October 21, 2004

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, UNIT 2 - ISSUANCE OF EXIGENT LICENSE AMENDMENT RE: BLOCK VALVES FOR PRESSURIZER POWER OPERATED RELIEF VALVES (TAC NO. MC4468)

Dear Mr. Sheppard:

The Commission has issued the enclosed Amendment No. 153 to Facility Operating License No. NPF-80 for the South Texas Project (STP), Unit 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 30, 2004. The amendment is being issued in response to exigent circumstances at STP Unit 2 as detailed in the application. The portion of the September 30, 2004, application that applies to STP, Unit 1 will be addressed separately.

The amendment changes TS 4.4.4.2 to expand the range of conditions under which quarterly testing of block valves for the pressurizer power operated relief valves would be unnecessary.

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

Docket No. 50-499

Enclosures: 1. Amendment No. 153 to NPF-80
2. Safety Evaluation

cc w/encls: See next page

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ACCESSION NO: ML042800363 *NLO with comments

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STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-499

SOUTH TEXAS PROJECT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 153
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 September 30, 2004, 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.

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*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. 153, 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 by R. Gramm for M. Webb/

Michael K. Webb, Acting 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: October 21, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 153

FACILITY OPERATING LICENSE NO. NPF-80

DOCKET NO. 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 contains a marginal line indicating the area of change.

REMOVE	INSERT
3/4 4-11	3/4 4-11

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 153 TO

FACILITY OPERATING LICENSE NO. NPF-80

STP NUCLEAR OPERATING COMPANY, ET AL.

SOUTH TEXAS PROJECT, UNIT 2

DOCKET NO. 50-499

1.0 INTRODUCTION

By application dated September 30, 2004 (Accession No. ML042800229), STP Nuclear Operating Company (the licensee), requested changes to the Technical Specifications (TSs) for South Texas Project (STP), Unit 2.

The proposed changes would revise TS 4.4.4.2 to expand the range of conditions under which quarterly testing of block valves for the pressurizer power operated relief valves (PORVs) would be unnecessary.

2.0 REGULATORY EVALUATION

The regulation at Title 10, *Code of Federal Regulations* (10 CFR), Section 50.36(c)(3) states that, "Surveillance requirements [SRs] are requirements related to, test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation [LCOs] will be met." The STP PORV block valves are the subject of LCOs and SRs in TS 3/4.4.4, "Relief Valves." At the present time, the quarterly (92-day) PORV block valve test, SR 4.4.4.2 is required to be performed unless one or both PORV block valves are closed for reasons other than excessive PORV seat leakage (Actions b. or c. of TS 3.4.4). TS Task Force (TSTF) Traveler No. 284 (TSTF-284), Revision 3, allows the extension of the range of circumstances under which the quarterly testing of the PORV block valve is not required to any of the Actions of TS 3.4.4. The NRC staff considered whether TSTF-284, Revision 3, should be applied to the specific case posed by STP. The NRC staff also considered relevant information in the STP, Unit 2, Updated Final Safety Analysis Report (UFSAR) and TSs.

3.0 TECHNICAL EVALUATION

The PORVs are described in Section 5.4.13, "Safety and Relief Valves" of the STP, Unit 2, UFSAR. The pressurizer is equipped with two PORVs, each of which has a block valve to be closed in the event that excessive PORV seat leakage is detected. The pressurizer PORVs are not required to open in order to prevent the overpressurization of the Reactor Coolant System (RCS). The three pressurizer safety valves, by themselves, are sized to relieve enough steam to prevent an overpressurization of the primary system. Therefore, a loss of pressurizer PORV

automatic control (or if the associated block valve is closed) and the subsequent failure of the PORVs to open will result in higher reactor coolant pressures, but will not cause any overpressurization problems. In fact, the opening of the PORV is a conservative assumption for the departure from nucleate boiling limited transients by tending to keep the primary system pressure down. As indicated in the STP, Unit 2, UFSAR, the pressurizer PORVs provide the safety-related means for RCS depressurization to achieve cold shutdown but, as indicated in the September 30, 2004, application, pressurizer spray is the primary method to depressurize the RCS specified in the STP emergency operating procedure. Depressurization may be performed with a PORV if pressurizer spray is unavailable or not effective.

At the present time, TS 4.4.4.2 requires that PORVs be subjected to an operability test, every 92 days, by operating the valve through one complete cycle of full travel unless (1) one block valve has been closed for reasons of PORV inoperability due to causes other than seat leakage (ACTION b. of TS 3.4.4) or (2) both block valves have been closed for reasons of PORV inoperability due to causes other than seat leakage (ACTION c. of TS 3.4.4). The licensee's proposed change to TS 4.4.4.2 would expand the range of conditions under which quarterly testing of block valves for the PORVs would be unnecessary to include any situation where a block valve is closed due to any Action in TS 3.4.4 which includes cases where the PORV block valve has been closed due to excessive PORV seat leakage.

As noted in the licensee's September 30, 2004, application, when a PORV block valve has been closed due to PORV seat leakage, and the block valve is subsequently reopened, momentary opening of the PORV has been noted. This observed PORV behavior is consistent with the Westinghouse Bases for SR 3.4.11.1, in TSTF-284, Revision 3, which states, "Opening the block valve in this condition [the block valve having been closed due to in inoperable PORV] increases the risk of an unisolatable leak from the RCS since the PORV is already inoperable." Momentary opening of the PORV could be a precursor to an unisolatable leak in the RCS should the block valve fail to close.

