



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

AUG 09 2000

LRN - 00 - 0253

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

Gentlemen:

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
AUXILIARY FEED WATER SYSTEM (AFWS)
SALEM GENERATING STATION UNITS 1 AND 2
FACILITY OPERATING LICENSES DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311
TAC NOS. MA8290 AND MA8291**

On February 7, 2000, Public Service Electric and Gas Company (PSE&G) submitted a request for amendment to Facility Operating License DPR 70 and 75, for the Salem Nuclear Generating Station, Units 1 and 2. The amendment requested to change Technical Specifications 3.7.1.2, "Plant Systems - Auxiliary Feedwater Pumps." Specifically, PSE&G proposed to replace the current surveillance requirement 4.7.1.2.b wording with that of the Improved Standard Technical Specifications Westinghouse Plants, NUREG 1431 (STS).

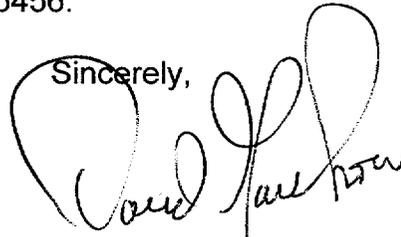
By letter dated June 8, 2000, the Nuclear Regulatory Commission (NRC) requested PSE&G to provide additional information relative to its proposed amendment request within 45 days of receipt of the June 8 letter. On July 19, 2000, a telephone conference (telecon) was held between Mr. R. Fretz, NRR Licensing Project Manager – Salem, and Mr. E. Villar of the Salem Licensing department to discuss the need for additional clarifications to the Staff's June 8 letter. As a result of this telecon, the original response due date was extended pending further discussions. On August 7, 2000, a telecon was held between NRC and PSE&G personnel to clarify the request for additional information.

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Attachment 1 to this letter contains the NRC's request for additional information. Attachment 2 contains the NRC's questions in boldface type as written in the request for additional information, followed by the PSE&G response in regular (non-boldface) type as discussed on August 7, 2000.

Should you have any questions or comments on this transmittal, please do not hesitate to contact E. H. Villar at (856) 339-5456.

Sincerely,



Mark. B. Bezilla
Vice President -
Operations



Attachment (2)

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

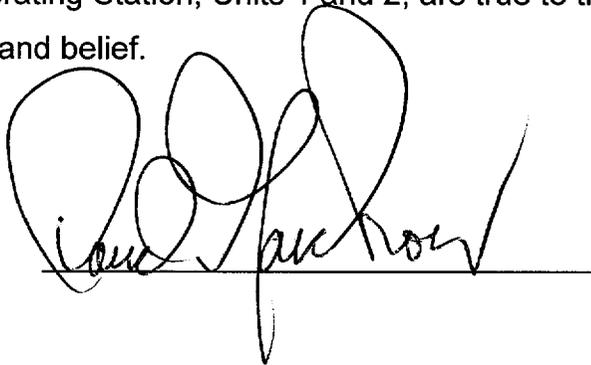
USNRC Resident Inspector Office (X24)

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

STATE OF NEW JERSEY)
) SS.
COUNTY OF SALEM)

D. F. Garchow, being duly sworn according to law deposes and says:

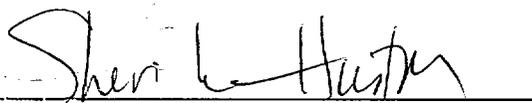
I am Vice President – Technical Support of Public Service Electric and Gas Company, and as such, I find the matters set forth in the above referenced letter, concerning Salem Generating Station, Units 1 and 2, are true to the best of my knowledge, information and belief.



A handwritten signature in black ink, appearing to read "D. F. Garchow", is written over a horizontal line.

Subscribed and Sworn to before me

this 9 day of August, 2000



A handwritten signature in black ink, appearing to read "Sheri L. Huston", is written over a horizontal line.

