

August 19, 1999

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

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS
RE: ATMOSPHERIC STEAM RELIEF VALVES (TAC NOS. MA5078 AND
MA5079)

Dear Mr. Cottle:

The Commission has issued the enclosed Amendment No. 114 to Facility Operating License No. NPF-76 and Amendment No. 102 to Facility Operating License No. NPF-80 for the South Texas Project, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated March 22, 1999, as supplemented by letter dated July 15, 1999.

The amendments revise TS 3/4.7.1.6, "Atmospheric Steam Relief Valves," and add a new TS for atmospheric steam relief valve instrumentation, to ensure that the automatic feature of the steam generator power-operated relief valves (i.e., the atmospheric steam relief valves) remains operable during Modes 1 and 2.

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

Sincerely,

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

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Docket Nos. 50-498 and 50-499

Enclosures:

1. Amendment No. 114 to NPF-76
2. Amendment No. 102 to NPF-80
3. Safety Evaluation

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South Texas, Units 1 & 2

cc:

Mr. Cornelius F. O'Keefe
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 910
Bay City, TX 77414

A. Ramirez/C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

Mr. M. T. Hardt
Mr. W. C. Gunst
City Public Service Board
P. O. Box 1771
San Antonio, TX 78296

Mr. G. E. Vaughn/C. A. Johnson
Central Power and Light Company
P. O. Box 289
Mail Code: N5012
Wadsworth, TX 74483

INPO

Records Center
700 Galleria Parkway
Atlanta, GA 30339-3064

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

D. G. Tees/R. L. Balcom
Houston Lighting & Power Co.
P. O. Box 1700
Houston, TX 77251

Judge, Matagorda County
Matagorda County Courthouse
1700 Seventh Street
Bay City, TX 77414

Jack R. Newman, Esq.
Morgan, Lewis & Bockius
1800 M Street, N.W.
Washington, DC 20036-5869

Mr. T. H. Cloninger
Vice President
Engineering & Technical Services
STP Nuclear Operating Company
P. O. Box 289
Wadsworth, TX 77483

Office of the Governor
ATTN: John Howard, Director
Environmental and Natural
Resources Policy
P. O. Box 12428
Austin, TX 78711

Jon C. Wood
Matthews & Branscomb
One Alamo Center
106 S. St. Mary's Street, Suite 700
San Antonio, TX 78205-3692

Arthur C. Tate, Director
Division of Compliance & Inspection
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756

Jim Calloway
Public Utility Commission of Texas
Electric Industry Analysis
P. O. Box 13326
Austin, TX 78711-3326



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

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 114
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 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 March 22, 1999, as supplemented by letter dated July 15, 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.

*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.

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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. 114, 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: August 19, 1999



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. 102
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 March 22, 1999, as supplemented by letter dated July 15, 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.

*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. 102 , 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: August 19, 1999

ATTACHMENT TO LICENSE AMENDMENT NOS. 114 AND 102

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.

<u>Remove</u>	<u>Insert</u>
vi	vi
xiii	xiii
--	3/4 3-85
--	3/4 3-86
--	3/4 3-87
3/4 7-9	3/4 7-9*
3/4 7-10	3/4 7-10
B 3/4 3-6	B 3/4 3-6
B 3/4 7-3	B 3/4 7-3
B 3/4 7-3a	B 3/4 7-3a

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

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INSTRUMENTATION

3/4.3.5 ATMOSPHERIC STEAM RELIEF VALVE INSTRUMENTATION

LIMITING CONDITION FOR OPERATION:

3.3.5.1 The atmospheric steam relief valve instrumentation shown in Table 3.3-14 shall be OPERABLE.

APPLICABILITY: As shown in Table 3.3-14

ACTION: As shown in Table 3.3-14

SURVEILLANCE REQUIREMENTS:

- 4.3.5.1 Perform a CHANNEL CHECK on each atmospheric steam relief valve automatic actuation channel at least once per 12 hours.
- 4.3.5.2 Perform a CHANNEL CALIBRATION on each atmospheric steam relief valve automatic actuation channel at a nominal setpoint of 1225 psig \pm 7 psi at least once every 18 months.
- 4.3.5.3 Perform an ANALOG CHANNEL OPERATIONAL TEST on each atmospheric steam relief valve automatic actuation channel at a nominal setpoint of 1225 psig \pm 7 psi at least once every 18 months.

