

LIST OF PAGE CHANGES

CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND CONTROL INSTRUMENTATION (JPTS-96-002)

Revise Appendix A as follows:

Remove Pages

66
67
68
69
70
71
71a

80

Insert Pages

66
67
68
69
70
71
71a
71b
80

TABLE 3.2-2

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

Item No.	Minimum No. of Operable Instrument Channels Per Trip System	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
1	2 (Notes 1, 11)	Reactor Low-Low Water Level	≥ 126.5 in. above TAF	4 (HPCI & RCIC)	Initiates HPCI, RCIC, and SGTS.
2	2 (Notes 2, 3, 11)	Reactor Low-Low-Low Water Level	≥ 18 in. above TAF	4 (Core Spray & RHR) 4 (ADS)	Initiates Core Spray, RHR (LPCI), and Emergency Diesel Generators. Initiates ADS (if not inhibited by ADS override switches), in conjunction with Confirmatory Low Level, 120 second delay and RHR (LPCI) or Core Spray pump discharge pressure interlock.
3	2 (Notes 4, 12)	Reactor High Water Level	≤ 222.5 in. above TAF	2 (Note 16)	Trips HPCI turbine.
4	2 (Notes 4, 12)	Reactor High Water Level	≤ 222.5 in. above TAF	2 (Note 16)	Closes RCIC steam supply valve.
5	1 (Notes 5, 11)	Reactor Low Level (inside shroud)	≥ 0 in. above TAF	2	Prevents inadvertent operation of containment spray during accident condition.

TABLE 3.2-2 (Cont'd)

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

Item No.	Minimum No. of Operable Instrument Channels Per Trip System	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
6	1 (Notes 3, 11)	Reactor Low Level	≥ 177 in. above TAF	2	Confirmatory low water level for ADS actuation.
7	2 (Notes 1, 2, 11)	Drywell High Pressure	≤ 2.7 psig	4	Initiates Core Spray, RHR (LPCI), HPCI and SGTS.
8	2 (Notes 6, 11)	Reactor Low Pressure	≥ 450 psig	4	Permits opening Core Spray and RHR (LPCI) injection valves.
9	1 (Notes 2, 12)	Reactor Low Pressure	$50 \leq p \leq 75$ psig	2	Permits closure of RHR (LPCI) injection valves while in shutdown cooling in conjunction with PCIS signal.
10	1 (Notes 7, 11)	Core Spray Pump Start Timer (each loop)	11 ± 0.6 sec.	1 (Note 16)	Initiates starting of core spray pump. (each loop)
11	1 (Notes 7, 11)	RHR (LPCI) Pump Start Timer			
		1st Pump (A Loop)	$1.0 + 0.5 (-) 0$ sec.	1 (Note 16)	Starts 1st Pump (A Loop)
		1st Pump (B Loop)	$1.0 + 0.5 (-) 0$ sec.	1 (Note 16)	Starts 1st Pump (B Loop)
		2nd Pump (A Loop)	6.0 ± 0.5 sec.	1 (Note 16)	Starts 2nd Pump (A Loop)
		2nd Pump (B Loop)	6.0 ± 0.5 sec.	1 (Note 16)	Starts 2nd Pump (B Loop)

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TABLE 3.2-2 (Cont'd)

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

Item No.	Minimum No. of Operable Instrument Channels Per Trip System	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
12	1 (Notes 8, 11)	Auto Blowdown Timer	120 sec. \pm 5 sec.	2	Initiates ADS (if not inhibited by ADS override switches).
13	4 (Notes 8, 11)	RHR (LPCI) Pump Discharge Pressure Interlock	125 psig \pm 20 psig	8	Permits ADS actuation.
14	2 (Notes 8, 11)	Core Spray Pump Discharge Pressure Interlock	100 psig \pm 10 psig	4	Permits ADS actuation.
15	2 (Notes 9, 11)	Condensate Storage Tank Low Level	\geq 59.5 in. above tank bottom (= 15,600 gal. avail)	2 (Note 16)	Transfers RCIC pump suction to suppression chamber.
16	2 (Notes 9, 11)	Condensate Storage Tank Low Level	\geq 59.5 in. above tank bottom (= 15,600 gal. avail)	2 (Note 16)	Transfers HPCI pump suction to suppression chamber.
17	2 (Notes 9, 11)	Suppression Chamber High Level	\leq 6 in. above normal level	2 (Note 16)	Transfers HPCI pump suction to suppression chamber.

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TABLE 3.2-2 (Cont'd)

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

Item No.	Minimum No. of Operable Instrument Channels Per Trip System	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
18	(2 per 4kV bus) (Note 10)	4kV Emergency Bus Undervoltage Relay (Degraded Voltage)	110.6 \pm 1.2 secondary volts	4	Initiates both 4kV Emergency Bus Undervoltage Timers. (Degraded Voltage LOCA and non-LOCA) (Note 14)
19	(1 per 4kV bus) (Note 10)	4kV Emergency Bus Undervoltage Timer (Degraded Voltage LOCA)	9.0 \pm 1.0 sec.	2	(Note 13)
20	(1 per 4kV bus) (Note 10)	4kV Emergency Bus Undervoltage Timer (Degraded Voltage non-LOCA)	45 \pm 5.0 sec.	2	(Note 13)
21	(2 per 4kV bus) (Note 10)	4kV Emergency Bus Undervoltage Relay (Loss of Voltage)	85 \pm 4.25 secondary volts	4	Initiates 4kV Emergency Bus Undervoltage Loss of Voltage Timer. (Note 15)
22	(1 per 4kV bus) (Note 10)	4kV Emergency Bus Undervoltage Timer (Loss of Voltage)	2.50 \pm 0.05 sec.	2	(Note 13)
23	2 (Notes 6, 11)	Reactor Low Pressure	285 to 335 psig	4	Permits closure of recirculation pump discharge valve.

TABLE 3.2-2

CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS

NOTES FOR TABLE 3.2-2

1. With one or more channels inoperable for HPCI and/or RCIC:
 - A. Within one hour from discovery of loss of system initiation capability, declare the affected system inoperable, and
 - B. Within 24 hours, place channel in trip.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare the affected system inoperable.
2. With one or more channels inoperable for Core Spray and/or RHR:
 - A. Within one hour from discovery of loss of initiation capability for feature(s) in both divisions, declare the supported features inoperable, and
 - B. Within 24 hours, place channel in trip.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare associated supported feature(s) inoperable.
3. With one or more channels inoperable for ADS:
 - A. Within one hour from discovery of loss of ADS initiation capability in both trip systems, declare ADS inoperable, and
 - B. Within 96 hours from discovery of an inoperable channel concurrent with HPCI or RCIC inoperable, place channel in trip, and
 - C. Within 8 days, place channel in trip.
 - D. If required actions and associated completion times of actions A, B, or C are not met, immediately declare ADS inoperable.

TABLE 3.2-2

CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS

4. With one or more channels inoperable for HPCI and/or RCIC:
 - A. Within 24 hours, restore channel to operable status.
 - B. If required action and associated completion time of action A is not met, immediately declare affected system inoperable.
5. With one or more channels inoperable for containment spray:
 - A. Within 24 hours, place channel in trip.
 - B. If required action and associated completion time of action A is not met, immediately declare associated supported feature(s) inoperable.
6. With one or more channels inoperable for injection permissive and/or recirculation discharge valve permissive:
 - A. Within one hour from discovery of loss of initiation capability for feature(s) in both divisions, declare the supported features inoperable, and
 - B. Within 24 hours, restore channel to operable status.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare associated supported feature(s) inoperable.

TABLE 3.2-2

CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS

7.
 - A. With inoperable start timers in two or more ECCS subsystems, immediately declare the associated ECCS subsystems inoperable.
 - B. With both start timers in the same LPCI subsystem inoperable, immediately rack out the circuit breakers for the affected RHR pumps and declare that LPCI subsystem inoperable.
 - C. With one start timer inoperable, restore the timer to an operable status within 24 hours, or immediately rack out the circuit breaker for the affected pump and declare the affected pump inoperable.
8. With one or more channels inoperable for ADS:
 - A. Within one hour from discovery of loss of ADS initiation capability in both trip systems, declare ADS inoperable, and
 - B. Within 96 hours from discovery of an inoperable channel concurrent with HPCI or RCIC inoperable, restore channel to operable status, and
 - C. Within 8 days, restore channel to operable status.
 - D. If required actions and associated completion times of actions A, B, or C are not met, immediately declare ADS inoperable.
9. With one or more channels inoperable for HPCI and/or RCIC:
 - A. Within one hour from discovery of loss of system initiation capability while suction for the affected system is aligned to the CST, declare the affected system inoperable, and
 - B. Within 24 hours, place channel in trip or align suction for the affected system to the suppression pool.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare the affected system inoperable.

