



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

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-499

SOUTH TEXAS PROJECT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 106  
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 Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and the City of Austin, Texas (COA) (the licensees), dated August 31, 1998, as supplemented by letters dated April 19, August 18, and October 21, 1999, 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 Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio, Central Power and Light 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. 106 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee 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



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

Attachment: Changes to the Technical  
Specifications

Date of Issuance: November 9, 1999

ATTACHMENT TO LICENSE AMENDMENT NOS. 118 AND 106

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

DOCKET NOS. 50-498 AND 50-499

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

REMOVE

3/4 4-35

3/4 4-36

3/4 4-37

3/4 4-38

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B 3/4 4-15

B 3/4 4-16

INSERT

3/4 4-35\*

3/4 4-36

3/4 4-37

3/4 4-38

3/4 4-38a

B 3/4 4-15

B 3/4 4-16

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\*Overleaf pages provided to maintain document completeness. No changes on these pages.

## REACTOR COOLANT SYSTEM

### PRESSURIZER

#### LIMITING CONDITION FOR OPERATION

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3.4.9.2 The pressurizer temperature shall be limited to:

- a. A maximum heatup of 100°F in any 1-hour period,
- b. A maximum cooldown of 200°F in any 1-hour period, and
- c. A maximum spray water temperature differential of 621°F.

APPLICABILITY: At all times.

#### ACTION:

With the pressurizer temperature limits in excess of any of the above limits, restore the temperature to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the pressurizer; determine that the pressurizer remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.9.2 The pressurizer temperatures shall be determined to be within the limits at least once per 30 minutes during system heatup or cooldown. The spray water temperature differential shall be determined to be within the limit at least once per 12 hours during auxiliary spray operation.

REACTOR COOLANT SYSTEM  
OVERPRESSURE PROTECTION SYSTEMS  
LIMITING CONDITION FOR OPERATION

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3.4.9.3 An Overpressure Protection System shall be OPERABLE with a maximum of one centrifugal charging pump capable of injecting into the RCS and the emergency core cooling system (ECCS) accumulators isolated and either a. or b. below:

- a. Two power-operated relief valves (PORVs) with lift settings which do not exceed the limit established in Figure 3.4-4, or
- b. The Reactor Coolant System (RCS) depressurized with an RCS vent of greater than or equal to 2.0 square inches.

APPLICABILITY: MODES 4 and 5, and MODE 6 when the head is on the reactor vessel<sup>1</sup>.

ACTION:

- a. With one or more ECCS accumulators not isolated, isolate the ECCS accumulator(s) within 1 hour.
- b. With more than one centrifugal charging pump capable of injecting into the RCS, immediately initiate action to render all but one centrifugal charging pump incapable of injecting into the RCS<sup>2</sup>.
- c. With one PORV inoperable in MODE 4, restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through at least a 2.0 square inch vent within the next 8 hours.
- d. With one PORV inoperable in MODES 5 or 6 with the head on the reactor vessel, restore the inoperable PORV to OPERABLE status within 24 hours, or complete depressurization and venting of the RCS through at least a 2.0 square inch vent within the next 8 hours<sup>3</sup>.
- e. With both PORVs inoperable, depressurize and vent the RCS through at least a 2.0 square inch vent within 8 hours<sup>3</sup>.
- f. In the event either the PORVs or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence.
- g. The provisions of Specification 3.0.4 are not applicable.

