

**ATTACHMENT 1**

Proposed Technical Specification Change

Surry Power Station  
Units 1 and 2

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TABLE 4.1-2A

MINIMUM FREQUENCY FOR EQUIPMENT TESTS

<u>DESCRIPTION</u>	<u>TEST</u>	<u>FREQUENCY</u>	<u>FSAR SECTION REFERENCE</u>
1. Control Rod Assemblies	Rod drop times of all full length rods at hot conditions	Each refueling shutdown or after disassembly or maintenance requiring the breach of the Reactor Coolant System integrity	7
2. Control Rod Assemblies	Partial movement of all rods	Every 2 weeks	7
3. Refueling Water Chemical Addition Tank	Functional	Each refueling shutdown	6
4. Pressurizer Safety Valves	Setpoint	Each refueling shutdown	4
5. Main Steam Safety Valves	Setpoint	Each refueling shutdown	10
6. Containment Isolation Trip	*Functional	Each refueling shutdown	5
7. Refueling System Interlocks	*Functional	Prior to refueling	9.12
8. Service Water System	*Functional	Each refueling shutdown	9.9
9. Fire Protection Pump and Power Supply	Functional	Monthly	9.10
10. Primary System Leakage	*Evaluate	Daily	4
11. Diesel Fuel Supply	*Fuel Inventory	5 days/week	8.5
12. Boric Acid Piping Heat Tracing Circuits	*Operational	Monthly	9.1
13. Main Steam Line Trip Valves	Functional (Full Closure)	Before each startup (TS 4.7)	10

#### 4.7 MAIN STEAM LINE TRIP VALVES

##### Applicability

Applies to periodic testing of the main steam line trip valves.

##### Objective

To verify the ability of the main steam line trip valves to close upon signal.

##### Specification

###### A. Tests and Frequencies

1. Each main steam trip valve shall be tested for full closure before each startup, unless a satisfactory test has been conducted within the previous 24 hours.

###### B. Acceptance Criteria

1. A full closure test of main steam trip valves shall be considered satisfactory if the valve closed fully in 5 sec. or less.

##### Basis

The main steam trip valves serve to limit an excessive Reactor Coolant System cooldown rate and resultant reactivity insertion following a main

steam line break accident. Their ability to close fully shall be verified prior to reactor startup. The main steamline break accident analysis assumed 5 seconds from the time of generation of a main steamline isolation signal to the beginning of trip valve motion, followed by a 5 second ramp closure time from full open to full closed.

**ATTACHMENT 2**

Discussion  
of  
Proposed Change

Surry Power Station  
Units 1 and 2

PROPOSED CHANGE TO TS 4.7  
MAIN STEAM TRIP VALVES

BACKGROUND

TS 4.7.A specifies the tests and frequencies necessary to verify the ability of the Main Steam Trip Valves (MSTVs) to close upon signal. TS 4.7.B specifies the acceptance criteria.

This proposed change removes the partial closure test requirement in TS 4.7.A and the partial closure test acceptance criteria in TS 4.7.B. The discussion of the partial closure test is removed from the Basis. The proposed change also revises the full closure test frequency and test conditions, and adds information to the Basis regarding accident analysis assumptions.

A parallel specification appears in Table 4.1-2A and is revised to be consistent with TS 4.7.

SAFETY EVALUATION

Partial Closure Test

The purpose of the partial closure test is to verify the freedom of the valve disc to function as required. The partial closure test rotates the valve disc three degrees to demonstrate valve disc freedom.

The surveillance frequency for the partial closure test has varied since the specifications were originally issued. The original partial closure test frequency was monthly, later quarterly, and most recently, before each startup.

Similarly, the surveillance frequency for the full closure test has varied. The original frequency was every 12 months, then every refueling outage, and most recently, each cold shutdown. Like the partial closure test, the full closure test verifies the freedom of the valve disc to function as required. However, it verifies it over the entire range of valve motion.

In practice, Virginia Power treats the two surveillance requirements as one. That is, a full closure test is performed before each startup (regardless whether the unit is starting up from cold or hot shutdown) thus satisfying the intent and frequency requirements of both specifications. Repetitive testing is not required if a satisfactory test has been conducted within the previous 24 hours. Conducting the test at hot shutdown is preferred because test conditions are more representative of plant conditions the valve would experience if called upon to perform its safety function.

Because the intent of the partial closure test is achieved by means of the full closure test and the two test frequencies are treated the same, we propose to eliminate the requirement for a partial closure test before each startup and conduct the full closure test instead.