TABLE 3.2-2

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

10. With one or more channels inoperable for 4kV Emergency Bus Undervoltage Trip Functions:
 - A. Within one hour, place channel in trip.
 - B. If required action and associated completion time of action A is not met, immediately declare the affected Emergency Diesel Generator System inoperable.
11. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions For Operation and required actions may be delayed for up to 6 hours provided the associated Trip Function or the redundant Trip Function maintains ECCS initiation capability.
12. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions For Operation and required actions may be delayed for up to 6 hours.
13. The 4kV Emergency Bus Undervoltage Timers (degraded voltage LOCA, degraded voltage non-LOCA, and loss-of-voltage) initiate the following: starts the Emergency Diesel-Generators; trips the normal/reserve tie breakers and trips all 4kV motor breakers (in conjunction with 75 percent Emergency Diesel-Generator voltages); initiates diesel-generator breaker close permissive (in conjunction with 90 percent Emergency Diesel-Generator voltages) and; initiates sequential starting of vital loads in conjunction with low-low-low reactor water level or high drywell pressure.
14. A secondary voltage of 110.6 volts corresponds to approximately 93% of 4160 volts on the bus.
15. A secondary voltage of 85 volts corresponds to approximately 71.5% of 4160 volts on the bus.
16. Only one trip system.

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TABLE 4.2-2

CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS

Instrument Channel	Instrument Functional Test	Calibration Frequency	Instrument Check (Note 4)
1) Reactor Water Level	Q (Note 5)	SA / R (Note 15)	D
2a) Drywell Pressure (non-ATTS)	Q	Q	NA
2b) Drywell Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
3a) Reactor Pressure (non-ATTS)	Q	Q	NA
3b) Reactor Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
4) Auto Sequencing Timers	NA	R	NA
5) ADS - LPCI or CS Pump Disch.	Q	Q	NA
6) HPCI & RCIC Suction Source Levels	Q	Q	NA
7) 4kV Emergency Bus Under-Voltage (Loss-of-Voltage, Degraded Voltage LOCA and non-LOCA) Relays and Timers.	R	R	NA

NOTE: See notes following Table 4.2-5.

Attachment II to JPN-96-010

SAFETY EVALUATION

**CORE AND CONTAINMENT COOLING SYSTEM
INITIATION AND CONTROL INSTRUMENTATION**

(JPTS-96-002)

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Docket No. 50-333

DPR-59

SAFETY EVALUATION

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I. INTRODUCTION

This application for an amendment to the James A. FitzPatrick Technical Specifications (TS) proposes changes to TS Table 3.2-2, "Core and Containment Cooling System Initiation and Control Instrumentation Operability Requirements." The proposed changes will revise allowed outage times (AOTs) for 4kV Emergency Bus Undervoltage Trip Functions. The AOTs for these trip functions were extended by Amendment 227; however, as described in Reference 2, the AOT extensions for these trip functions were not consistent with the requirements of Standard Technical Specifications (STS), NUREG-1433 (Reference 3), and differed from the recommendations in the associated Licensing Topical Report (Reference 5).

Additional changes are proposed to TS Table 3.2-2 and to TS Table 4.2-2, "Core and Containment Cooling System Instrumentation Test and Calibration Requirements." These changes will: (1) replace the generic actions for inoperable instrument channels with function-specific actions, (2) replace the generic test AOT with function-specific test AOTs, and (3) relocate selected trip functions from the TS to an Authority controlled document. This will ensure consistency with STS, simplify the use of TS, and facilitate STS conversion by minimizing the differences between current TS and STS. The changes will also enhance safety by ensuring that an inoperable instrument channel is not placed in the tripped condition when this condition is not a safe state for the channel.

II. DESCRIPTION, PURPOSE, AND SAFETY IMPLICATION OF THE PROPOSED CHANGES

To simplify review of this application, the following subsections address the specific changes to each trip function. Each subsection includes a description, purpose, and safety implication of the proposed change. The exact wording of the changes to the TS are not provided. The changes are described in sufficient detail so that, when reviewed in conjunction with the revised TS pages in Attachment I and the marked-up TS pages in Attachment III, a clear understanding of the changes to each trip function is provided.

1. Table 3.2-2, all Trip Functions**Description**

Delete "(Notes 1 and 2)" from the column heading "Minimum No. of Operable Instrument Channels Per Trip System" on pages 66, 67, 68, 69, and 70. These notes refer to the generic actions and AOTs for all trip functions. Specific actions and AOTs will be adopted as described in the following subsections.

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Purpose

Deleting the note references from the column heading allows revised requirements to be adopted for each trip function. The existing TS refer to generic actions and AOTs that were adopted in Amendment 227 (Reference 1) and were intended to optimize consistency in the text for the various instrumentation groups; however, they differ from the requirements of STS for some trip functions. The revised actions and AOTs will simplify the use of TS by providing trip function-specific requirements, and ensure consistency with STS.

Safety Implication

Deleting the notes from the column heading does not have any safety implication. The changes to each trip function and safety implication are discussed in the following subsections.

2. Table 3.2-2. Reactor Low-Low Water Level (Item 1)**Description**

Add "(Notes 1, 11)" to the second column for table item 1 on page 66. This trip function initiates High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC). The Standby Gas Treatment System (SGTS) also starts to support HPCI operation, upon receipt of a HPCI initiation signal, as described in Reference 4 (Sections 5.3.3.4 and 6.4.1).

Add Note 1 to page 70. This note provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours whenever multiple instrument channels are inoperable. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Function 3a; and Table 3.3.5.2-1, Function 1.

Add Note 11 to page 71b. This note provides the test AOT. The test AOT is consistent with existing TS and STS requirements for this trip function. Reference STS Surveillance Requirements 3.3.5.1 and 3.3.5.2, Note 2.

Purpose

The revised actions adopt the requirements of STS. STS provide a 24-hour repair AOT for this trip function, regardless of the number of inoperable instrument channels, provided that system initiation capability is maintained. Current TS require one trip system be tripped within 6 hours whenever multiple instrument channels are inoperable, and are thus more restrictive than STS.

The test AOT is applicable to trip functions for which initiation capability is required to be maintained during testing, and does not alter the intent of the current TS.

SAFETY EVALUATION**Safety Implication**

The revised actions are consistent with the STS requirements for this trip function. The intent of the test AOT is not altered by this change and remains the same as approved in Amendment 227 (Reference 1). Therefore, there is no safety implication with this change.

3. Table 3.2-2. Reactor Low-Low-Low Water Level (Item 2)**Description**

Add "(Notes 2, 3, 11)" to the second column for table item 2 on page 66. This trip function initiates Core Spray, Low Pressure Coolant Injection (LPCI), and the Automatic Depressurization System (ADS). Emergency Diesel Generators (EDGs) also receive a start signal from Core Spray and LPCI logic.

Add Note 2 to page 70. This note provides revised actions for one or more inoperable instrument channels for Core Spray and/or LPCI. The revised actions delete the requirement to trip one trip system within 6 hours whenever multiple instrument channels are inoperable. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 1a and 2a.

Add Note 3 to page 70. This note provides revised actions for one or more inoperable instrument channels for ADS. The revised actions delete the requirement to trip one trip system within 6 hours whenever multiple instrument channels are inoperable. The revised actions also extend the repair AOT from 24 hours to 96 hours with HPCI or RCIC inoperable, or otherwise up to 8 days. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 4a and 5a.

Note 11 provides the test AOT that is consistent with existing TS and STS requirements for this trip function. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, provided that system initiation capability is maintained.

For ADS, the revised actions also extend the repair AOT to be consistent with STS. Existing TS provide only a 24-hour repair AOT for ADS instrument channels. The 24-hour repair AOT was added in Amendment 227, based on the recommendations of Licensing Topical Report (LTR) NEDC-30936-P-A, Part 2 (Reference 5). A review of the recommended changes to TS contained in the LTR, as clarified in Reference 6, reveals that the 24-hour repair AOT for ADS instrument channels was to be applied in addition to an existing 7-day or 72-hour AOT for an inoperable ADS trip system. Thus the intent of the TS changes recommended by the LTR was to provide an 8-day/96-hour repair AOT for ADS trip functions. This intent is reflected in STS.

