



SEP 21 2000
LRN-00-0359

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

**SALEM LOSS OF COOLANT ACCIDENT
PEAK CLAD TEMPERATURE MARGIN TRACKING
ANNUAL REPORT
SALEM GENERATING STATION UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311**

In accordance with the requirements of 10CFR50.46, PSEG Nuclear LLC hereby submits its annual report to the NRC identifying the status of the peak clad temperatures predicted by the Large Break (LB) and Small Break (SB) Loss of Coolant Accident (LOCA) evaluation models for Salem. The last Peak Clad Temperature (PCT) report filed with the NRC for Salem was dated October 18, 1999 (Our Ref. LR-N990450).

In our last report to the NRC, the following LOCA peak clad temperatures (PCTs) were identified.

S1 LB LOCA-PCT _{last report}	= 2041°F
S1 SB LOCA-PCT _{last report}	= 1662°F
S2 LB LOCA-PCT _{last report}	= 2041°F
S2 SB LOCA-PCT _{last report}	= 1662°F

Three additional penalties have been identified since our last report that have not yet been reported to the NRC. These three penalties are discussed below.

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1. Evaluation of Revised Feedwater Line Volumes

PSEG Nuclear had requested Westinghouse to evaluate the impact of revised feedwater line volume calculations for Salem Units 1 and 2. PSEG Nuclear identified slight discrepancies in the feedwater line volume calculations. As a result, PSEG Nuclear recalculated all feedwater line volumes. These revised volumes were conservatively assessed with respect to all UFSAR Chapter 15 safety analyses.

Small Break (SB) LOCA-PCT

Auxiliary feedwater/main feedwater line volumes are explicitly modeled in the SB LOCA analysis. An evaluation was performed using feedline volumes that bound the recalculated volumes. The evaluation resulted in an estimated SB LOCA-PCT increase of +14°F.

2. LOCBART Vapor Film Flow Regime Heat Transfer Error

An error was discovered in LOCBART whereby the multiplier on the Berenson model for film boiling was programmed incorrectly. This correlation computes the cladding-to-fluid heat transfer coefficient for conduction across the vapor film in the vapor film flow region.

Large Break LOCA-PCT

The generic PCT assessment for this issue was determined to be +9°F.

3. NOTRUMP – Mixture Level Tracking / Region Depletion Errors

Several closely related errors have been discovered in how NOTRUMP deals with the stack mixture level transition across a node boundary in a stack of fluid nodes. Local mass/energy errors can be generated when the mixture level attempts to transition a node boundary in a stack of fluid nodes and has difficulty crossing the interface.

Additionally, the code was not properly updating metal node temperatures due to the methodology used in the nodal region depletion logic.

Small Break LOCA-PCT

The nature of this error leads to a bounding + 13°F increase of the calculated SB LOCA-PCT.

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Thus, the current LOCA-PCT for Salem Units 1 and 2 is summarized below. The SB and LB LOCA analyses for both units still remain within the criteria set forth in 10CFR50.46.

S1 LB LOCA-PCT_{current}	= 2050°F	(2041°F + 9°F)
S1 SB LOCA-PCT_{current}	= 1689°F	(1662°F + 14°F + 13°F)
S2 LB LOCA-PCT_{current}	= 2050°F	(2041°F + 9°F)
S2 SB LOCA-PCT_{current}	= 1689°F	(1662°F + 14°F + 13°F)

Sending a "30-Day LOCA-PCT Report" to the NRC was not necessary because the absolute value of the sum of these three previously unreported changes to the LOCA-PCT is less than 50°F.

If you have any questions, please call Mr. T. K. Ross at (856) 339 - 1222.

Sincerely,



E. C. Simpson
Senior Vice President and
Chief Administrative Officer

C Mr. H. Miller, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. R. Fretz, Licensing Project Manager - Salem
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop 4D3
11555 Rockville Pike
Rockville, MD 20852

USNRC Resident Inspector Office (X24)

Mr. K. Tosch, Manager IV
Bureau of Nuclear Engineering
P. O. Box 415
Trenton, NJ 08625