TABLE 3.3-14ATMOSPHERIC STEAM RELIEF VALVE INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>REQUIRED NO. OF CHANNELS</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
Manual actuation control channels	4 (1 / valve)	1, 2, 3, 4*	1
Automatic actuation control channels	4 (1 / valve)	1, 2 [#]	2

TABLE 3.3-14 (Continued)

TABLE NOTATIONS

- * When steam generators are being used for decay heat removal.
- # Atmospheric steam relief valve(s) may be in manual operation and open to maintain secondary side pressure at or below an indicated steam generator pressure of 1225 psig.

ACTION STATEMENTS

ACTION 1 - With the number of OPERABLE channels less than the required number of channels, declare the affected valve(s) inoperable and apply Technical Specification 3.7.1.6.

- ACTION 2 -**
- a. With one less than the required number of OPERABLE channels, restore the inoperable channel to OPERABLE status within 7 days; or be in at least HOT STANDBY within the next 6 hours.
 - b. With two less than the required number of OPERABLE channels, restore at least three channels to OPERABLE status within 72 hours; or be in at least HOT STANDBY within the next 6 hours.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.5 Each main steam line isolation valve (MSIV) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

MODE 1:

With one MSIV inoperable but open, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

MODES 2 and 3:

With one MSIV inoperable, subsequent operation in MODE 2 or 3 may proceed provided the isolation valve is maintained closed. Otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.5 Each MSIV shall be demonstrated OPERABLE by verifying full closure within 5 seconds when tested pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

PLANT SYSTEMS

ATMOSPHERIC STEAM RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 At least four atmospheric steam relief valves shall be OPERABLE. |

APPLICABILITY: MODES 1, 2, 3, and 4.*

ACTION:

- a. With one less than the required atmospheric steam relief valves OPERABLE, restore the required atmospheric steam relief valves to OPERABLE status within 7 days; or be in at least HOT STANDBY with the next 6 hours and in HOT SHUTDOWN within the following 6 hours and place the required RCS/RHR loops in operation for decay heat removal.
- b. With two less than the required atmospheric relief valves OPERABLE, restore at least three atmospheric relief valves to OPERABLE status within 72 hours or be in at least HOT STANDBY with the next 6 hours and in HOT SHUTDOWN within the following 6 hours and place the required RCS/RHR loops in operation for decay heat removal.

SURVEILLANCE REQUIREMENTS

4.7.1.6 Each atmospheric relief valve shall be demonstrated OPERABLE prior to startup following any COLD SHUTDOWN of 30 days or longer or following any refueling shutdown, by verifying that all valves will open and close fully by operation of automatic and manual controls. |

*When steam generators are being used for decay heat removal.

INSTRUMENTATION

BASES

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION (Continued)

quadrant. The unit specific response to Item II.F.2 of NUREG-0737 further discusses the core exit thermocouples. Two sets of two thermocouples ensure a single failure will not disable the ability to determine the radial temperature gradient. The subcooling margin monitor requirements are not affected by allowing 2 thermocouples/channel/quadrant as long as each channel has at least four operable thermocouples in any quadrant (e.g., A Train has four operable thermocouples in one of the quadrants, and C Train has four operable thermocouples in the same quadrant or any other quadrant.). This preserves the ability to withstand a single failure.

3/4.3.3.7 (Not Used)

3/4.3.3.8 (Not Used)

3/4.3.3.9 (Not Used)

3/4.3.3.10 DELETED

3/4.3.3.11 EXPLOSIVE GAS MONITORING INSTRUMENTATION

This instrumentation includes provisions for monitoring (and controlling) the concentrations of potentially explosive gas mixtures in the GASEOUS WASTE PROCESSING SYSTEM.

3/4.3.4 (Not Used)

3/4.3.5 ATMOSPHERIC STEAM RELIEF VALVE INSTRUMENTATION

The atmospheric steam relief valve manual controls must be OPERABLE in Modes 1, 2, 3, and 4 (Mode 4 when steam generators are being used for decay heat removal) to allow operator action needed for decay heat removal and safe cooldown in accordance with Branch Technical Position RSB 5-1.