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The test AOT is applicable to trip functions for which initiation capability is required to be maintained during testing, and does not alter the intent of the current TS.

Safety Implication

The revised actions are consistent with the STS requirements for this trip function. The repair AOT for ADS is consistent with the intent of the LTR and the STS. The intent of the test AOT is not altered by this change and remains the same as approved in Amendment 227. Therefore, there is no safety implication with this change.

4. Table 3.2-2. Reactor High Water Level (Items 3 and 4)**Description**

Add "(Notes 4, 12)" to the second column for table items 3 and 4 on page 66. These trip functions trip the HPCI turbine and close the RCIC steam supply isolation valve.

Change "(Note 8)" to "(Note 16)" in the fifth column for table items 3 and 4 to reflect renumbered notes for Table 3.2-2. This change is editorial, has no impact on TS requirements, and thus further discussion of this change is not required.

Add Note 4 to page 71. This note provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours whenever multiple instrument channels are inoperable. Also deleted, is the requirement to trip an inoperable instrument channel upon expiration of the repair AOT. If operability of the instrument channel is not restored within the repair AOT, the system is declared inoperable. In addition, the requirement to maintain capability of the function during the repair AOT is deleted. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Function 3c; and Table 3.3.5.2-1, Function 2.

Add Note 12 to page 71b. This note provides the revised test AOT. The revised test AOT deletes the requirement to maintain initiation capability of the trip function during testing. The revised test AOT is consistent with STS. Reference STS Surveillance Requirements 3.3.5.1 and 3.3.5.2, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, and delete the requirement to trip an inoperable instrument channel, to be consistent with STS. The existing TS would require placing an inoperable instrument channel in the tripped condition. As described in the Bases for STS Sections 3.3.5.1 and 3.3.5.2 (Actions C.1 and C.2), placing the channel in trip would either cause the initiation or it would not necessarily result in a safe state for the channel in all events.

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The requirement to maintain capability of the function during testing is deleted to be consistent with STS. As described in Reference 4 (Section 7.4.3.2.4 and Figure 4.7-2), the logic for these trip functions is arranged in a two-out-of-two-taken-once configuration. Therefore, it is not possible to maintain initiation capability during testing or repair AOTs.

Safety Implication

The revised actions are consistent with the STS requirements for these trip functions. Deleting the requirement to trip an inoperable instrument channel is appropriate since placing the channel in trip would not always result in a safe state for the channel. The revised test AOT is consistent with STS and retains the same duration (6 hours) as approved in Amendment 227. Therefore, there is no safety implication with this change.

5. Table 3.2-2. Reactor Low Level (Inside Shroud) (Item 5)**Description**

Add "(Notes 5, 11)" to the second column for table item 5 on page 66. This trip function prevents diversion of LPCI flow when adequate core cooling is not assured.

Delete "(Note 9)" from the second column for table item 5. This note was used to identify single channel trip systems, and was necessary for interpretation of the generic test AOT. Since the generic test AOT has been replaced with function-specific test AOTs, this note is no longer required and is deleted as described in Subsection II.18.

Add Note 5 to page 71. This note provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours for multiple instrument channel failures. In addition, the requirement to maintain capability of the function during the repair AOT is deleted. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Function 2e.

Note 11 provides the revised test AOT. The revised test AOT adds a requirement that initiation capability be maintained for the redundant trip function. This is consistent with STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, and delete the requirement to maintain capability of the trip function during repair, to be consistent with STS. As described in the Bases for STS Section 3.3.5.1 (Actions B.1, B.2, and B.3), this function provides backup to administrative controls that prevent diversion of LPCI flow. Thus, a loss of function capability is permitted for 24 hours.

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The revised test AOT requires initiation capability be maintained to be consistent with STS. The existing TS do not place this restriction on use of the test AOT. As described in Reference 4 (Section 7.4.3.5.4), a single instrument channel is used to monitor water level inside the core shroud for each LPCI loop. Based on this design, when one of the two instrument channels is under test, the other (or redundant) instrument channel is capable of preventing diversion of flow in its respective LPCI subsystem. Therefore, trip capability can and should be maintained for the redundant trip function during testing.

Safety Implication

The revised actions are consistent with the STS requirements for this trip function. Deleting the requirement to maintain capability of the trip function during repair is appropriate since function capability is not required to ensure operability of LPCI. Revising the test AOT to require initiation capability be maintained is appropriate since this is provided for by design. In addition, the revised test AOT is consistent with STS and retains the same duration (6 hours) as approved in Amendment 227. Therefore, there is no safety implication with this change.

6. Table 3.2-2. Containment High Pressure (Item 6)**Description**

Delete table item 6 from page 66. This trip function prevents diversion of LPCI flow unless an abnormally high drywell pressure condition exists.

Purpose

This function is deleted to be consistent with STS, and because it does not satisfy the criteria for inclusion in the TS. 10 CFR 50.36 includes the following four criterion that define those items which require inclusion in the TS: (1) installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary; (2) a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; and (4) a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

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The containment high pressure trip function and the reactor low level (inside shroud) trip function provide an interlock for valves that allow diversion of water for containment spray. A description of the valve interlocks is provided in Reference 4 (Section 7.4.3.5.4 and Figure 7.4-8). Containment spray valves are automatically closed upon receipt of a LPCI initiation signal. The manual controls for these valves are interlocked so that opening the valves by manual action is not possible unless containment pressure is high and reactor vessel water level inside the core shroud is above the level equivalent to the top of active fuel. A keylock switch in the Control Room allows a manual override of the shroud water level trip function.

If the containment high pressure trip function is inoperable, the LPCI system is not affected. If the function fails to trip (i.e., does not sense high pressure), operation of containment spray would be prevented and thus LPCI flow could not be diverted. If the function failed in the tripped condition, adequate core cooling would be assured by the shroud water level trip function and administrative measures which control initiation of containment spray. Additionally, a major flowpath which diverts LPCI flow is the suppression pool cooling mode of RHR, and the valves for this mode are only prevented from being opened by the shroud water level trip function and administrative controls.

Failure of the containment high pressure trip function would not have a significant effect on the primary containment. If the function fails to trip, operation of containment spray would be prevented; however, primary containment response under these conditions has been evaluated (Reference 4, Section 14.6.1.3.3) and operation of containment spray is not required during any design basis accident. If the function failed in the tripped condition, inadvertent operation of containment spray would be prevented by the shroud water level trip function and administrative controls.

Therefore, the trip function is not relied upon for detection or mitigation of any transient or accident, is not relied upon to detect degradation of the reactor coolant pressure boundary, and is not significant to public health and safety.

Upon approval of this amendment application, requirements for the containment high pressure trip function will be relocated to an Authority controlled document. Any future change to the design, surveillance or operability requirements of this trip function will be controlled under 10 CFR 50.59. This commitment is listed in Attachment IV.

Safety Implication

Since this function is not included in STS, and does not satisfy the criteria for inclusion in the TS, relocation of the operability requirements to an Authority controlled document is appropriate. Any future changes to this trip functions will be controlled under 10 CFR 50.59. Therefore, there is no safety implication with this change.

SAFETY EVALUATION

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7. Table 3.2-2. Reactor Low Level (Item 7)**Description**

Renumber as table item 6 on page 67. This trip function provides a confirmatory low water level signal for ADS. This change reflects deleted trip functions, is editorial in nature, and thus no further discussion is required.

Add "(Notes 3, 11)" to the second column for (renumbered) table item 6.

Delete "(Note 9)" from the second column for table item 6. Due to replacement of the generic test AOT, this note is no longer required for interpretation of the TS.

Note 3 provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours whenever multiple instrument channels are inoperable. The revised actions also extend the repair AOT from 24 hours to 96 hours with HPCI or RCIC inoperable, or otherwise up to 8 days. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 4d and 5d.

Note 11 provides the revised test AOT. The revised test AOT adds a requirement that initiation capability be maintained for the redundant trip function. This is consistent with STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, provided that system initiation capability is maintained. The revised actions also extend the repair AOT to be consistent with STS.

The revised test AOT requires initiation capability be maintained to be consistent with STS. The existing TS do not place this restriction on use of the test AOT. As described in Reference 4 (Section 7.4.3.3.2), the control scheme for ADS consists of a single actuation system containing two logics. Either logic can initiate automatic depressurization. Therefore, trip capability can and should be maintained for the redundant trip function during testing.

