



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

September 30, 2004
NOC-AE-04001795
10CFR50.91

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

South Texas Project
Units 1 and 2
Docket Nos. 50-498 and 50-499
Proposed Change to Technical Specification Surveillance Requirement 4.4.4.2,
“Reactor Coolant System Relief Valves”

STP Nuclear Operating Company (STPNOC) is submitting the attached proposed change to Technical Specification (TS) Surveillance Requirement 4.4.4.2, “Reactor Coolant System Relief Valves.” The purpose of this change is to alleviate the requirement to perform the quarterly operability surveillance on a Pressurizer Power Operated Relief Valve (PORV) block valve that is being maintained closed in accordance with TS 3.4.4 Action a. The proposed change is consistent with changes approved in Technical Specification Task Force traveler TSTF-284, Revision 3 and with the requirements of the standard Improved Technical Specifications (NUREG-1431).

Exigent approval of the proposed license amendment is requested in order to preclude performance of Surveillance Requirement (SR) 4.4.4.2 for the Unit 2 PORV 655A block valve, which is due to be performed by October 21, 2004. Unit 2 PORV 655A was declared inoperable due to excessive seat leakage on September 9, 2004, and its associated block valve was closed 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 lift momentarily during the block valve stroke. Although we fully expect the PORV to reseat, performance of this surveillance represents an unnecessary challenge to the Reactor Coolant System pressure boundary.

Entry into the required action of TS 3.4.4 could not reasonably have been foreseen or anticipated. Therefore, STPNOC requests approval of this license amendment application on an exigent basis

by October 21, 2004 (the block valve surveillance due date, including grace period) in order to avoid unnecessary potential operation of the PORV.

The STPNOC Plant Operations Review Committee has reviewed and concurred with the proposed change to the Technical Specifications.

In accordance with 10 CFR 50.91(b), STPNOC is notifying the State of Texas of this request for license amendment by providing a copy of this letter and its attachments.

There are no new commitments in this letter.

If there are any questions regarding the responses, please contact Mr. S. M. Head at (361) 972-7136 or me at (361) 972-7902.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 30, 2004.

date


T. J. Jordan
Vice President, Engineering
& Technical Services

jrm/

Attachments:

1. Description of Changes and Safety Evaluation
2. Annotated Technical Specification Page
3. Revised Technical Specification Page

cc:
(paper copy)

Bruce S. Mallett
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Richard A. Ratliff
Bureau of Radiation Control
Texas Department of State Health Services
1100 West 49th Street
Austin, TX 78756-3189

Jeffrey Cruz
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

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

(electronic copy)

A. H. Gutterman, Esquire
Morgan, Lewis & Bockius LLP

L. D. Blaylock
City Public Service

David H. Jaffe
U. S. Nuclear Regulatory Commission

R. L. Balcom
Texas Genco, LP

C. A. Johnson
AEP Texas Central Company

Jon C. Wood
Matthews & Branscomb

Description of Changes and Safety Evaluation

1.0 Description

This letter is a request to amend Operating License NPF-76 for Unit 1 and Operating License NPF-80 for Unit 2. The purpose of this change is to revise Surveillance Requirement (SR) 4.4.4.2 to no longer require performance of the quarterly Operability valve stroke test on a Pressurizer Power Operated Relief Valve (PORV) block valve which has been closed in accordance with Technical Specification (TS) 3.4.4 Action a. The proposed change is consistent with changes approved in Technical Specification Task Force traveler TSTF-284, Revision 3 and with the requirements of the standard Improved Technical Specifications (NUREG-1431).

2.0 Proposed Change

STP Nuclear Operating Company (STPNOC) proposes to change SR 4.4.4.2 to remove the specific exceptions to TS 3.4.4 Actions b. and c. such that a block valve closed in accordance with any of the applicable actions of TS 3.4.4 would be excluded from the performance of SR 4.4.4.2. The proposed surveillance would read as shown below:

4.4.4.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in accordance with the ACTIONS of Specification 3.4.4.

