



Public Service of New Hampshire

New Hampshire Yankee Division

George S. Thomas
Vice President-Nuclear Production

NYN-88082

June 9, 1988

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

- References:
- (a) Facility Operating License No. NPF-56, Construction Permit CPPR-136, Docket Nos. 50-443 and 50-444
 - (b) PSNH Letter (SBN-1004), dated April 15, 1986, "Level Measurement Error (SER Outstanding Issue No. 10)," J. DeVincentis to V. S. Noonan
 - (c) PSNH Letter (SBN-1085), dated June 3, 1986, "Level Measurement Error (SER Outstanding Issue No. 10)," J. DeVincentis to V. S. Noonan
 - (d) NUREG-0896, Supplement 5 "Safety Evaluation Report Related to the Operation of Seabrook Station, Units 1 and 2"
 - (e) PSNH letter (NYN-88075), dated May 27, 1988, "Veritrak/Tobar Transmitters," G. S. Thomas to the USNRC

Subject: Level Measurement Error Due to Reference Leg Heatup

Gentlemen:

Reference (b) provided the New Hampshire Yankee (NHY) response to Request for Additional Information (RAI) 420.23. This response relied on operator action to mitigate a small feedwater line break (FWLB) inside containment. The action required was to trip the reactor and actuate emergency feedwater (EFW) prior to the temperature of the steam generator level instrument reference leg exceeding the temperature assumed in the low-low steam generator level reactor trip/EFW actuation setpoint calculation.

As a result of ambient temperature compensation corrections with the originally installed Veritrak transmitters, the steam generator level transmitters have been replaced with Rosemount transmitters. Setpoint calculations associated with the replacement steam generator level transmitters have demonstrated that operator action is no longer required. As a result, the containment pressure alarms and indication required to support the operator action committed to in Reference (c) are not required and need not be installed.

The low-low steam generator level reactor trip/EFW actuation setpoint for the replacement transmitters was calculated with and without operator action for the FWLB and the loss of feedwater (LOF) events.

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The reference leg heatup error was calculated using the methodology accepted in Reference (d), Section 7.3.2.8, with the following changes in assumptions when operator action was not assumed:

1. No operator action is assumed for mitigation of any size FWLB.
2. All the containment air is replaced by steam. This results in a containment temperature equal to the saturated steam temperature at the maximum credible high containment pressure setpoint Hi-1.
3. The reference leg temperature is equal to the containment temperature.

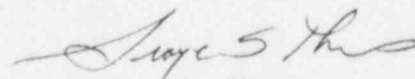
The setpoint for the FWLB event without operator action includes the maximum credible reference leg heatup error and is only slightly higher than the setpoint for the LOF event. The LOF event setpoint would be limiting if credit was taken for operator action, but this small decrease in setpoint does not justify installation of the containment pressure instrumentation. All setpoints calculated for the Rosemount transmitters are lower than the setpoints calculated for the Veritrak transmitters.

The increased reference leg heatup error for the FWLB event without operator action has been used to determine the low-low steam generator level reactor trip and emergency feedwater actuation setpoint [Reference (e)]. Appropriate FSAR and Technical Specification changes will be submitted at a later date.

Based on the above information, NHY requests NRC concurrence by June 27, 1988, with the determination that the containment pressure instrumentation and alarms are not necessary.

Should you have any questions regarding this matter, please contact Mr. Warren J. Hall at (603) 474-9574, extension 4046.

Very truly yours,


George S. Thomas

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