Safety Implication

The revised actions and AOTs are consistent with the STS requirements for this trip function. The repair AOT is consistent with the intent of Reference 5 as implemented in the STS. Revising the test AOT to require initiation capability be maintained is appropriate since this is provided for by design. Therefore, there is no safety implication with this change.

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8. Table 3.2-2. Drywell High Pressure (Item 8)**Description**

Renumber as table item 7 on page 67. This trip function initiates Core Spray, LPCI, and HPCI. EDGs also receive a start signal from Core Spray and LPCI logic, and SGTS also starts upon receipt of a HPCI initiation signal. This change reflects deleted trip functions, is editorial in nature, and thus no further discussion is required.

Add "(Notes 1, 2, 11)" to the second column for (renumbered) table item 7.

Note 1 provides revised actions for one or more inoperable instrument channels for HPCI. The revised actions delete the requirement to trip one trip system within 6 hours for multiple instrument channel failures. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Function 3b.

Note 2 provides revised actions for one or more inoperable instrument channels for Core Spray and LPCI. The revised actions delete the requirement to trip one trip system within 6 hours for multiple instrument channel failures. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 1b and 2b.

Note 11 provides the test AOT that is consistent with existing TS and STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, provided that system initiation capability is maintained.

The test AOT is applicable to trip functions for which initiation capability is required to be maintained during testing, and does not alter the intent of the current TS.

Safety Implication

The revised actions are consistent with the STS requirements for this trip function. The intent of the test AOT is not altered by this change and remains the same as approved in Amendment 227. Therefore, there is no safety implication with this change.

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9. Table 3.2-2. Reactor Low Pressure (Item 9)**Description**

Renumber as table item 8 on page 67. This trip function provides a low-pressure permissive signal for opening Core Spray and LPCI injection valves. This change reflects deleted trip functions, is editorial in nature, and thus no further discussion is required.

Add "(Notes 6, 11)" to the second column for (renumbered) table item 8.

Add Note 6 to page 71. This note provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours whenever multiple instrument channels are inoperable. Also deleted, is the requirement to trip an inoperable instrument channel upon expiration of the repair AOT. If operability of the instrument channel is not restored within the repair AOT, the supported feature is declared inoperable. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 1c and 2c.

Note 11 provides the test AOT that is consistent with existing TS and STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, provided that system initiation capability is maintained.

The revised actions also delete the requirement to trip an inoperable instrument channel upon expiration of the repair AOT to be consistent with STS. The existing TS would require placing this instrument channel in the tripped condition. As described in the Bases for STS Section 3.3.5.1, Actions C.1 and C.2, placing the channel in trip would either cause the initiation or it would not necessarily result in a safe state for the channel in all events.

The test AOT is applicable to trip functions for which initiation capability is required to be maintained during testing, and does not alter the intent of the current TS.

Safety Implication

The revised actions are consistent with the STS requirements for this trip function. Deleting the requirement to trip an inoperable instrument channel is appropriate since placing the channel in trip would not always result in a safe state for the channel. The intent of the test AOT is not altered by this change and remains the same as approved in Amendment 227. Therefore, there is no safety implication with this change.

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10. Table 3.2-2, Reactor Low Pressure (Item 10)**Description**

Renumber as table item 9 on page 67. This trip function permits closure of LPCI injection valves while in shutdown cooling, in conjunction with a shutdown cooling isolation signal. This change reflects deleted trip functions, is editorial in nature, and thus no further discussion is required.

Add "(Notes 2, 12)" to the second column for (renumbered) table item 9.

Delete "(Note 9)" from the second column for table item 9. This note was used to identify single channel trip systems, and was necessary for interpretation of the generic test AOT. Since the generic test AOT has been replaced with function-specific test AOTs, this note is no longer required.

Note 2 provides actions for one or more inoperable instrument channels that are consistent with the intent of existing TS requirements.

Note 12 provides the test AOT that is consistent with existing TS requirements for this trip function.

Purpose

This change adopts function-specific actions and a function-specific test AOT for this trip function. The intent of the existing actions is not altered, and the requirements of the test AOT are not changed.

The existing generic actions provide a 6-hour repair AOT for multiple inoperable instrument channels, provided function capability is maintained. Only two channels of reactor low pressure are provided for this trip function; therefore function capability is not maintained when more than one channel is inoperable and thus, the 6-hour repair AOT is not applicable to this trip function. The function-specific actions require the supported feature be declared inoperable within one hour from discovery of loss of initiation capability for features in both divisions (i.e., both LPCI subsystems). This is consistent with STS requirements for similar trip functions. This trip function is not included in the STS and will be evaluated for possible relocation during STS conversion.

Safety Implication

The requirements of the test AOT are not affected by this change and remain the same as approved in Amendment 227. The revised actions delete a 6-hour repair AOT that is not applicable to this trip function. Therefore, there is no safety implication with this change.

SAFETY EVALUATION**11. Table 3.2-2. Core Spray and RHR Pump Start Timers (Items 11 and 12)****Description**

Renumber as table items 10 and 11 on page 67. These trip functions provide a time delay for pump start to prevent overloading the associated emergency bus. This change reflects deleted trip functions, is editorial in nature, and thus no further discussion is required.

Add "(Notes 7, 11)" to the second column for (renumbered) table items 10 and 11 on page 67.

Delete "(Note 3 & 9)" from the second column for table items 10 and 11. Note 9 was used to identify single channel trip systems, and was necessary for interpretation of the generic test AOT. Since the generic test AOT has been replaced with function-specific test AOTs, this note is no longer required. Note 3 was used to identify the fact that an inoperable start timer disables automatic initiation of the affected pump. As described below, Note 7 will provide revised actions for one or more inoperable start timers, including the effects on pump operability. Therefore, Note 3 is no longer required.

Change "(Note 8)" to "(Note 16)" in the fifth column for table items 10 and 11 to reflect renumbered notes for Table 3.2-2.

Add Note 7 to page 71a. This note provides a significant change to the actions for one or more inoperable start timers. The revised actions are based on the presumption that an inoperable timer affects operability of all ECCS pumps powered from the associated emergency bus. This presumption is consistent with the STS; reference Bases for Section 3.3.5.1, function 2.f. The actions consist of the following:

- A. With inoperable start timers in two or more ECCS subsystems, immediately declare the associated ECCS subsystems inoperable.
- B. With both start timers in the same LPCI subsystem inoperable, immediately rack out the circuit breakers for the affected RHR pumps and declare that LPCI subsystem inoperable.
- C. With one start timer inoperable, restore the timer to an operable status within 24 hours, or immediately rack out the circuit breaker for the affected pump and declare the affected pump inoperable.

Note 11 provides the revised test AOT. The revised test AOT adds a requirement that initiation capability be maintained for the redundant trip function. This is consistent with STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

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Purpose

The revised actions for one inoperable start timer preserve the 24-hour repair AOT as approved in Amendment 227, and as specified in the STS. If a single inoperable timer cannot be restored to an operable status within the repair AOT, the affected pump is disabled and declared inoperable. Disabling the pump protects the associated emergency bus from overload due to simultaneous starting of ECCS pumps. Declaring the pump inoperable ensures the appropriate LCO is entered. Under these conditions, plant operation could continue for up to 7 days, provided all other low-pressure ECCS are operable. For inoperability of any one start timer beyond the repair AOT, the resulting conditions are bounded by LCO 3.5.A, "Core Spray System and Low Pressure Coolant Injection (LPCI) Mode of the RHR System." The actions for one inoperable timer differ from the requirements of STS in that STS do not require the affected pump be disabled. However, this difference is appropriate since disabling the pump assures availability of the associated emergency bus.

When two or more start timers are inoperable, both emergency buses and thus all low-pressure ECCS are potentially affected. FitzPatrick low-pressure ECCS consist of two LPCI subsystems and two Core Spray subsystems. There are two pumps in each LPCI subsystem and one pump in each Core Spray subsystem. The six low-pressure ECCS pumps are powered from two 4160 volt emergency buses (10500 and 10600) in the following arrangement:

LPCI Subsystem A	Power Supply
RHR Pump 10P-3A	Bus 10500
RHR Pump 10P-3C	Bus 10600
LPCI Subsystem B	
RHR Pump 10P-3B	Bus 10500
RHR Pump 10P-3D	Bus 10600
Core Spray Subsystem A	
Core Spray Pump 14P-1A	Bus 10500
Core Spray Subsystem B	
Core Spray Pump 14P-1B	Bus 10600

With inoperable start timers in two or more ECCS subsystems, the associated ECCS are immediately declared inoperable. Under these conditions the reactor is placed in the cold condition within 24 hours per LCO 3.5.A. Depending on which combination of timers is inoperable, both emergency buses could also be affected. However, this condition is bounded by the 24 hour LCO. Pumps are not disabled in this case because a 24 hour LCO is already in effect. For inoperable start timers in two or more ECCS subsystems, the revised actions are consistent with STS. Reference STS Section 3.3.5.1, function 2.f.

