

November 3, 1988

Docket No.: 50-311

Mr. Steven E. Miltenberger
Vice President and Chief Nuclear
Officer
Public Service Electric and Gas
Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: CONFIRMATION OF CHANGE TO TECHNICAL SPECIFICATIONS (TAC 69804)

RE: SALEM GENERATING STATION, UNIT 2

This confirms our telephone authorization given on November 3, 1988, for the change to the Technical Specifications for Salem Generating Station, Unit 2 as requested on an emergency basis in your letter dated October 19, 1988 and supplemented with additional information by letter dated October 26, 1988. Facility Operating License DPR-75 is amended on November 3, 1988. The revised Technical Specification pages 3/4 2-9, 3/4 2-11 and B 3/4 2-5 are enclosed.

The formal license amendment, our completed safety evaluation, and the Federal Register Notice of this change to the Technical Specifications for Salem Generating Station, Unit 2 are being processed and copies of these documents will be sent to you in the near future.

Sincerely,

/s/

Bruce A. Boger, Assistant Director
for Region I Reactors
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
Technical Specification Pages

cc w/enclosures:
See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Sincerely,

A handwritten signature in dark ink, appearing to read "Bruce A. Boger", is written over the typed name.

Bruce A. Boger, Assistant Director
for Region I Reactors
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

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Technical Specification Pages

cc w/enclosures:
See next page

Mr. Steven E. Miltenberger
Public Service Electric & Gas Company

Salem Nuclear Generating Station

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POWER DISTRIBUTION LIMITS

3/4.2.3 RCS FLOW RATE AND R

LIMITING CONDITION FOR OPERATION

3.2.3 The combination of indicated Reactor Coolant System (RCS) total flow rate and R_1 , R_2 shall be maintained within the region of allowable operation shown on Figure 3.2-3 for 4 loop operation.

where:

$$a. \quad R_1 = \frac{F_{\Delta H}^N}{1.49 [1.0 + 0.3 (1.0-P)]}$$

$$b. \quad R_2 = \frac{R_1}{[1-RBP(BU)]}$$

$$c. \quad P = \frac{\text{THERMAL POWER}}{\text{RATED THERMAL POWER}}, \text{ and}$$

d. $F_{\Delta H}^N$ = Measured values of $F_{\Delta H}^N$ obtained by using the movable incore detectors to obtain a power distribution map. The measured values of $F_{\Delta H}^N$ shall be used to calculate R since Figure 3.2-3 includes penalties for undetected feedwater venturi fouling of 0.1% and for measurement uncertainties of 2.2% for flow and 4% for incore measurement of $F_{\Delta H}^N$.

e. RBP(BU) = Rod Bow Penalty as a function of region average burnup as shown in Figure 3.2-4, where a region is defined as those assemblies with the same loading date (reloads) or enrichment (first core).