In conclusion, the NRC staff considers the quarterly testing of the PORV block valve to be unnecessary if the block valve has been closed due to an inoperable PORV. The additional assurance of block valve operability, gained from the quarterly test, is outweighed by the risk associated with the development of an unisolatable leak in the RCS. Accordingly, the provision of TSTF-284, Revision 3, which allows the extension of the range of circumstances under which the quarterly testing of the PORV block valve is not required to any of the Actions of TS 3.4.4, is acceptable as a change to STP, Unit 2, TS 4.4.4.2.

4.0 EXIGENT CIRCUMSTANCES

The licensee requested exigent approval of the license amendment in the application dated September 30, 2004. A Notice of Consideration of Issuance of Amendment, Proposed No Significant Hazards Consideration and Opportunity for Hearing was published in the *Federal Register* on October 6, 2004 (69 FR 59969). In accordance with the provisions of 10 CFR 50.91(a)(6), comments were requested within 14 days from the date of publication and hearing requests within 60 days from the date of publication.

The September 30, 2004, application provided a description of the exigent circumstances related to the requested license amendment. The licensee stated that elevated temperatures were observed on the pressurizer discharge header due to minor PORV 655A leakage during

startup from a recent refueling outage. Following valve closing attempts, temperatures were elevated (compared to historical values), but remained below the alarm setpoint. When the alarm setpoint was reached on September 7, 2004, the PORV block valves were closed in accordance with plant procedures, and troubleshooting efforts were initiated to determine the cause. Subsequent testing and investigation confirmed that PORV 655A had seat leakage, and as a result of the leakage, PORV 655A momentarily lifted when its associated block valve was re-opened. It should be noted that due to the PORV design (pilot-assisted) and the fact that the PORV leakage had allowed the piping between the block valve and the PORV to depressurize during the troubleshooting time period, the momentary opening of the PORV was not an unexpected occurrence. Further engineering evaluation was initiated to determine whether PORV 655A continued to remain Operable. This engineering analysis concluded that PORV 655A was operable; however, if the PORV block valve was to remain open and the PORV continued to leak, the resulting elevated temperatures would degrade the Equipment Qualification of the PORV's solenoid and switch cover gaskets before the projected end of the current Unit 2 operating cycle. Therefore, the decision was made on September 9, 2004, to declare PORV 655A inoperable due to excessive seat leakage and to close the associated block valve in accordance with TS 3.4.4 Action a.

The quarterly surveillance test for the PORV 655A block valve, performed in accordance with SR 4.4.4.2, requires operating the block valve through one complete cycle of full travel. Because PORV 655A is a pilot-assisted valve, it is expected that the PORV will open momentarily during the block valve stroke. Although the PORV is expected to reseat, performance of this surveillance represents an unnecessary challenge to the RCS pressure boundary. The SR 4.4.4.2 surveillance test for the PORV 655A block valve was due to be performed on September 28, 2004, and the associated grace period expires on October 21, 2004.

Entry into the required Action of TS 3.4.4 could not reasonably have been foreseen or anticipated.

The NRC staff has evaluated the licensee's explanation of the exigent circumstances and has determined that a valid need exists for issuance of the TS in accordance with the exigent provisions of 10 CFR 50.91(a)(6).

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The regulations at 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations, if operation of the facility, in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of any accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety.

This amendment has been evaluated against the standards in 10 CFR 50.92. The amendment does not involve a significant hazards consideration as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The block valve for the pressurizer PORV is not a potential accident initiator. Therefore, not requiring a surveillance of the block valve while it is being used to isolate its associated PORV will not increase the probability of an accident previously evaluated. Not requiring the surveillance of the block valve may slightly reduce the probability of a loss-of-coolant accident from a stuck open PORV since it will eliminate the challenge to the power operated relief valve from the pressure transient that results from cycling the block valve.

If pressurizer spray is not available or is not effective, either one of the two pressurizer PORVs may be manually actuated to depressurize the RCS to mitigate the consequences of a steam generator tube rupture. Not performing the surveillance on the block valve is not relevant to the primary system for depressurizing the RCS (pressurizer spray). The block valves have been demonstrated by operating experience to be reliable and are also subject to the motor-operated valve testing program. Consequently, the proposed change does not significantly reduce the confidence that the block valve can be opened to permit manual actuation of the PORV to depressurize the RCS to mitigate an accident.

Therefore, the proposed change does not involve a significant increase in the consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different accident from any accident previously evaluated?

Response: No.

The proposed change only affects the performance of the surveillance test for the block valve and does not introduce any operating configurations not previously evaluated.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change to the SR for the block valve for the pressurizer PORV does not affect the assumptions in any accident analyses. There are no changes in plant performance parameters associated with the proposed change to the SR for the block valve.

Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

Accordingly, the Commission has determined that this amendment involves no significant hazards considerations.

6.0 STATE CONSULTATION

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

7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 amendment involves 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 published October 6, 2004 (69 FR 59969). 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.

8.0 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 Contributor: D. Jaffe

Date: October 21, 2004

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