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With both start timers for the same LPCI subsystem inoperable, both emergency buses are affected. Therefore, immediate actions are required to assure availability of the emergency buses. The revised actions require the affected pumps be disabled and declared inoperable. Once the pumps are disabled, the effects of the inoperable timers are limited to the single LPCI subsystem. As with a single inoperable timer, plant operation could continue for up to 7 days. The actions for both timers inoperable in the same LPCI subsystem differ from the requirements of STS in that STS do not require the affected pumps be disabled. However, this difference is appropriate since disabling the pumps assures availability of the emergency buses.

The revised test AOT requires initiation capability be maintained to be consistent with STS. The existing TS do not place this restriction on use of the test AOT. Each pump has its own separate start timer, therefore capability of the redundant timer (i.e., the timer for the redundant pump) can and should be maintained during testing.

Safety Implication

For a single inoperable start timer, the revised actions retain the previously evaluated 24-hour repair AOT. Upon expiration of the AOT, immediate action is taken to preserve the emergency power source and the resulting condition is bounded by the existing 7-day LCO for a single inoperable low pressure ECCS subsystem. With inoperable start timers in two or more ECCS subsystems, the associated ECCS are immediately declared inoperable; this is consistent with the STS. If both start timers for the same LPCI subsystem are inoperable, immediate action is taken to preserve emergency power; thereafter, the condition is bounded by the existing 7-day LCO. The revised test AOT assures the capability of the redundant trip function. Therefore, there is no safety implication with the proposed change.

12. Table 3.2-2, Auto Blowdown Timer (Item 13)**Description**

Renumber as table item 12 on page 68. This trip function provides a time delay for initiation of ADS. This change reflects deleted trip functions, is editorial in nature, and thus no further discussion is required.

Add "(Notes 8, 11)" to the second column for (renumbered) table item 12.

Delete "(Note 9)" from the second column for table item 12. This note is no longer required for interpretation of the TS.

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Add Note 8 to page 71a. This note provides revised actions for one or more inoperable instrument channels for ADS. The revised actions delete the requirement to trip one trip system within 6 hours for multiple instrument channels failures. Also deleted, is the requirement to trip an inoperable instrument channel upon expiration of the repair AOT. The revised actions also extend the repair AOT from 24 hours to 96 hours with HPCI or RCIC inoperable, or otherwise up to 8 days. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 4c and 5c.

Note 11 provides the revised test AOT. The revised test AOT adds a requirement that initiation capability be maintained for the redundant trip function. This is consistent with STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, provided that system initiation capability is maintained, and extend the repair AOT to be consistent with STS.

The requirement to trip an inoperable instrument channel is deleted to be consistent with STS and to prevent override of the ADS time delay. Automatic depressurization is delayed to allow HPCI time to maintain water level and thus limit the occurrence of a severe depressurization transient on the reactor vessel. Therefore, tripping an inoperable ADS timer would defeat the time delay and thus, would not be appropriate.

The revised test AOT requires initiation capability be maintained to be consistent with STS. The existing TS do not place this restriction on use of the test AOT. Either of the two ADS logics can initiate automatic depressurization. Therefore, trip capability can and should be maintained for the redundant trip function during testing.

Safety Implication

The revised actions and AOTs are consistent with the STS requirements for this trip function. Deleting the requirement to trip an inoperable instrument channel is appropriate since tripping the channel would defeat the purpose of the ADS time delay. The extended repair AOT is consistent with STS. Adding the requirement to maintain function capability during testing is appropriate since it is provided for by design. Therefore, there is no safety implication with this change.

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13. Table 3.2-2. RHR (LPCI) and Core Spray Pump Discharge Pressure Interlock (Items 14 and 15)**Description**

Renumber as table items 13 and 14 on page 68. These trip functions provide a permissive signal for ADS actuation. This change reflects deleted trip functions, is editorial in nature, and thus no further discussion is required.

Add "(Notes 8, 11)" to the second column for (renumbered) table items 13 and 14.

Note 8 provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours whenever multiple instrument channels are inoperable. Also deleted, is the requirement to trip an inoperable instrument channel upon expiration of the repair AOT. If operability of the instrument channel is not restored within the repair AOT, ADS is declared inoperable. The revised actions also extend the repair AOT from 24 hours to 96 hours with HPCI or RCIC inoperable, or otherwise up to 8 days. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 4e, 4f, 5e, and 5f.

Note 11 provides the test AOT that is consistent with existing TS and STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, provided that system initiation capability is maintained, and extend the repair AOT to be consistent with STS.

The requirement to trip an inoperable instrument channel is deleted to be consistent with STS and to prevent override of the discharge pressure interlock. The discharge pressure interlock ensures the availability of an injection source prior to depressurizing the reactor vessel. Therefore, tripping an inoperable instrument channel could allow ADS to initiate without a source of injection and thus, would be inappropriate.

The test AOT is applicable to trip functions for which initiation capability is required to be maintained during testing, and does not alter the intent of the current TS.

Safety Implication

The revised actions and AOTs are consistent with the STS requirements for this trip function. Deleting the requirement to trip an inoperable instrument channel is appropriate since tripping the channel would defeat the purpose of the discharge pressure interlock. The extended repair AOT is consistent with STS. Therefore, there is no safety implication with this change.

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14. Table 3.2-2. RHR (LPCI), Core Spray, ADS, HPCI, and RCIC Trip System Bus Power Monitors (items 16, 17, 18, 19, and 20), Core Spray Sparger to Reactor Vessel d/p (item 21), and LPCI Cross-Connect Valve Position (item 25)

Description

Delete table items 16, 17, 18, 19, 20, 21, and 25 from pages 68 and 69. The bus power monitors provide an alarm when they sense a loss of power on their respective logic bus. The differential pressure function provides an alarm when a break is detected in the core spray sparger. The valve position function provides an alarm when a locked-closed valve is not fully closed.

Purpose

These trip functions are deleted to be consistent with STS, and because they do not satisfy the 10 CFR 50.36 criteria for inclusion in the TS. These trip functions provide only control room annunciation upon detection of abnormal conditions for the associated ECCS. These functions are not relied upon for detection or mitigation of any transient or accident, are not relied upon to detect degradation of the reactor coolant pressure boundary, and are not significant to public health and safety.

In addition, the existing TS requirements for these trip functions specify that an inoperable channel be tripped upon expiration of the repair AOT. This action would serve no purpose other than to cause annunciation in the control room.

Upon approval of this amendment application, the operability requirements for these functions will be relocated to an Authority controlled document. In addition, the actions for an inoperable instrument channel will be revised to require that the associated parameter be monitored at least every 12 hours. Any future change to the design, surveillance or operability requirements of these trip functions will be controlled under 10 CFR 50.59. This commitment is listed in Attachment IV.

Safety Implication

Since these functions are not included in STS and do not satisfy the criteria for inclusion in the TS, relocation of the operability requirements to an Authority controlled document is appropriate. In addition, revising the relocated actions to require periodic monitoring of the associated parameter when an instrument channel is inoperable, rather than tripping the instrument channel, is appropriate since this preserves the purpose of the function. Any future changes to these trip functions will be controlled under 10 CFR 50.59. Therefore, there is no safety implication with this change.

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15. Table 3.2-2. Condensate Storage Tank Low Level (items 22 and 23) and Suppression Chamber High Level (item 24)**Description**

Renumber as table items 15, 16, and 17 on page 68. These trip functions transfer HPCI and RCIC suction to the suppression chamber. This change reflects deleted trip functions.

Add "(Notes 9, 11)" to the second column for the renumbered trip functions.

Change "(Note 8)" to "(Note 16)" in the fifth column for the renumbered trip functions to reflect renumbered notes for Table 3.2-2.

Add Note 9 to page 71a. This note provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours for multiple instrument channel failures. The revised actions also provide the option to align suction for the affected system to the suppression pool, rather than tripping an inoperable instrument channel or declaring the affected system inoperable. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Functions 3d and 3e; and Table 3.3.5.2-1, Function 3.

