
Industry/TSTF Standard Technical Specification Change Traveler

Revision to Frequency for CFT for PORV

NUREGs Affected: 1430 1431 1432 1433 1434

Classification: 1) Technical Change

Recommended for CLIP?: Yes

Priority: 1) High

Simple or Complex Change: Simple

Correction or Improvement: Correction

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1.0 Description

NUREG-1430, SR 3.4.12.7, currently requires that the Channel Functional Test (CFT) for the Pressure Operated Relief Valve (PORV) be performed at two Frequencies. First, within 12 hours after decreasing RCS temperature below the LTOP System Applicability temperature, and second, every 31 days thereafter. These Frequencies do not allow the Surveillance to be performed prior to entering the MODE of Applicability, which is desirable because performing this CFT requires removing the PORV from service. This change eliminates the first Frequency and substitutes a Note. This allows the CFT to be performed prior to entering the Mode of Applicability if possible, while providing the flexibility to perform the test after entering the MODE of Applicability if necessary. This increases safety by eliminating the requirement to remove the PORV from service to perform the Surveillance when the PORV is needed for overpressure protection. This change is consistent with the similar Surveillance in the Westinghouse and Combustion Engineering ITS NUREGs (NUREG-1431 and NUREG-1432).

2.0 Proposed Change

The Frequency for SR 3.1.12.7 states, "Within 12 hours after decreasing RCS temperature to \leq [283] $^{\circ}$ F AND 31 days thereafter." This change revised the Frequency to state, "31 days," and adds a Surveillance Note which states, "Not required to be performed until [12] hours after decreasing RCS cold leg temperature to \leq [283] $^{\circ}$ F."

The Bases are revised to reflect the change. The revised Bases are similar to that used in NUREG-1432.

3.0 Background

The LTOP System controls RCS pressure at low temperatures so the integrity of the RCS pressure boundary is not compromised by violating pressure and temperature (P/T) requirements of 10 CFR 50, Appendix G. The reactor vessel is the limiting RCS pressure boundary component for providing such protection. This LCO provides RCS overpressure protection in the applicable MODES by ensuring an adequate pressure relief capacity and a minimum coolant addition capacity.

When operating in the LTOP mode, each PORV is signaled to open if the RCS pressure approaches a limit set in the LTOP actuation circuit. The LTOP actuation circuit monitors RCS pressure and determines when an overpressure condition is approached. When the monitored pressure meets or exceeds the setting, the PORV is signaled to open. Maintaining the setpoint within the limits of the LCO ensures that limits will not be exceeded. The Channel Functional Test for the PORV ensures that the setpoint is correct when using the PORV for LTOP.

In performing the CFT for the PORV, the PORV must be removed from service. This defeats this method of overpressure protection during the test.

18-Oct-02

4.0 Technical Analysis

The proposed change will modify Technical Specifications Surveillance Frequency for performing a CFT of the PORV while in LTOP conditions. Specifically, the current Frequency for the performance of the CFT for the PORV, "within [12] hours after decreasing RCS temperature to \leq [283] $^{\circ}$ F AND 31 days thereafter," will be changed to "31 days." The SR will be revised to add a NOTE that states "Not required to be performed until [12] hours after decreasing RCS temperature to \leq [283] $^{\circ}$ F."

The current Frequency requires the Surveillance to be performed after entering LTOP conditions. The other PWR NUREGs, NUREG-1431 and NUREG-1432, allow the Surveillance to be performed after entering the LTOP conditions, but permit the Surveillance to be performed prior to entering the LTOP conditions. This revision to the Frequency will allow the initial performance of this SR to be performed prior to entering the Mode of Applicability and will provide consistency between the NUREGs for PWRs. The advantages of performing this CFT before LTOP is required are (a) a more conservative position of not removing the PORV from service when it is needed for LTOP and, (b) removal of the requirement for entering the CONDITION which results from having the PORV inoperable while in the Mode of Applicability. Currently, the Bases for this Surveillance Requirement (NUREG-1430, SR 3.4.12.7) state that the 31 day Frequency is based on industry accepted practice and is acceptable by experience with equipment reliability. The SR is revised to allow credit to be taken for performance of the CFT within 31 days prior to decreasing RCS pressure below the specified value in the SR. This 31 day Frequency is acceptable for the same reasons that this time frame is acceptable for the routine performance of this CFT.

This SR Frequency change will eliminate removing the PORV from service when LTOP is required, thereby increasing safety and reducing risk by maintaining this overpressure protection operable.

5.0 Regulatory Analysis

5.1 No Significant Hazards Consideration

The TSTF has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No.