Thus, TS 4.7.A.1 is proposed to read:

"Each main steam trip valve shall be tested for full closure before each startup, unless a satisfactory test has been conducted within the previous 24 hours."

TS 4.7.A.2 and 4.7.B.2 regarding partial testing are deleted. The discussion of partial closure testing in the Basis is likewise deleted. The partial requirement in Table 4.1-2A is revised accordingly.

#### Additional Information in TS 4.7 Basis

TS 4.7.B.1 specifies a 5 second closure time for the MSTVs. Although accurate, the statement only partially reflects the assumptions in the main steamline break accident analysis. This change adds information to the TS 4.7 Basis by stating the assumptions and clarifies the parameters to be observed and measured during surveillance tests.

The main steamline break accident was most recently analyzed by Virginia Power to support removal of the Boron Injection Tank (BIT). The BIT removal technical specification change was submitted to NRC on September 13, 1983 and supplemented October 6 and November 30, 1983, and January 18 and 25, 1984.

The main steamline break accident analysis assumed 5 seconds from the time of generation of a main steamline isolation signal to the beginning of trip valve motion, followed by a 5 second ramp closure time from full open to full closed. The NRC approved the BIT removal Technical Specification and the supporting accident analysis on February 24, 1984.

The required surveillance test to verify MSTV closure ability needs to take these accident analysis assumptions into account. Typically, the surveillance test is performed at the Main Control Room benchboard using the MSTV remote switch which consists of a 3-position (open/normal/closed) spring-return-to-normal switch and green (closed) and red (open) indicating lights. The lights are actuated from limit switches mounted on the MSTV. Initial test conditions are with the valve full open and the red light on.

The first analysis assumption is simulated by switching the MSTV remote switch to the "closed" position until the green status light comes on which indicates beginning of trip valve motion. Both lights are now lit. The second analysis assumption is verified by measuring the elapsed time from illumination of the green status light to the time the red status light goes out (i.e., full closure) to satisfy the TS requirement.

Thus, we propose to add an additional paragraph to the TS 4.7 Basis to clarify the accident analysis assumptions:

"The main steamline break accident analysis assumed 5 seconds from the time of generation of a main steamline isolation signal to the beginning of trip valve motion, followed by a 5 second ramp closure time from full open to full closed."

### Unreviewed Safety Question Evaluation

We have reviewed the proposed change in accordance with the criteria in 10 CFR 50.59 for determining whether an unreviewed safety question exists. Each criterion is addressed below:

1. The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased. The proposed change eliminates the partial closure test, but requires a more comprehensive full closure test on the same frequency. The probability or consequences of an accident, or the consequences of a malfunction are not affected by this change because the change affects only surveillance requirements. The probability of malfunction of the equipment should be reduced by virtue of conducting more comprehensive tests.
2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created. The proposed change revises surveillance requirement frequencies and does not change any plant feature which might result in a different type of accident or malfunction.
3. The margin of safety as defined in the basis for any technical specification is not reduced. Surveillance testing is conducted to periodically verify that the margin of safety designed into the MSTVs has not degraded. Conducting full-closure testing at conditions more representative of plant conditions the valve would experience if called upon to perform its safety function helps assure that the margin of safety is not reduced.

Based on our review, we conclude that the proposed change does not constitute an unreviewed safety question.

The accident analysis information added to the TS 4.7 Basis has been previously approved by NRC and is being added for clarification. The Bases are not considered part of the Technical Specifications. No unreviewed safety question need be considered.



### No Significant Hazards Consideration Determination

We have reviewed the proposed change in accordance with the criteria in 10 CFR 50.92 for determining whether no significant hazards consideration exists. Each criterion is addressed below:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change eliminates the partial closure test for the main steam trip valves, but requires a more comprehensive full closure test on the same frequency. The probability or consequences of an accident previously evaluated is not affected by this change because the change affects only surveillance requirements.
2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed change revises surveillance requirement frequencies and does not change any plant feature which might result in a different type of accident or malfunction.
3. The proposed amendment does not involve a significant reduction in a margin of safety. No reduction is involved. Rather, surveillance testing is conducted to periodically verify that the margin of safety designed into the MSTVs has not degraded. Conducting full-closure testing at conditions more representative of plant conditions the valve would experience if called upon to perform its safety function helps assure that the margin of safety is not reduced.

Based on this review, we conclude that the proposed change involves no significant hazards consideration.

The accident analysis information added to the TS 4.7 Basis has been previously approved by NRC and is being added for clarification. The Bases are not considered part of the Technical Specifications; thus, a no significant hazards consideration determination is not necessary.