core Cooling System (ECCS) pump performance, PSE&G re-questioned Westinghouse (T.S. Branch) about the appropriateness of the controlled leakage definition. Based on these discussion, it has been concluded by Westinghouse and PSE&G that the Salem T.S. definition of controlled leakage and the LCO basis should be revised to clearly reflect all accident analysis assumptions (core cooling and pump performance).

Therefore, a Technical Specification Change Request will be submitted to clearly reflect all accident analysis assumptions by limiting RCP seal injection flow instead of seal leakoff flow. This will be submitted by the first quarter of 1995. Additionally, the method (surveillance requirement) for setting the seal injections throttle valves will be modified.

In the interim, the Salem Unit 2 seal injection throttle valves (CV98s) will be set and seal injection will be periodically tested in accordance with the Westinghouse analysis based acceptance criteria. This will be accomplished prior to restart from the 8th refueling outage. Similar actions will be completed during the Salem Unit 1 12th refueling outage scheduled to commence in April, 1995.

SAFETY SIGNIFICANCE OF TECHNICAL SPECIFICATION ERROR

PSE&G has evaluated the impact of this condition on both Salem units.

The continued operation of Salem Unit 1 does not have a safety impact on the accident analysis, current licensing basis, or health and safety of the public, as described below.

Westinghouse has evaluated for PSE&G Salem Unit 1 actual plant configuration data with respect to Salem's accident analysis. Westinghouse has calculated the seal line resistance for Salem Unit 1 based on present seal injection throttle valves (CV 98) position and the following specific plant data:

1. Pressurizer pressure.

2. Pressure at the inlet to the seal injection line.

3. Seal injection flows to each RCP.

In addition, RCP developed head, steam generator pressure differential and RCS piping losses were taken from Westinghouse's Salem specific documentation such as calculations, RCP manual and Salem power capability parameters.

The present calculated seal line hydraulic resistance was compared against the hydraulic resistance used for large break LOCA, small break LOCA, non-LOCA analyses, and Containment Integrity analysis. The present Salem Unit 1 line resistance is bounded for all cases except the large break LOCA where RCS pressures drops below 300 psig. For this case, the revised Charging/Intermediate safety injection (CH/SI) flows are 4 gpm lower than previously assumed. However, the current Salem large break LOCA analyses are not affected, since the 4 gpm shortfall in the CH/SI is sufficiently offset by the actual Residual Heat Removal (RHR) system flow rates.

Salem Unit 2 entered its eighth refueling outage on October 13, 1994. The necessary plant specific data to calculate the seal line resistance could not be obtained. However, due to similarities in configuration, testing (CV98 throttle valve settings), and operations, it is expected that the calculated Unit 1 seal line resistance is applicable to Unit 2, and bounds the past operations of Unit Nos. 1 and 2.

CONCLUSION

PSE&G has concluded that continued operations of Unit 1 in the present configuration with the present valve position does not have an adverse safety impact on the accident analysis, the current licensing basis, or the health and safety of the public.