The atmospheric steam relief valve automatic controls must be OPERABLE with a nominal setpoint of 1225 psig in Modes 1 and 2 because the safety analysis assumes automatic operation of the atmospheric steam relief valves with a nominal setpoint of 1225 psig with uncertainties for mitigation of the small break LOCA. In order to support startup and shutdown activities (including post-refueling low power physics testing), the atmospheric steam relief valves may be operated in manual and open in Mode 2 to maintain the secondary side pressure at or below an indicated steam generator pressure of 1225 psig.

The uncertainties in the safety analysis assume a channel calibration on each atmospheric steam relief valve automatic actuation channel, including verification of automatic actuation at the nominal 1225 psig setpoint, every 18 months.

PLANT SYSTEMS

BASES

3/4.7.1.6 ATMOSPHERIC STEAM RELIEF VALVES

The atmospheric steam relief valves are required for decay heat removal and safe cooldown in accordance with Branch Technical Position RSB 5-1. In the safety analyses, operation of the atmospheric steam relief valves is assumed in accident analyses for mitigation of small break LOCA, feedwater line break, loss of normal feedwater and loss-of-offsite power.

The atmospheric steam relief valve manual controls must be OPERABLE in Modes 1, 2, 3, and 4 (Mode 4 when steam generators are being used for decay heat removal) to allow operator action needed for decay heat removal and safe cooldown in accordance with Branch Technical Position RSB 5-1.

The atmospheric steam relief valve automatic controls must be OPERABLE with a nominal setpoint of 1225 psig in Modes 1 and 2 because the safety analysis assumes automatic operation of the atmospheric steam relief valves with a nominal setpoint of 1225 psig with uncertainties for mitigation of the small break LOCA. In order to support startup and shutdown activities (including post-refueling low power physics testing), the atmospheric steam relief valves may be operated in manual and open in Mode 2 to maintain the secondary side pressure at or below an indicated steam generator pressure of 1225 psig.

The verification that all atmospheric steam relief valves will open and close fully prior to startup following a COLD SHUTDOWN of 30 days or longer, or following any refueling shutdown, allows for operation using either manual or automatic controls.

3/4.7.1.7 FEEDWATER ISOLATION VALVES

The OPERABILITY of the feedwater isolation valves ensures that no more than one steam generator will blow down in the event of a steam line or feedwater line rupture. The operability of the Feedwater Isolation valves will minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and limit the pressure rise within containment. The OPERABILITY of the feedwater isolation valves within the closure times of the Surveillance Requirements are consistent with the assumptions used in the safety analysis.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure-induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 10°F and are sufficient to prevent brittle fracture.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the Component Cooling Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

PLANT SYSTEMS

BASES

3/4.7.4 ESSENTIAL COOLING WATER SYSTEM

The OPERABILITY of the Essential Cooling Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

When a risk-important system or component (for example Essential Cooling Water) is taken out of service, it is important to assure that the impact on plant risk of this and other equipment simultaneously taken out of service can be assessed. The Configuration Risk Management Program evaluates the impact on plant risk of equipment out of service. A brief description of the Configuration Risk Management Program is in Section 6.8.3 (administration section) of the Technical Specification.

3/4.7.5 ULTIMATE HEAT SINK

The limitations on the ultimate heat sink level and temperature ensure that sufficient cooling capacity is available either: (1) provide normal cooldown of the facility or (2) mitigate the effects of accident conditions within acceptable limits.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 114 AND 102 TO

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

STP NUCLEAR OPERATING COMPANY, ET AL.

DOCKET NOS. 50-498 AND 50-499

SOUTH TEXAS PROJECT, UNITS 1 AND 2

1.0 INTRODUCTION

By application dated March 22, 1999, as supplemented by letter dated July 15, 1999, STP Nuclear Operating Company, et al. (the licensee), requested changes to the South Texas Project (STP), Units 1 and 2, Technical Specifications (TSs). The proposed changes would revise TS 3/4.7.1.6, "Atmospheric Steam Relief Valves," and add a new TS for atmospheric steam relief valve instrumentation, to ensure that the automatic feature of the steam generator power-operated relief valves (i.e., the atmospheric steam relief valves) remains operable during Modes 1 and 2.

The July 15, 1999, supplement provided revised TS pages and clarifying information that was within the scope of the original *Federal Register* notice and did not change the staff's initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

The licensee proposed a change to the TSs governing the steam generator power-operated relief valves for its STP plants that would require the steam generator power-operated relief valves to be operable during operating Modes 1 through 3, and in Mode 4 when steam generators are being used to remove decay heat. This revision would permit the licensee to credit steam generator power-operated relief valve operation in Modes 1 and 2 small-break loss-of-coolant accident (SBLOCA) licensing analyses.