The revised TS markup is provided in Attachment 3. The TS Bases should not require revision since the change is self-explanatory, and there is no specific discussion of SR 4.4.4.2 in the current TS Bases.

3.0 Background

System Description

The pressurizer PORVs are pilot-assisted, solenoid-actuated valves, which respond to a signal from a pressure sensing system or to manual control. A remotely-operated PORV block valve is located upstream of each PORV to isolate the PORV if excessive leakage develops and to provide backup isolation capability should the PORV fail to close. The pressurizer PORVs provide the safety-related means for Reactor Coolant System (RCS) depressurization to achieve cold shutdown.

As stated in the STP Technical Specification Bases:

“The power-operated relief valves (PORVs) and steam bubble function to relief RCS pressure during all design transients up to and including the design step load decrease with steam dump. Operation of the PORVs minimizes the undesirable opening of the spring-loaded pressurizer Code safety valves. Each PORV has a remotely operated block valve to provide a positive shutoff capability should a relief valve become inoperable.

The OPERABILITY of the PORVs and block valves is determined on the basis of their being capable of performing the following functions:

- A. Manual control of PORVs is used to control reactor coolant system pressure. This is a function that is used for the steam generator tube rupture accident and for plant shutdown. Manual control of PORVs is a safety-related function.
- B. Maintaining the integrity of the reactor coolant pressure boundary. This is a function that is related to controlling identified leakage and ensuring the ability to detect unidentified reactor coolant pressure boundary leakage.
- C. Manual control of the block valve to: (1) unblock an isolated PORV to allow it to be used for manual control of reactor coolant system pressure (Item A), and (2) isolate the PORV with excessive seat leakage (Item B).
- D. Manual control allows a block valve to isolate a stuck-open PORV.”

Pressurizer Spray is the primary method to depressurize the reactor coolant system specified in the STP emergency operating procedure. Depressurization may be performed with a PORV if Pressurizer Spray is unavailable or not effective.

Background

TS 3.4.4, “Reactor Coolant System Relief Valves,” requires that both Power Operated Relief Valves and their associated block valves be operable in Modes 1, 2 and 3.

Unit 2 PORV 655A was declared inoperable due to excessive seat leakage on September 9, 2004, and in accordance with TS 3.4.4 Action a., its associated block valve was closed. The surveillance test period for performance of SR 4.4.4.2 for the block valve will expire on October 21, 2004.

Reason for requesting change on an exigent basis

Elevated temperatures were observed on the pressurizer discharge header due to minor PORV 655A leakage during startup from 2RE10. Following valve reseating 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 was leaking by, and as a result of the leak-by 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 leak-by had allowed the piping between the block valve and the PORV to depressurize during the troubleshooting time period, the momentary lift 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 were to remain open and the PORV continue to leak by, 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 lift momentarily during the block valve stroke. Although the PORV is expected to reseal, 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 is 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. Therefore, STPNOC requests approval of this license amendment application on an exigent basis by October 21, 2004 (the block valve surveillance due date, including grace period) in order to avoid unnecessary operation of the PORV.

Condition that the proposed amendment is intended to resolve

The purpose of this proposed amendment TS is to alleviate the requirement to perform stroke testing of a PORV block valve that has been closed in accordance with the actions of its applicable Limiting Condition for Operation. Operation of the block valve is expected to result in momentary lifting of the PORV and unnecessarily challenge the RCS pressure boundary.

The proposed change is consistent with Technical Specification Task Force traveler TSTF-284, Revision 3, and standard Improved Technical Specifications (NUREG-1431).

4.0 Technical Evaluation

The Pressurizer PORVs are designed to limit pressurizer pressure to a value below the fixed high-pressure reactor trip setpoint. They are designed to fail to the closed position on loss of power supply.

The pressurizer PORVs are not required to open in order to prevent the overpressurization of the RCS. The 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 and the subsequent failure of the PORVs to open will result in higher reactor coolant pressures, but will not cause any overpressurization problems.