Note 11 provides the test AOT that is consistent with existing TS and STS. Reference STS Surveillance Requirements 3.3.5.1 and 3.3.5.2, Note 2.

Purpose

The revised actions adopt the requirements of STS. STS provide a 24-hour repair AOT for this trip function, regardless of the number of inoperable instrument channels, provided that system initiation capability is maintained or suction is aligned to the suppression pool. The revised actions also allow the affected system to be aligned to the suppression pool in lieu of tripping instrument channels since this preserves the purpose of the function.

The test AOT is applicable to trip functions for which initiation capability is required to be maintained during testing, and does not alter the intent of the current TS.

Safety Implication

The revised actions are consistent with the STS requirements for this trip function. Allowing the affected system to be aligned to the suppression pool in lieu of tripping instrument channels is appropriate since, if aligned, the function is already performed. The intent of the test AOT is not altered by this change and remains the same as approved in Amendment 227 (Reference 1). Therefore, there is no safety implication with this change.

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16. Table 3.2-2. 4kV Emergency Bus Undervoltage Trip Functions (Items 26, 27, 28, 29, and 30)**Description**

Renumber as table items 18, 19, 20, 21, and 22 on page 69. These trip functions provide EDG initiation and sequential restart of vital loads in the event of an undervoltage or loss of voltage condition on the associated 4160 volt emergency bus. This change reflects deleted trip functions.

Delete "(Note 9)" from the second column for the renumbered trip functions. This note is no longer required for interpretation of the TS.

Add "(Note 10)" to the second column for the renumbered trip functions.

Change "(1 per 4kV bus)" to "(2 per 4kV bus)" in the second column, and change "2" to "4" in the fifth column for (renumbered) table items 18 and 21. This change reflects that there are two instrument channels (undervoltage relays) per trip system for a total of four instrument channels per trip function. Each trip system is arranged in a two-out-of-two logic arrangement, thus operability of both instrument channels is required. This change ensures consistency with Definition 1.F.3, "Instrument Channel" and Definition 1.F.12 "Trip System." The intent of the TS is not altered by this change and thus, no further discussion is required.

Change "(Notes 4 and 6)" to "(Note 14)" in the sixth column for table item 18.

Change "(Notes 4 and 7)" to "(Note 15)" in the sixth column for table item 21.

Change "(Note 5)" to "(Note 13)" in the sixth column for table items 19, 20, and 22.

These changes reflect renumbered notes for Table 3.2-2 and the deletion of Note 4. The renumbered notes do not alter the intent of the TS and thus, no further discussion is required. Note 4 was used to indicate that operation could continue with an inoperable sensor, provided the inoperable sensor was placed in the tripped condition. This note is no longer required because its contents are addressed by the revised actions.

Add Note 10 to page 71b. This note provides revised actions for one or more inoperable instrument channels. The revised actions require an inoperable instrument channel be placed in trip within one hour, or the affected EDG System be declared inoperable. The revised actions are consistent with STS. Reference STS Section 3.3.8.1.

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The deletion of "(Notes 1 and 2)" from the column heading "Minimum No. of Operable Instrument Channels Per Trip System," as described in Subsection II.1, combined with the changes to renumbered table items 18, 19, 20, 21, and 22 described above; deletes any allowance for a test AOT for the 4kV Emergency Bus Undervoltage Trip Functions. This differs from STS in that the STS allow a 2-hour test AOT for these functions, provided EDG initiation capability is maintained. The current surveillance requirements for the FitzPatrick undervoltage trip functions consist of a once-per-18-month functional test and calibration. These functional tests and calibrations typically require more than 2 hours to complete. Therefore, based on the frequency and duration of surveillance, the 2-hour test AOT does not provide any significant operational benefit. During STS conversion, the surveillance requirements for these trip functions will be evaluated and thus, the 2-hour test AOT may be proposed at that time.

Purpose

The actions are revised and the test AOT is deleted to correct an error that was introduced in Amendment 227. Existing TS would allow an unconditional (function capability not required) 6-hour test AOT and a 24-hour repair AOT for these trip functions. As discussed in Reference 2, these AOTs are not consistent with the requirements of STS and differ from the recommendations in the Licensing Topical Report (Reference 5) that formed the basis for Amendment 227.

Safety Implication

Since this change corrects an error in the TS, and adopts the applicable requirements from STS, there is no safety implication.

17. Table 3.2-2, Reactor Low Pressure (Item 31)**Description**

Renumber as table item 23 on page 69 to reflect deleted trip functions. This trip function provides a low-pressure permissive signal for closing recirculation pump discharge valves.

Add "(Notes 6, 11)" to the second column for the renumbered table item.

Note 6 provides revised actions for one or more inoperable instrument channels. The revised actions delete the requirement to trip one trip system within 6 hours for multiple instrument channel failures. Also deleted, is the requirement to trip an inoperable instrument channel upon expiration of the repair AOT. The revised actions are consistent with STS. Reference STS Table 3.3.5.1-1, Function 2d.

Note 11 provides the test AOT that is consistent with existing TS and STS. Reference STS Surveillance Requirements 3.3.5.1, Note 2.

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Purpose

The revised actions permit full use of the repair AOT when multiple instrument channels are inoperable, provided that system initiation capability is maintained.

The revised actions also delete the requirement to trip an inoperable instrument upon expiration of the repair AOT to be consistent with STS. The existing TS would require placing this instrument channel in the tripped condition. As described in the Bases for STS Section 3.3.5.1, Actions C.1 and C.2, placing the channel in trip would either cause the initiation or it would not necessarily result in a safe state for the channel in all events.

The test AOT is applicable to trip functions for which initiation capability is required to be maintained during testing, and does not alter the intent of the current TS.

Safety Implication

The revised actions are consistent with the STS requirements for this trip function. Deleting the requirement to trip an inoperable instrument channel is appropriate since placing the channel in trip would not always result in a safe state for the channel. The intent of the test AOT is not altered by this change and remains the same as approved in Amendment 227. Therefore, there is no safety implication with this change.

18. Table 3.2-2. Notes**Description**

Delete Notes 1 and 2 from page 71 and replaced with revised Notes 1 through 12. The revised notes appear on pages 70, 71, 71a, and 71b. The deleted notes provided generic actions and a generic test AOT for each trip function listed in Table 3.2-2. Revised Notes 1 through 12 provide function-specific actions and AOTs. This change also deletes the applicability statement that appeared in (deleted) Note 1. The applicability statement requires trip systems to be operable or tripped, whenever any ECCS subsystem is required to be operable. The applicability statement is not required because it duplicates LCO 3.2.B, "Core and Containment Cooling Systems - Initiation and Control," and the function-specific actions.

Delete Note 3 from page 71a. This note provided reference to LCO 3.5 for inoperable core spray and/or RHR pump start timers. As described in Subsection II.11, revised Note 7 provides the actions, including affects on pump operability, for one or more inoperable start timers.

Delete Note 4 from page 71a. This note was used to indicate that operation could continue with an inoperable 4kV Emergency Bus Undervoltage Relay, provided the inoperable relay was placed in the tripped condition. As described in Subsection II.16, this note is no longer required because its contents are addressed by the revised actions.

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Delete Note 9 from page 71a. As described in Subsection II.5, this note was used to identify single channel trip systems, and was necessary for interpretation of the generic test AOT. Since the generic test AOT has been replaced with function-specific test AOTs, this note is no longer required.

Renumbered Notes 5, 6, 7, and 8 to reflect addition of Notes 1 through 12. The revised note numbers are 13, 14, 15, and 16.

Purpose

The deleted, revised, and renumbered notes reflect function-specific actions and AOTs that are added to the TS. The purpose of the revised actions and AOTs is discussed in the previous subsections.

Safety Implication

The safety implications with the revised actions and AOTs are discussed in the previous subsections. The renumbered notes do not alter the intent of the TS and thus there is no safety implication with this change.

19. **Table 4.2-2. Trip System Bus Power Monitors (item 6). Core Spray Sparger d/p (item 7). and LPCI Cross Connect Valve Position (item 10) Surveillance Requirements**

Description

Delete table items 6, 7, and 10 from page 80 and renumber the remaining table items. These items specify the surveillance requirements for the bus power monitor, core spray sparger d/p, and LPCI cross connect valve position trip functions.

Purpose

These surveillance requirements are deleted to reflect removal of the associated trip functions from Table 3.2-2 (reference Subsection II.14). Upon approval of this amendment application, the surveillance requirements will be relocated to an Authority controlled document. Any future changes to the design, surveillance or operability requirements for the associated trip functions will be controlled under 10 CFR 50.59.

