

December 2, 2003

Mr. James J. Sheppard
President and Chief Executive Officer
STP Nuclear Operating Company
South Texas Project Electric
Generating Station
P. O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS
CONCERNING LIFT SETTING TOLERANCE FOR THE PRESSURIZER
SAFETY VALVES (TAC NOS. MB9104 AND MB9105)

Dear Mr. Sheppard:

The Commission has issued the enclosed Amendment No. 159 to Facility Operating License No. NPF-76 and Amendment No. 147 to Facility Operating License No. NPF-80 for the South Texas Project, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated May 22, 2003, as supplemented by letters dated September 10 and September 30, 2003.

The amendments change the pressurizer safety valve lift tolerance, as specified in TS 3.4.2.2, "Reactor Coolant System", from plus/minus (+/-) 2 percent (%) to +2% and -3%.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

David Jaffe, Senior Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosures: 1. Amendment No. 159 to NPF-76
2. Amendment No. 147 to NPF-80
3. Safety Evaluation

cc w/encls: See next page

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STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 159
License No. NPF-76

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by STP Nuclear Operating Company* acting on behalf of itself and for Texas Genco, LP, the City Public Service Board of San Antonio (CPS), AEP Texas Central Company, and the City of Austin, Texas (COA) (the licensees), dated May 22, 2003, as supplemented by letters dated September 10 and September 30, 2003, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

*STP Nuclear Operating Company is authorized to act for Texas Genco, LP, the City Public Service Board of San Antonio, AEP Texas Central Company, and the City of Austin, Texas, and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-76 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 159, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The STP Nuclear Operating Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: December 2, 2003

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-499

SOUTH TEXAS PROJECT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 147
License No. NPF-80

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by STP Nuclear Operating Company* acting on behalf of itself and for Texas Genco, LP, the City Public Service Board of San Antonio (CPS), AEP Texas Central Company, and the City of Austin, Texas (COA) (the licensees), dated May 22, 2003, as supplemented by letters dated September 10 and September 30, 2003, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

*STP Nuclear Operating Company is authorized to act for Texas Genco, LP, the City Public Service Board of San Antonio, AEP Texas Central Company, and the City of Austin, Texas, and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-80 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 147, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The STP Nuclear Operating Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: December 2, 2003

ATTACHMENT TO LICENSE AMENDMENT NOS. 159 AND 147

FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80

DOCKET NOS. 50-498 AND 50-499

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3/4 4-8

INSERT

3/4-8

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 159 AND 147 TO
FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80
STP NUCLEAR OPERATING COMPANY, ET AL.
SOUTH TEXAS PROJECT, UNITS 1 AND 2
DOCKET NOS. 50-498 AND 50-499

1.0 INTRODUCTION

By application dated May 22, 2003, as supplemented by letters dated September 10 and September 30, 2003, STP Nuclear Operating Company (the licensee), requested changes to the Technical Specifications (TSs) for South Texas Project (STP), Units 1 and 2. The supplements dated September 10 and September 30, 2003, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on June 24, 2003 (68 FR 37583).

The proposed amendments would change the pressurizer safety valve lift tolerance, as specified in TS 3.4.2.2, "Reactor Coolant System [RCS]", from plus/minus (+/-) 2 percent (%) to +2% and -3%.

2.0 REGULATORY EVALUATION

The staff finds that the licensee in Section 5.2 of its May 22, 2003 submittal identified the applicable regulatory requirements.

The requirements of General Design Criterion (GDC) 15 of Appendix A to Title 10 of the *Code of Federal Regulations* Part 50 (10 CFR Part 50) state that "the reactor coolant system and associated auxiliary, control and protection systems shall be designed with sufficient margin to assure that the design conditions of the reactor coolant pressure boundary are not exceeded during any condition of normal operation, including anticipated operational occurrences." Also, because the proposed change could result in an increase in the volume of fluid that is released to the pressurizer relief tank (PRT) during an overpressure condition, the requirements of GDC 4 are also applicable. GDC 4 states: "Structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents." Section 10 CFR 50.36 specifies the Commission's regulatory requirements related to the content of TSs. Specifically, 10 CFR 50.36(c)(2)(ii) sets forth four criteria to be used in determining whether a Limiting Condition for Operation (LCO) is required to be included in TSs. These criteria are: (1) installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal

degradation of the RCS pressure boundary; (2) initial plant conditions that are assumed in a design-basis transient and accident analysis; (3) components or systems that are used for mitigating consequences of the design-basis transient and accident; and (4) components or systems which probabilistic risk assessment has shown to be significant to public health and safety.

The Standard Technical Specification requirements were developed based on the criteria established in 10 CFR 50.36(c)(2)(ii). Existing LCOs and related surveillance requirements that have been established as TS requirements, which satisfy any of the criteria specified in 10 CFR 50.36(c)(2)(ii), must be retained in the TSs. STP, Units 1 and 2, uses the pressurized water type of nuclear steam supply system manufactured by Westinghouse Electric Corporation. Pressurizer safety valves (PSVs) are part of the primary success path and credited in the Updated Final Safety Analysis Report for mitigating the effects of design-basis events. In accordance with Criterion 3 of 10 CFR 50.36(c)(2)(ii) discussed above, a TS LCO is required for the PSVs.

The staff's review of the proposed change to STP TS 3.4.2.2 are based on continued compliance with GDC 4 and GDC 15.