# MAXIMUM ALLOWABLE PORV SETPOINT

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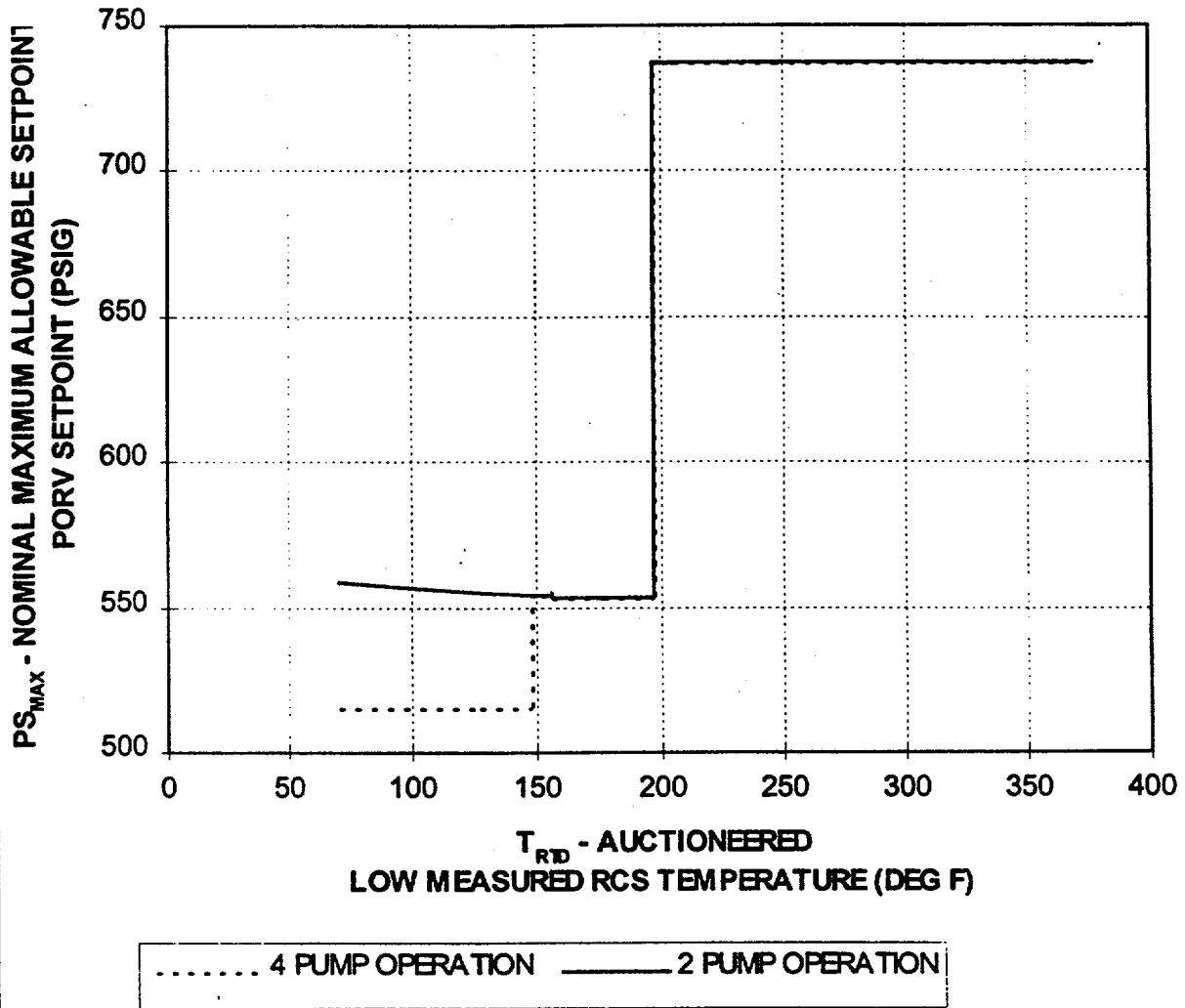


FIGURE 3.4-4

NOMINAL MAXIMUM ALLOWABLE PORV  
SETPOINT FOR THE COLD OVERPRESSURE SYSTEM

REACTOR COOLANT SYSTEM  
OVERPRESSURE PROTECTION SYSTEMS  
SURVEILLANCE REQUIREMENTS

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- 4.4.9.3.1 Each PORV shall be demonstrated OPERABLE by:
- a. Performance of an ANALOG CHANNEL OPERATIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE;
  - b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per 18 months; and
  - c. Verifying the PORV block valve is open at least once per 72 hours when the PORV is being used for overpressure protection.
- 4.4.9.3.2 The RCS vent(s) shall be verified to be open at least once per 12 hours<sup>4</sup> when the vent(s) is being used for overpressure protection.
- 4.4.9.3.3 The positive displacement pump shall be demonstrated inoperable<sup>5</sup> at least once per 31 days, except when the reactor vessel head is removed or when both centrifugal charging pumps are inoperable and secured, by verifying that the motor circuit breakers are secured in the open position.<sup>2</sup>
- 4.4.9.3.4 Verify at least once every 31 days that only one centrifugal charging pump is capable of injecting into the RCS<sup>2</sup>, except when the reactor vessel head is removed, by verifying that the motor circuit breakers are secured in the open position.<sup>2</sup>
- 4.4.9.3.5 Verify at least once every 12 hours that each ECCS accumulator is isolated.

SPECIFICATION NOTATIONS

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<sup>1</sup> ECCS accumulator isolation is required only when ECCS accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by Figures 3.4-2 and 3.4-3.

<sup>2</sup> An inoperable centrifugal charging pump(s) and/or positive displacement charging pump may be energized for testing or pump switching provided the discharge of the pump(s) has been isolated from the RCS by a closed isolation valve with power removed from the valve operator, or by a manual isolation valve secured in the closed position. Reactor coolant pump seal injection flow may be maintained during the RCS isolation process.