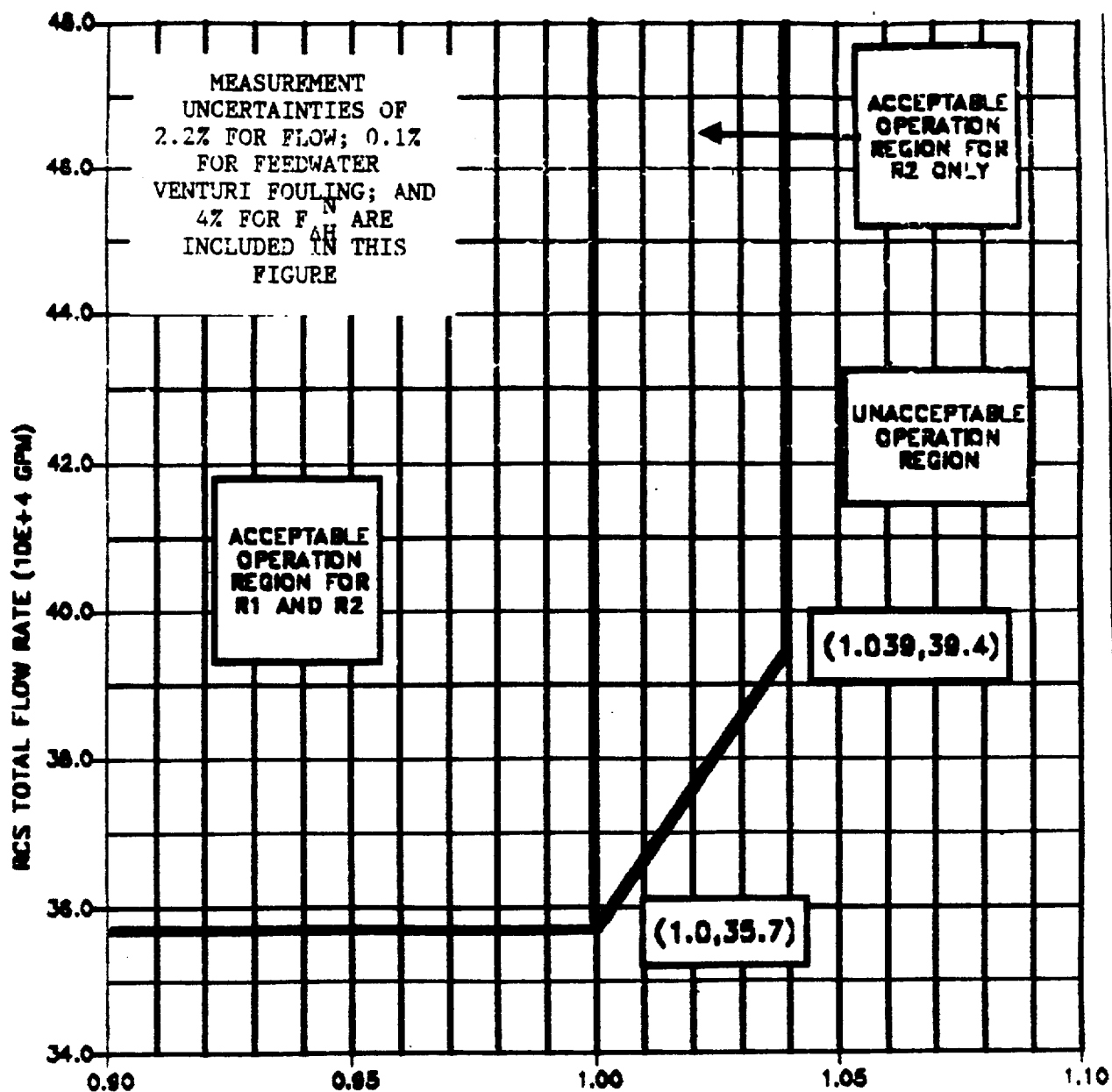
APPLICABILITY: MODE 1

ACTION:

With the combination of RCS total flow rate and R_1 , R_2 outside the region of acceptable operation shown on Figure 3.2-3:

a. Within 2 hours:

1. Either restore the combination of RCS total flow rate and R_1 , R_2 to within the above limits, or
2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER and reduce the Power Range Neutron Flux - High trip setpoint to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.



$$R1 = F_{\Delta H}^N / 1.48[1.0 + 0.3(1.0 - P)]$$

$$R2 = R1 / [1 - RBP(BU)]$$

Figure 3.2-3
RCS TOTAL FLOWRATE VERSUS R - FOUR LOOPS
IN OPERATION

POWER DISTRIBUTION LIMITS

BASES

3/4.2.2 and 3/4.2.3 HEAT FLUX HOT CHANNEL FACTOR $F_{\Delta H}^N(Z)$, RCS FLOW RATE AND NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR (Continued)

event. The penalties applied to $F_{\Delta H}^N$ to account for Rod Bow (Figure 3.2-4) as a function of burnup are consistent with those described in Mr. John F. Stolz's (NRC) letter to T. M. Anderson (Westinghouse) dated April 5, 1979 and W 8691 Rev. 1 (partial rod bow test data).

When an F_0 measurement is taken, an allowance for both experimental error and manufacturing tolerance must be made. An allowance of 5% is appropriate for a full core map taken with the incore detector flux mapping system and a 3% allowance is appropriate for manufacturing tolerance.

When RCS flow rate and $F_{\Delta H}^N$ are measured, no additional allowances are necessary prior to comparison with the limits of Figure 3.2-3. Measurement errors of 2.2% for Reactor Coolant System total flow rate, 0.1% for feedwater venturi fouling, and 4% for $F_{\Delta H}^N$ have been allowed for in the determination of the design DNBR value.

The measurement error for Reactor Coolant System total flow rate is based upon performing a precision heat balance and using the result to calibrate the RCS flow rate indicators. Potential fouling of the feedwater venturi which might not be detected could bias the result from the precision heat balance in a nonconservative manner. Therefore, a penalty of 0.1% for undetected fouling of the feedwater venturi is included in Figure 3.2-3. Any fouling which might bias the RCS flow rate measurement greater than 0.1% can be detected by monitoring and trending various plant performance parameters. If detected, action shall be taken before performing subsequent precision heat balance measurements, i.e., either the effect of the fouling shall be quantified and compensated for in the RCS flow rate measurement or the venturi shall be cleaned to eliminate the fouling.

The 12 hour period surveillance of indicated RCS flow is sufficient to detect only flow degradation which could lead to operation outside the acceptable region of operation shown in Figure 3.2-3.

The radial peaking factor $F_{xy}(Z)$ is measured periodically to provide assurance that the hot channel factor $F_{xy}^{RTP}(Z)$, remains within its limit. The F_{xy} limit for RATED THERMAL POWER (F_{xy}^{RTP}), as provided in the Radial Peaking Factor Limit Report per specification 6.9.1.10, was determined from expected power control maneuvers over the full range of burnup conditions in the core.

3/4.2.4 QUADRANT POWER TILT RATIO

The quadrant power tilt ratio limit assures that the radial power distribution satisfies the design values used in the power capability analysis. Radial power distribution measurements are made during startup testing and periodically during power operation.