3.0 EVALUATION

3.1 Steam Generator Power-Operated Relief Valve Features

In its submittal, the licensee provided information describing the steam generator power-operated relief valves and their operation. In describing the steam generator power-operated relief valves, the licensee identified that the valves, their construction, motive power, and controls are all safety grade. Each steam generator power-operated relief valve has a self-contained motive operator with its own reservoir of fluid, such that the valve can be cycled indefinitely without exhausting the motive fluid supply. Electrical devices associated with the steam generator power-operated relief valve motive power and controls are supplied with

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Class 1E power. The steam generator power-operated relief valves open and close at pressure setpoints programmed into their controllers from the control room. The valves can be opened or closed from the control room. The staff concludes that the steam generator power-operated relief valves and their functional controls are safety grade.

3.2 TS Changes

The proposed change requests a revision to TS 3/4.7.1.6, "Atmospheric Steam Relief Valves." The proposed change also requests a new TS, TS 3/4.3.5, "Atmospheric Steam Relief Valve Instrumentation."

The new instrumentation TS ensures the automatic control feature of the steam generator power-operated relief valve remains operable during Modes 1 and 2. This will allow mitigation of the consequences of an SBLOCA and will meet the requirements of 10 CFR 50.46. The proposed change adds an associated surveillance to the new instrumentation TS that requires that a channel calibration on the steam generator power-operated relief valve, which includes verification of automatic actuation at the 1225 psig setpoint with uncertainties, be performed every 18 months. This surveillance interval is consistent with assumed uncertainties in the safety analysis to ensure the steam generator power-operated relief valves will perform their intended function. In addition, by letter dated July 15, 1999, the licensee proposed additional surveillances on each steam generator power-operated relief valve automatic actuation channel consisting of a channel check at least once per 12 hours and an analog channel operational test at least once every 18 months. These additional surveillances will provide a high degree of confidence of the operational availability of the automatic controls during reactor operation.

The new instrumentation specification allows manual operation of the steam generator power-operated relief valve(s) in Mode 2 if being used to maintain the secondary side pressure at or below an indicated steam generator pressure of 1225 psig. This condition is required during plant startup to place a steam load on the plant to control primary plant temperature. The action statements for an inoperable automatic actuation control channel(s) are consistent with those for the manual actuation control channels except that only Mode 3 is required to be achieved if the allowed outage times cannot be met.

The requirement for manual controls for steam generator power-operated relief valves to be operable in Modes 1 through 4 are moved from TS 3.7.1.6 to the new instrumentation TS. The limiting condition for operation, applicability, and action statements for manual controls remain unchanged from that currently found in TS 3.7.1.6.

TS 3.7.1.6 is revised to delete manual controls as a limiting condition for operation for the steam generator power-operated relief valves. The limiting condition for manual controls is moved to the new instrumentation TS. Surveillance Requirement (SR) 4.7.1.6 is revised to reflect that valve operation must be verified by operation using both automatic and manual controls following any cold shutdown of 30 days or longer or following any refueling shutdown. The wording "any cold shutdown of 30 days or longer following any refueling shutdown" is rearranged to clarify that SR 4.7.1.6 should be performed following any refueling shutdown regardless of duration.

The licensee has also proposed Bases for the new and revised TSs. The proposed Bases are consistent with the proposed TSs and indicate that the proposed TSs are consistent with uncertainties assumed in the safety analyses.

Based on the above, the staff finds that the proposed TSs and Bases are adequate to ensure that the licensing basis SBLOCA analyses assumptions are met.

3.3 Summary

Based on the safety-grade design of the STP steam generator power-operated relief valves, as governed by the proposed TSs and their Bases, and the stated consistency of the steam generator power-operated relief valves and their controls with the uncertainties assumed in the STP licensing safety analyses, the staff finds that the proposed TSs and Bases are acceptable and also finds that the licensee may credit the performance of the steam generator power-operated relief valves in the STP SBLOCA licensing analyses for Modes 1 and 2.

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 and change surveillance requirements. 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 (64 FR 19565). 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: F. Orr
T. Alexion

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