Mr. William T. Cottle
President and Chief Executive Officer
STP Nuclear Operating Company
South Texas Project Electric
Generating Station
P. O. Box 289
Wadsworth, Texas 77483

March 22, 1999

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION ON PROPOSED AMENDMENT TO COLD OVERPRESSURE MITIGATION CURVES IN TECHNICAL SPECIFICATION FIGURE 3.4-4, SOUTH TEXAS PROJECT, UNITS 1 AND 2 (STP) (TAC NOS. MA3519 AND MA3520)

Dear Mr. Cottle:

The Nuclear Regulatory Commission staff is reviewing STP Nuclear Operating Company's (STPNOC's) August 31, 1998, application on the above subject. This amendment is associated with the Replacement Steam Generator Project.

Based on its review, the staff has determined that additional information is needed, as discussed in the enclosed request for additional information (RAI). This request was discussed with Mr. Mark VanNoy of your staff on February 24, 1999, and a mutually agreeable target date of a response to the RAI by April 19, 1999, was established. The staff appreciates the efforts expended with respect to this matter.

Sincerely,

ORIGINAL SIGNED BY:
Thomas W. Alexion, Project Manager
Project Directorate IV-1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosure: As stated

cc w/encl: See next page

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OFC	PM/PD4-1	LA/PD4-1	SL/SRXB	(A)D/PD4-1
NAME	TAlexion	L.Berry	FWeiss	G.Dick
DATE	3/16/99	3/15/99	3/18/99	3/22/99
COPY	YES	YES	YES/NO	YES

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Mr. William T. Cottle
STP Nuclear Operating Company

South Texas, Units 1 & 2

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Request for Additional Information

Cold Overpressure Mitigating System Curves for

Replacement Steam Generators

South Texas Project, Units 1 and 2

1. In your submittal of August 31, 1998, you stated that the new Model Δ91 steam generator design results in an increase in the reactor coolant system (RCS) volume. For the mass injection limited regions this is expected to have a relaxing effect on the cold overpressure mitigating system (COMS) setpoints. However, in your submittal you stated that the new setpoint curves for the Δ94 steam generators are more bounding than your existing curves. During a conference call on January 14, 1999, you stated that while the increase in RCS volume had a relaxing effect on the setpoint, the increase in RCS flow as a result of the steam generator replacement had the opposite effect because of the increase in hydraulic pressure drop between the beltline region and the pressure instrument. Please provide a quantitative justification for your conclusion that the new curves for the new steam generators bound the existing curves in the mass injection limited regions. In your justification, please also include a discussion of the assumption for the amount of tubes plugged in the new analyses and the effects of this assumption.

2. As described in your submittal of August 31, 1998, your assumptions for the mass injection transients include flow from one charging pump with letdown isolated and the charging control valve in its normal position. In WCAP-13782, the methodology referenced for determining the COMS power-operated relief valve (PORV) setpoints, the assumptions for the mass injection transients include the maximum deliverable flow from one centrifugal charging pump with letdown isolation and charging control valve fully open. In addition, WCAP-13782 includes Figures 2.1 and 2.3, which provide the maximum credible flow rates at a given pressure for the two cases analyzed (RCS temperature < 200 °F and RCS temperature ≥ 200 °F). There appears to be a discrepancy between the assumptions stated in your submittal dated August 31, 1998, and the assumptions listed in WCAP-13782 with the assumptions listed in the WCAP being more conservative with respect to injection flow rates. Please address this apparent discrepancy and provide the flow rates used for the two cases (RCS temperature < 200 °F and RCS temperature ≥ 200 °F). Also, please provide a discussion of how this is conservative with respect to the mass injection analyses.

3. In the August 31, 1998, submittal you indicated that the proposed COMS setpoint curve (proposed TS Figure 3.4-4) considers overshoot and undershoot and valve stroke times. Your submittal also indicated that pressure instrument uncertainty was not accounted for in the development of the proposed setpoint curve. Section 50.36(c)(2)(i) of 10 CFR defines limiting conditions for operation (LCOs) as the lowest functional capability of equipment required for safe operation of the facility. Section 50.36(c)(2)(ii)(C) requires LCOs for components that actuate to mitigate a design-basis transient that presents a challenge to the integrity of a fission product barrier. Section 50.36(c)(3) requires

Enclosure

surveillance requirements for calibration of components to assure that the LCOs will be met. The pressure instrument uncertainty in the COMS system, if not accounted for, can lead to a delay in the actuation of COMS, consequently causing system pressure to exceed the Appendix G pressure temperature limit. Therefore, in order to assure that Appendix G pressure temperature limits are not exceeded, instrument uncertainty must be accounted for. Please address this apparent deficiency.

4. In your mass addition analyses you did not account for injection from the safety injection accumulators. In addition, only one of the charging pumps was assumed to inject. The staff has reviewed your proposed technical specifications and could not find the corresponding restrictions to isolate the safety injection accumulators and to disable all but one charging pump. Section 50.36(c)(2)(ii)(B) requires that an operating restriction that is an initial condition of a design-basis transient analysis that presents a challenge to the integrity of a fission product barrier be included in technical specification LCOs. Please address this apparent inconsistency.