Notary Public of New Jersey

My Commission expires on _____
SHERI L. HUSTON
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 12/08/2003

**ATTACHMENT 1
REQUEST FOR ADDITIONAL INFORMATION
CHANGES OF T.5 3.7.1,2 REGARDING SURVEILLANCE REQUIREMENT
FOR AUXILIARY FEEDWATER PUMPS
SALEM UNIT 1 & 2**

In Attachment I of your submittal dated February 7, 2000, it is indicated that you have re-calculated an acceptable level of auxiliary feed water (AFW) pump degradation utilizing actual pump flow measurements. The re-analysis indicated that the measured pump degradation with respect to the design pump curve is well within the acceptable limits dictated by the design basis calculations. However, it is inconsistent with the current technical specification (TS) surveillance requirement values. The proposed changes incorporate the language of the standard technical specifications (STS) into the Salem TS, and will control the minimum acceptance criteria in a design document such as a design calculation. Please discuss the following:

- a. Provide the results of the re-analysis to confirm that the calculated AFW pump flow in the new design calculation is sufficient to support all design bases events analyzed in Chapter 15 of the Final Safety Analysis Report (FSAR). Describe the minimum required AFW flow assumed in the FSAR analyses.
- b. If the assumed AFW flow in your current safety analyses remains unchanged, please discuss how the proposed lower minimum AFW flow, to be verified by future surveillance testing, still provides sufficient safety margin to support the safety analyses.
- c. The proposed TS surveillance or accompanying Bases does not specify the minimum AFW flow acceptance criteria or provide a similar reference to the FSAR, as does the improved STS referenced in your submittal. Therefore, please describe how you will assure that the minimum flow acceptance criteria, provided in a design document such as a design calculation, will continue to be appropriate through an approved regulatory controls process (e.g., Title 10 of the *Code of Federal Regulation*, Section 50.59).

**ATTACHMENT 2
REQUEST FOR ADDITIONAL INFORMATION
CHANGES OF T.5 3.7.1,2 REGARDING SURVEILLANCE REQUIREMENT
FOR AUXILIARY FEEDWATER PUMPS
SALEM UNIT I & 2**

- a. **Provide the results of the re-analysis to confirm that the calculated AFW pump flow in the new design calculation is sufficient to support all design bases events analyzed in Chapter 15 of the Final Safety Analysis Report (FSAR). Describe the minimum required AFW flow assumed in the FSAR analyses.**

Updated Final Safety Analyses Report (UFSAR) Chapter 15 safety analyses were not required to be modified as a result of determining acceptable levels of Auxiliary Feed Water (AFW) pump degradation. Therefore, the minimum required AFW flows assumed in the UFSAR have not changed.

The original design calculations contained engineering and generic margins, which provided an added level of conservatism to the calculations. The design calculations were redone allocating some of these margins to account for specific levels of AFW pump degradation. The recalculated AFW flows are lower, in general terms, than those calculated previously without specifically accounting for pump degradation. However, when these recalculated flows were compared to the flows used in the pertinent Chapter 15 safety analyses, in all comparison instances, the flows used in the current Chapter 15 safety analyses were shown to remain valid, and thus, no changes to any Chapter 15 safety analyses were necessitated.

- b. **If the assumed AFW flow in your current safety analyses remains unchanged, please discuss how the proposed lower minimum AFW flow, to be verified by future surveillance testing, still provides sufficient safety margin to support the safety analyses.**

As stated above, the AFW flows assumed in the current UFSAR Chapter 15 safety analyses remain unchanged.

Acceptance criteria for operability determination of the auxiliary feed water pumps are included in the Technical Specifications required surveillance test procedures in accordance with Technical Specification 4.0.5. The acceptance criteria have been re-specified as derived from the new recalculated flows. The new acceptance criteria includes the minimum acceptable flow required to ensure that an AFW pump will not be accepted as operable if it has degraded to a condition that will not support the Chapter 15 safety analysis assumed flow.

- c. **The proposed TS surveillance or accompanying Bases does not specify the minimum AFW flow acceptance criteria or provide a similar reference to the FSAR, as does the improved STS referenced in your submittal. Therefore, please describe how you will assure that the**

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minimum flow acceptance criteria, provided in a design document such as a design calculation, will continue to be appropriate through an approved regulatory controls process (e.g., Title 10 of the *Code of Federal Regulation*, Section 50.59).

As described in our response to question b above, the minimum acceptable flow is included in the Technical Specification surveillance test procedure. These safety related procedures, as well as the design calculations, are subject to the requirements of Title 10 of the Code of federal Regulation, Section 50.59 (10CFR50.59). Therefore, any changes to these documents will be, at a minimum, subject to an applicability review under 10CFR50.59.