Safety Implication

Since the associated functions are not included in STS, and do not satisfy the criteria for inclusion in the TS, relocation of the surveillance requirements to an Authority controlled document is appropriate. Any future changes to the associated trip functions will be controlled under 10 CFR 50.59. Therefore, there is no safety implication with this change.

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III. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

Operation of the FitzPatrick plant in accordance with the proposed Amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

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

The proposed changes are limited to replacement of the generic actions and test AOT with function-specific actions and test AOTs, and relocation of selected trip functions from the TS to an Authority controlled document. The changes do not introduce any new modes of plant operation, make any physical changes, or alter any operational setpoints. Therefore, the changes do not degrade the performance of any safety system assumed to function in the accident analysis. Consequently, there is no effect on the probability or consequences of an accident.

2. create the possibility of a new or different kind of accident from those previously evaluated.

The proposed changes do not introduce any new accident initiators or failure mechanisms since the changes do not introduce any new modes of plant operation, make any physical changes, or alter any operational setpoints. Therefore the changes do not create the possibility of a new or different kind of accident.

3. involve a significant reduction in the margin of safety.

The proposed changes do not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. The relocated requirements do not satisfy the 10 CFR 50.36 criteria for inclusion in the Technical Specifications. Therefore, the changes do not involve a significant reduction in the margin of safety.

IV. IMPLEMENTATION OF THE PROPOSED CHANGES

Implementation of the proposed changes will not adversely affect the ALARA or Fire Protection Programs at the FitzPatrick plant, nor will the changes impact the environment.

V. CONCLUSION

Revising the Technical Specifications to adopt function-specific actions and test AOTs, and relocate selected trip functions to an Authority controlled document, does not involve an unreviewed safety question or a significant hazards consideration and will not endanger the health and safety of the public. The Plant Operating Review Committee (PORC) and Safety Review Committee (SRC) have reviewed this proposed change to the Technical Specifications and have agreed with this conclusion.

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VI. REFERENCES

1. NRC letter, C. E. Carpenter, Jr., to W. J. Cahill, Jr., dated September 11, 1995, issuing Amendment 227 to the James A. FitzPatrick Technical Specifications
2. NRC letter, C. E. Carpenter, Jr., to W. J. Cahill, Jr., dated December 11, 1995, regarding "Correction to Amendments 227 and 228 for the James A. FitzPatrick Nuclear Power Plant"
3. NUREG-1433, "Standard Technical Specifications for General Electric Boiling Water Reactors (BWR/4)," Revision 1, dated April 1995
4. James A. FitzPatrick Updated Final Safety Analysis Report, Sections 5.3.3.4, 6.4.1, 7.4.3.2.4, 7.4.3.3.2, 7.4.3.5.4, 14.6.1.3.3; Figures 4.7-2, 7.4-8; and Table 7.3-1
5. NEDC-30936-P-A, Part 2, "BWR Owners Group Technical Specification Improvement Methodology (With Demonstration of for BWR ECCS Actuation Instrumentation)," December 1988
6. GE letter to NRC, dated March 22, 1990, regarding "Clarification of Technical Specification Changes Given in ECCS Actuation Instrumentation Analysis"

Attachment III to JPN-96-010

MARKED-UP TECHNICAL SPECIFICATION PAGES

**CORE AND CONTAINMENT COOLING SYSTEM
INITIATION AND CONTROL INSTRUMENTATION**

(JPTS-96-002)

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Docket No. 50-333

DPR-59

Attachment III to JPN-96-010
MARKED-UP TECHNICAL SPECIFICATION PAGES

Insert A:

- "1. With one or more channels inoperable for HPCI and/or RCIC:
 - A. Within one hour from discovery of loss of system initiation capability, declare the affected system inoperable, and
 - B. Within 24 hours, place channel in trip.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare the affected system inoperable.
2. With one or more channels inoperable for Core Spray and/or RHR:
 - A. Within one hour from discovery of loss of initiation capability for feature(s) in both divisions, declare the supported features inoperable, and
 - B. Within 24 hours, place channel in trip.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare associated supported feature(s) inoperable.
3. With one or more channels inoperable for ADS:
 - A. Within one hour from discovery of loss of ADS initiation capability in both trip systems, declare ADS inoperable, and
 - B. Within 96 hours from discovery of an inoperable channel concurrent with HPCI or RCIC inoperable, place channel in trip, and
 - C. Within 8 days, place channel in trip.
 - D. If required actions and associated completion times of actions A, B, or C are not met, immediately declare ADS inoperable."

Insert B:

- "4. With one or more channels inoperable for HPCI and/or RCIC:
 - A. Within 24 hours, restore channel to operable status.
 - B. If required action and associated completion time of action A is not met, immediately declare affected system inoperable.

Attachment III to JPN-96-010
MARKED-UP TECHNICAL SPECIFICATION PAGES

5. With one or more channels inoperable for containment spray:
 - A. Within 24 hours, place channel in trip.
 - B. If required action and associated completion time of action A is not met, immediately declare associated supported feature(s) inoperable.
6. With one or more channels inoperable for injection permissive and/or recirculation discharge valve permissive:
 - A. Within one hour from discovery of loss of initiation capability for feature(s) in both divisions, declare the supported features inoperable, and
 - B. Within 24 hours, restore channel to operable status.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare associated supported feature(s) inoperable."

Insert C:

- "7.
 - A. With inoperable start timers in two or more ECCS subsystems, immediately declare the associated ECCS subsystems inoperable.
 - B. With both start timers in the same LPCI subsystem inoperable, immediately rack out the circuit breakers for the affected RHR pumps and declare that LPCI subsystem inoperable.
 - C. With one start timer inoperable, restore the timer to an operable status within 24 hours, or immediately rack out the circuit breaker for the affected pump and declare the affected pump inoperable.
8. With one or more channels inoperable for ADS:
 - A. Within one hour from discovery of loss of ADS initiation capability in both trip systems, declare ADS inoperable, and
 - B. Within 96 hours from discovery of an inoperable channel concurrent with HPCI or RCIC inoperable, restore channel to operable status, and
 - C. Within 8 days, restore channel to operable status.
 - D. If required actions and associated completion times of actions A, B, or C are not met, immediately declare ADS inoperable.

Attachment III to JPN-96-010
MARKED-UP TECHNICAL SPECIFICATION PAGES

9. With one or more channels inoperable for HPCI and/or RCIC:
 - A. Within one hour from discovery of loss of system initiation capability while suction for the affected system is aligned to the CST, declare the affected system inoperable, and
 - B. Within 24 hours, place channel in trip or align suction for the affected system to the suppression pool.
 - C. If required actions and associated completion times of actions A or B are not met, immediately declare the affected system inoperable."

Insert D:

- "10. With one or more channels inoperable for 4kV Emergency Bus Undervoltage Trip Functions:
 - A. Within one hour, place channel in trip.
 - B. If required action and associated completion time of action A is not met, immediately declare the affected Emergency Diesel Generator System inoperable.
11. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions For Operation and required actions may be delayed for up to 6 hours provided the associated Trip Function or the redundant Trip Function maintains ECCS initiation capability.
12. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions For Operation and required actions may be delayed for up to 6 hours."

TABLE 3.2-2

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

Item No.	Minimum No. of Operable Instrument Channels Per Trip System (Notes 1 and 2)	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
1	2 (Notes 1, 11)	Reactor Low-Low Water Level	≥ 126.5 in. above TAF	4 (HPCI & RCIC)	Initiates HPCI, RCIC, and SGTS.
2	2 (Notes 2, 3, 11)	Reactor Low-Low Low Water Level	≥ 18 in. above TAF	4 (Core Spray & RHR)	Initiates Core Spray, RHR (LPCI), and Emergency Diesel Generators.
				4 (ADS)	Initiates ADS (if not inhibited by ADS override switches), in conjunction with Confirmatory Low Level, 120 second delay and RHR (LPCI) or Core Spray pump discharge pressure interlock.
3	2 (Notes 4, 12)	Reactor High Water Level	≤ 222.5 in. above TAF	2 (Note 8) ¹⁶	Trips HPCI turbine.
4	2 (Notes 4, 12)	Reactor High Water Level	≤ 222.5 in. above TAF	2 (Note 8) ¹⁶	Closes RCIC steam supply valve.
5	1 (Note 9) (Notes 5, 11)	Reactor Low Level (inside shroud)	≥ 0 in. above TAF	2	Prevents inadvertent operation of containment spray during accident condition.
6	2	Containment High Pressure	$1 < p < 2.7$ psig	4	Prevents inadvertent operation of containment spray during accident condition.