With one PORV inoperable due to excessive seat leakage, TS 3.4.4 allows continued operation of the unit provided that the associated block valve is closed with power maintained to the block valve. Although inoperable due to excessive seat leakage, the PORV remains capable of being manually operated.

The requirement to open the block valve in this condition represents an unnecessary challenge to the integrity of the RCS pressure boundary, and increases the potential for further degradation to the PORV.

Not performing the surveillance on the PORV block valve is not significant to assuring the block valve is capable of opening to allow operation of the PORV. The valves have been shown to be reliable by operating experience and are also subject to STPNOC's motor-operated valve testing program.

The proposed changes are consistent with TSTF-284, Revision 3, and the standard Improved Technical Specifications; and eliminate the requirement to needlessly challenge the integrity of the PORV and the RCS pressure boundary.

5.0 Regulatory Evaluation

Determination of No Significant Hazards:

STPNOC has reviewed the proposed amendment request and determined that its adoption 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 power operated relief valve is not a potential accident initiator. Therefore, not requiring a surveillance of the block valve while it is being used to isolate its associated power operated relief valve 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 power operated relief valve 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 power operated relief valves may be manually actuated to depressurize the reactor coolant system 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 reactor coolant system (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 power operated relief valve to depressurize the reactor coolant system 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, STPNOC concludes 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 surveillance requirement for the block valve for the pressurizer power operated relief valve does not affect the assumptions in any accident analyses. There are no changes in plant performance parameters associated with the proposed change to the surveillance requirement for the block valve. Therefore, STPNOC concludes the proposed changes do not involve a significant reduction in the margin of safety.

Based upon the analysis provided herein, the proposed amendments do not involve a significant hazards consideration.

In conclusion, based on the considerations discussed above, (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 approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

6.0 Environmental Evaluation

STPNOC has evaluated the proposed changes and determined the changes do not involve (1) a significant hazards consideration, (2) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (3) a significant increase in the individual or cumulative occupational exposure. Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), and an environmental assessment of the proposed changes is not required.

7.0 References:

1. Industry/Technical Specification Task Force Traveler TSTF-284, Revision 3.
2. Standard Improved Technical Specifications, Revision 3, Specification 3.4.11, "Pressurizer PORVs."

Annotated Technical Specification Page

REACTOR COOLANT SYSTEM

3/4.4.4 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.4 Both power-operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one or both PORV(s) inoperable, because of excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With one PORV inoperable due to causes other than excessive seat leakage, within 1 hour either restore the PORV to OPERABLE status or close the associated block valve and remove power from the block valve; restore the PORV to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With both PORVs inoperable due to causes other than excessive seat leakage, within 1 hour either restore at least one of the PORVs to OPERABLE status or close their associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.
- d. With one block valve inoperable, within 1 hour restore the block valve to operable status or place its associated PORV in closed position; restore the block valve to operable status within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- e. With both block valves inoperable, within 1 hour restore the block valves to operable status or place the associated PORVs in the closed position; restore at least one block valve to OPERABLE status within the next hour; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- f. The provisions of Specification 3.0.4 are not applicable.

REACTOR COOLANT SYSTEM

RELIEF VALVES

SURVEILLANCE REQUIREMENTS

4.4.4.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by:

- a. Performing a CHANNEL CALIBRATION on the actuation channel, and
- b. Operating the valve through one complete cycle of full travel.

4.4.4.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in order to meet the requirements of ACTION b. or c. in accordance with the ACTIONS of Specification 3.4.4.

Revised Technical Specification Page

REACTOR COOLANT SYSTEM

RELIEF VALVES

SURVEILLANCE REQUIREMENTS

4.4.4.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by:

- a. Performing a CHANNEL CALIBRATION on the actuation channel, and
- b. Operating the valve through one complete cycle of full travel.

4.4.4.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in accordance with the ACTIONS of Specification 3.4.4.