This is a revision to the Technical Specifications Surveillance for performing the Channel Functional Test of the Pressure Operated Relief Valve (PORV). Testing of PORV actuation setpoints is not an initiator to any accident previously evaluated. Therefore, the probability of any accident previously evaluated is not increased. Performing Surveillances verifies that equipment is capable of performing its accident mitigation function when required. Therefore, performing Surveillances does not increase the consequences of any accident previously evaluated.

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

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

Response: No.

This revision will not impact the LTOP evaluation analysis. The timeframe to perform the CFT for the PORV will not change the operation of the PORV or its function during accident conditions. No new or different accidents result from performing the CFT prior to entering low temperature conditions.

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

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

Response: No.

Changing the Surveillance Frequency to allow the PORV CFT to be performed before entering Low Temperature Overpressure (LTOP) conditions, rather than after LTOP protection is required, eliminates removing the PORV from service upon entering LTOP conditions. This change will decrease the probability of low temperature overpressurization of the reactor vessel with the PORV inoperable, thereby increasing safety and reducing risk. The time frame for performance of the CFT, prior to entering low temperature conditions, is consistent with the time frame for performance of the CFT after entering low temperature conditions. The revision to perform the CFT for the PORV before entering the low temperature conditions, rather than after entering the low temperature conditions, will not change the margin of safety.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, the TSTF concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

18-Oct-02

5.2 Applicable Regulatory Requirements/Criteria

The proposed change to the Frequency of performing a CFT on the PORV for LTOP protection will ensure that overpressure protection, in accordance with 10 CFR 50, Appendix G, is maintained.

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 Consideration

A review has determined that the proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0 References

None

Revision History

OG Revision 0

Revision Status: Closed

Revision Proposed by: Oconee

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 07-Dec-01

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 07-Dec-01

TSTF Review Information

TSTF Received Date: 02-Apr-02 Date Distributed for Review 02-Apr-02

OG Review Completed: BWOG WOG CEOG BWROG

TSTF Comments:

9/12/02 - TSTF agrees with change but requests clarifications to justification. EXCEL to revise and distribute to TSTF for review.

TSTF Resolution: Supercede Date: 12-Sep-02

18-Oct-02

INSERT 1

- NOTE -

Not required to be performed until [12] hours after decreasing RCS cold leg temperature to \leq [283] $^{\circ}$ F.

INSERT 2

Performance of a CHANNEL FUNCTIONAL TEST is required every 31 days to verify and, as necessary, adjust the PORV open setpoints. The CHANNEL FUNCTIONAL TEST will verify on a monthly basis that the PORV lift setpoints are within the LCO limit. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. PORV actuation could depressurize the RCS and is not required. The 31 day Frequency is based on industry accepted practice and is acceptable by experience with equipment reliability.

A NOTE has been added indicating that this SR is required to be performed within [12] hours after decreasing RCS cold leg temperature to \leq [283] $^{\circ}$ F. The [12] hour Frequency considers the unlikelihood of a low temperature overpressure event during the time.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
----- - NOTE - Only required to be met when complying with LCO 3.4.12.b. -----		
SR 3.4.12.6	Verify required RCS vent \geq [0.75] square inch is open.	12 hours for unlocked open vent valve(s) <u>AND</u> 31 days for other vent path(s)
SR 3.4.12.7	Perform CHANNEL FUNCTIONAL TEST for PORV.	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Within [12] hours after decreasing RCS temperature to \leq [283]°F </div> <u>AND</u> 31 days thereafter
SR 3.4.12.8	Perform CHANNEL CALIBRATION for PORV.	[18] months

Insert 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

The passive vent path arrangement must only be open to be OPERABLE.

A Note modifies the SR by requiring the Surveillance to only be met when complying with LCO 3.4.12.b.

SR 3.4.12.7

(Insert 2) A CHANNEL FUNCTIONAL TEST is required within [12] hours after decreasing RCS temperature to \leq [283] $^{\circ}$ F and every 31 days thereafter to ensure the setpoint is proper for using the PORV for LTOP. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. PORV actuation is not needed, as it could depressurize the RCS.

The [12] hour Frequency considers the unlikelihood of a low temperature overpressure event during the time. The 31 day Frequency is based on industry accepted practice and is acceptable by experience with equipment reliability.

SR 3.4.12.8

The performance of a CHANNEL CALIBRATION is required every [18] months. The CHANNEL CALIBRATION for the LTOP setpoint ensures that the PORV will be actuated at the appropriate RCS pressure by verifying the accuracy of the instrument string. The calibration can only be performed in shutdown.

The Frequency considers a typical refueling cycle and industry accepted practice.

REFERENCES

1. 10 CFR 50, Appendix G.
2. Generic Letter 88-11.
3. FSAR, Section 15.
4. 10 CFR 50.46.