<sup>3</sup> This ACTION may be suspended for up to 7 days to allow functional testing to verify PORV operability. During this test period, operation of systems or components which could result in an RCS mass or temperature increase will be administratively controlled. During the ASME stroke testing of two inoperable PORVS, cold overpressurization mitigation will be provided by two RHR discharge relief valves associated with two OPERABLE and operating RHR loops which have the auto closure interlock bypassed [or deleted]. If one PORV is inoperable, cold overpressure mitigation will be provided by the OPERABLE PORV and one RHR discharge relief valve associated with an OPERABLE and operating RHR loop which has the auto closure interlock bypassed [or deleted].

<sup>4</sup> Except when the vent pathway is provided with a valve that is locked, sealed, or otherwise secured in the open position, then verify these valves open at least once per 31 days.

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<sup>5</sup> The provisions of 3.0.4 and 4.0.4 are not applicable for entry into MODE 4 from MODE 3 while making all but one centrifugal charging pump incapable of injecting into the RCS pursuant to Specification 4.4.9.3.4, and for the positive displacement pump declared inoperable pursuant to Specification 4.4.9.3.3 provided that all but one centrifugal charging pump is made incapable of injecting into the RCS, and the positive displacement pump is declared inoperable within 4 hours after entry into MODE 4 from MODE 3 or prior to the temperature of one or more of the RCS cold legs decreasing below 325°F, whichever comes first.



## REACTOR COOLANT SYSTEM

### BASES

#### LOW TEMPERATURE OVERPRESSURE PROTECTION (Continued)

overshoot beyond the PORV Setpoint which can occur as a result of time delays in signal processing and valve opening, instrument uncertainties, and single failure. To ensure that mass and head input transients more severe than those assumed cannot occur, Technical Specifications require lockout of all high head safety injection pumps while in MODE 5 and MODE 6 with the reactor vessel head on. All but one high head safety injection pump are required to be locked out in MODE 4. Technical Specifications also require lockout of the positive displacement pump and all but one charging pump while in MODES 4, 5, and 6 with the reactor vessel head installed and disallow start of an RCP if secondary temperature is more than 50°F above primary temperature. The Technical Specifications also require ECCS accumulator isolation when ECCS accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by Figures 3.4-2 and 3.4-3.

Administrative controls and two RHR relief valves will be used to provide cold overpressure protection (COMS) during the ASME stroke testing of two administratively declared inoperable PORVs. During the performance of the PORV function test, two RHR trains will be OPERABLE and in operation with the auto closure interlock bypassed (or deleted) to provide COMS.

With one PORV inoperable, COMS will be provided during the ASME test by the OPERABLE PORV and one RHR relief valve associated with an OPERABLE and operating RHR train which has the auto closure interlock bypassed (or deleted). Each RHR relief valve provides sufficient capacity to relieve the flow resulting from the maximum charging flow with concurrent loss of letdown. Analysis conservatively demonstrates that the RHR relief valves limit RCS pressure to approximately 590 psig.

Therefore two OPERABLE and operating RHR trains or one OPERABLE PORV and one OPERABLE and operating RHR train will provide adequate and redundant overpressure protection. Use of the RHR relief valves will maintain the RCS pressure below the low temperature limits of ASME Section III, Appendix G.

With regard to the MODE 6 applicability of this Technical Specification, the statement "with the head on the reactor vessel" means any time the head is installed with or without tensioning the RPV studs.

The Maximum Allowed PORV Setpoint for the COMS will be updated based on the results of examinations of reactor vessel material irradiation surveillance specimens performed as required by 10 CFR Part 50, Appendix H.

## REACTOR COOLANT SYSTEM

### BASES

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#### 3/4.4.10 STRUCTURAL INTEGRITY

The inservice inspection and testing programs for ASME Code Class 1, 2, and 3 components ensure that the structural integrity and operational readiness of these components will be maintained at an acceptable level throughout the life of the plant. These programs are in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50.55a(g) except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i).

Components of the Reactor Coolant System were designed to provide access to permit inservice inspections in accordance with Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition and Addenda through Winter 1975.

#### 3/4.4.11 REACTOR VESSEL HEAD VENTS

Reactor vessel head vents are provided to exhaust noncondensable gases and/or steam from the Reactor Coolant System that could inhibit natural circulation core cooling. The OPERABILITY of at least two reactor vessel head vent paths ensures that the capability exists to perform this function.

The valve redundancy of the reactor vessel head vent paths serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a vent valve, power supply, or control system does not prevent isolation of the vent path.

The function, capabilities, and testing requirements of the reactor vessel head vents are consistent with the requirements of Item II.B.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.