3.0 TECHNICAL EVALUATION

The staff has reviewed the licensee's regulatory and technical analyses in support of its proposed license amendments which are described in Sections 5.0 and 4.0 of the licensee's May 22, 2003, submittal. The detailed evaluation below will support the conclusion that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

The current TS 3.4.2.2 requires that all pressurizer Code safety valves shall be OPERABLE with a lift setting of 2485 psig +/-2% during Modes 1, 2, and 3. By letter dated May 22, 2003, the licensee submitted a license amendment request to modify TS 3.4.2.2 to require that all PSVs shall be OPERABLE with a lift setting of 2485 psig +2/-3% during Modes 1, 2, and 3. The current TS also requires that the as-left setting pressure shall be +/-1% following valve testing. This part of the TS requirement is not affected by the proposed license amendments request.

The NRC staff review the licensee's proposed change to TS 3.4.2.2 to assure that all requirements concerning overpressure protection for RCS continue to be met and that PRT design basis will not be exceeded.

3.1 Overpressure Protection for the RCS

The design purpose of the PSVs is to provide overpressure protection for the RCS. Together with the reactor protection system, the PSVs ensure that the RCS pressure does not exceed 110% of RCS design pressure (2750 psia) during the most limiting operational transient with reactor scram. In assessing the effects of the proposed TS change on the design-basis event analyses, the licensee evaluated the existing transient and accident analysis and concluded that the assumed opening of PSVs at the upper bound setting (2485 psig +2%) would result in

the highest peak RCS pressure. Since the proposed TS does not change the upper bound setting of the PSVs, the current analyses with respect to peak pressures remain valid. Therefore, the staff concludes that the analyses of record for events sensitive to peak RCS pressures remain valid and acceptable for supporting the proposed change to TS 3.4.2.2.

The licensee stated, and the staff agrees, that the tolerance of -3 percent proposed for the PSV setpoint had no effect on the transient analyses that are sensitive to departure from nucleate boiling (DNB). The power operated relief valves (PORVs) are assumed to operate during these events for conservative results with respect to DNB. The PORV settings are considerably lower than the lower bound of the proposed negative tolerance for PSVs.

In addition, the licensee indicated that the proposed change does not violate the design basis that requires a reactor trip actuation before the opening of the PSVs during a pressurization event. The PSV setpoints are designed to be above the high pressurizer pressure reactor trip setpoint with its tolerance. Specifically, the lowest PSV setpoint is 2410 psig (2485 psig -3%) which is above the upper limit of 2405 psig (high pressure reactor trip setpoint of 2380 psig plus 25 psig for the calculated channel statistical allowance) for the high pressure reactor trip actuation setting. The staff considers this to be acceptable.

Therefore, the staff finds that the proposed change to the PSV setpoint tolerance would not result in a reduction in the margin of safety. Further, the staff has determined that, since the as-left tolerance for the PSVs will continue to be +/-1% and the frequency of testing is not affected, it is not expected that the proposed change would result in a greater rate of degradation of the PSV setpoints over time.

The licensee has also evaluated the proposed change to the PSV setpoint tolerance to determine if it is consistent with the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. The licensee determined that the proposed change is within the limits specified by both ASME Section III for overpressure protection and by ASME Section XI for testing the PSVs. The staff finds that the licensee's evaluation of the applicable ASME Code requirements is acceptable.

Based on the NRC staff's review, the NRC staff has determined that the proposed change to the PSV setpoint tolerance: (1) is bounded by the analysis of record, (2) does not violate the design basis that requires a reactor trip actuation before lifting of the PSVs during an event that results in an increase in pressurizer pressure, and (3) satisfies applicable ASME Code requirements.

3.2 Affects of PSV Setpoint Tolerance Change on the PRT

The PRT, and the PRT-associated design bases, are described in Section 5.4.11 of the STP Updated Final Safety Analysis Report. In response to the staff's request regarding any effects of the proposed change to TS 3.4.2.2 on systems and components downstream of the PSVs, the licensee's supplemental submittal dated September 10, 2003, stated that the amendment request does not involve any physical modification to the plant design, changes in plant operation, or revision of the "as-left" lift setting of the PSVs. The licensee indicated that no physical changes were being made that would affect the design capability of the systems and components downstream of the PSVs, including the PSV tail pipes and the pressurizer relief tank (PRT). The licensee evaluated the effect of changing the PSV lower lift pressure tolerance

from -2% to -3% on the capability of the PRT to absorb the design-basis discharge of steam from the PSVs. As discussed in a supplemental submittal dated September 30, 2003, the licensee determined that the proposed change will not cause the PRT design basis capacity to be exceeded. Based on the information that was provided, the NRC staff concludes that the design-basis capability of the PRT will not be compromised by the proposed change to TS 3.4.2.2.

Based on the NRC staff's review, the NRC staff has determined that the proposed change to the PSV setpoint tolerance will not compromise the design-basis capability of the PRT. Therefore, the proposed change to the PSV setpoint tolerance is acceptable with regard to maintenance of PRT integrity.

3.3 Proposed Change to TS 3.4.2.2

The NRC staff concludes that the licensee's proposed change to TS 3.4.2.2 assures that all requirements concerning overpressure protection for RCS continue to be met and that PRT design basis will not be exceeded. Accordingly, the proposed change to TS 3.4.2.2, which changes the PSV lift tolerance from +/- 2 % to +2% and -3% is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Texas State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (68 FR 37583 dated June 24, 2003). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: G. Hammer
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Date: December 2, 2003

South Texas Project, Units 1 & 2

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