TABLE 3.2-2 (Cont'd)

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

Item No.	Minimum No. of Operable Instrument Channels Per Trip System (Notes 1 and 2)	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
76	1 (Note 9) (Notes 3, 11)	Reactor Low Level	≥ 177 in. above TAF	2	Confirmatory low water level for ADS actuation.
87	2 (Notes 1, 2, 11)	Drywell High Pressure	≤ 2.7 psig	4	Initiates Core Spray, RHR (LPCI), HPCI and SGTS.
98	2 (Notes 6, 11)	Reactor Low Pressure	≥ 450 psig	4	Permits opening Core Spray and RHR (LPCI) injection valves.
109	1 (Note 9) (Notes 2, 12)	Reactor Low Pressure	$50 \leq p \leq 75$ psig	2	Permits closure of RHR (LPCI) injection valves while in shutdown cooling in conjunction with PCIS signal.
110	1 (Notes 3 & 9) 7, 11	Core Spray Pump Start Timer (each loop)	11 ± 0.6 sec.	1 (Note 8) ¹⁶	Initiates starting of core spray pump. (each loop)
121	1 (Notes 3 & 9) 7, 11	RHR (LPCI) Pump Start Timer			
		1st Pump (A Loop)	$1.0 + 0.5 (-) 0$ sec.	1 (Note 8) ¹⁶	Starts 1st Pump (A Loop)
		1st Pump (B Loop)	$1.0 + 0.5 (-) 0$ sec.	1 (Note 8) ¹⁶	Starts 1st Pump (B Loop)
		2nd Pump (A Loop)	6.0 ± 0.5 sec.	1 (Note 8) ¹⁶	Starts 2nd Pump (A Loop)
		2nd Pump (B Loop)	6.0 ± 0.5 sec.	1 (Note 8) ¹⁶	Starts 2nd Pump (B Loop)

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TABLE 3.2-2 (Cont'd)

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

Item No.	Minimum No. of Operable Instrument Channels Per Trip System (Notes 1 and 2)	DELETE Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
13 ¹²	1 (Note 9) (Notes 8, 11)	DELETE Auto Blowdown Tim	120 sec. \pm 5 sec.	2	Initiates ADS (if not inhibited by ADS override switches).
14 ¹³	4 (Notes 8, 11)	RHR (LPCI) Pump Discharge Pressure Interlock	125 psig \pm 20 psig	8	Permits ADS actuation.
15 ¹⁴	2 (Notes 8, 11)	Core Spray Pump Discharge Pressure Interlock	100 psig \pm 10 psig	4	Permits ADS actuation.
16	1 (Note 9)	RHR (LPCI) Trip System Bus Power Monitor	Loss of Voltage	2	Monitors availability of power to logic systems.
17	1 (Note 9)	Core Spray Trip System Bus Power Monitor	Loss of Voltage	2	Monitors availability of power to logic systems.

Amendment No. ~~10, 98, 99, 104~~, 227₉

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TABLE 3.2-2 (cont'd)

CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS

Item No.	Minimum No. of Operable Instrument Channels Per Trip System (Notes 1 and 2)	DELETE Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
18	1 (Note 9)	ADS Trip System Bus Power Monitor	Loss of Voltage	2	Monitors availability of power to logic systems.
19	1 (Note 9)	HPCI Trip System Bus Power Monitor	Loss of Voltage	2	Monitors availability of power to logic systems.
20	1 (Note 9)	RCIC Trip System Bus Power Monitor	Loss of Voltage	2	Monitors availability of power to logic systems.
21	1 (Note 9)	Core Spray Sparger to Reactor Pressure Vessel d/p	≤ 0.5 psid	2	Alarms to indicate Core Spray sparger pipe break.
22 15	2 (Notes 9, 11)	Condensate Storage Tank Low Level	≥ 59.5 in. above tank bottom (= 15,600 gal. avail)	2 (Note 8) 16	Transfers RCIC pump suction to suppression chamber.
23 16	2 (Notes 9, 11)	Condensate Storage Tank Low Level	≥ 59.5 in. above tank bottom (= 15,600 gal avail)	2 (Note 8) 16	Transfers HPCI pump suction to suppression chamber.
24 17	2 (Notes 9, 11)	Suppression Chamber High Level	≤ 6 in. above normal level	2 (Note 8) 16	Transfers HPCI pump suction to suppression chamber.
25	1 (Note 9)	LPCI Cross-Connect Valve Position	NA	1 (Note 8)	Alarms when valve is not closed.

Amendment No. 1, 2, 3, 4, 22, 9

TABLE 3.2-2 (cont'd)

CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS

DELETE

Item No.	Minimum No. of Operable Instrument Channels Per Trip System (Notes 1 and 2)	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design for Both Trip Systems	Remarks
26 18	2 (1 per 4kV bus) (Note 9) 10	4kV Emergency Bus Undervoltage Relay (Degraded Voltage)	110.6 \pm 1.2 secondary volts	24	Initiates both 4kV Emergency Bus Undervoltage Timers. (Degraded Voltage LOCA and non-LOCA) (Notes 4 and 6) (Note 14)
27 19	(1 per 4kV bus) (Note 9) 10	4kV Emergency Bus Undervoltage Timer (Degraded Voltage LOCA)	9.0 \pm 1.0 sec.	2	(Note 5) 13
28 20	(1 per 4kV bus) (Note 9) 10	4kV Emergency Bus Undervoltage Timer (Degraded Voltage non-LOCA)	45 \pm 5.0 sec.	2	(Note 5) 13
29 21	2 (1 per 4kV bus) (Note 9) 10	4kV Emergency Bus Undervoltage Relay (Loss of Voltage)	85 \pm 4.25 secondary volts	24	Initiates 4kV Emergency Bus Undervoltage Loss of Voltage Timer. (Notes 4 and 7) (Note 15)
30 22	(1 per 4kV bus) (Note 9) 10	4kV Emergency Bus Undervoltage Timer (Loss of Voltage)	2.50 \pm 0.05 sec.	2	(Note 5) 13
31 23	2 (Notes 6, 11)	Reactor Low Pressure	285 to 335 psig	4	Permits closure of recirculation pump discharge valve.

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PAGE 69

Amendment No. 1, 98-227,

INSERT "A"

TABLE 3.2-2 (Cont'd)

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

DELETE

NOTES FOR TABLE 3.2-2

1. Whenever any ECCS subsystem is required by Specification 3.5 to be operable, there shall be two operable or tripped trip systems (or in the case of single trip system instrument logics, one operable trip system), except as provided for below:
- For each Trip Function with one less than the required minimum number of operable instrument channels, place the inoperable instrument channel in the tripped condition* within 24 hours. Otherwise, declare the associated ECCS inoperable.
 - For each Trip Function with two or more channels less than the required minimum number of operable instrument channels:
 - Within one hour, verify sufficient instrument channels remain operable or tripped* to maintain trip capability in the Trip Function, and
 - Within 6 hours, place the inoperable instrument channel(s) in one trip system** in the tripped condition*, and
 - Within 24 hours, restore the inoperable instrument channel in the other trip system to an operable status.

If any of these three conditions cannot be satisfied, declare the associated ECCS inoperable.
- * An inoperable instrument channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, if the inoperable instrument channel is not restored to operable status within the required time, declare the associated ECCS inoperable.
- ** This action applies to that trip system with the greatest number of inoperable instrument channels. If both systems have the same number of inoperable instrument channels, the ACTION can be applied to either trip system.
2. When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions For Operation and required actions may be delayed as follows: (a) for up to 6 hours for single channel Trip Functions; or (b) for up to 6 hours for the remaining Trip Functions provided the associated Trip Function maintains ECCS initiation capability.

Amendment No. 48, 97, 106, 120, 140, 227,

Insert "B"

Table 3.2-2 (Cont'd)

**CORE AND CONTAINMENT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS**

3. Refer to Technical Specification 3.5 for Limiting Conditions for Operation. Failure of one (1) instrument channel disables automatic initiation of one (1) pump.
4. Tripping of 2 out of 2 sensors is required for an undervoltage trip. With one operable sensor, operation may continue with the inoperable sensor in the tripped condition.
5. The 4kV Emergency Bus Undervoltage Timers (degraded voltage LOCA, degraded voltage non-LOCA, and loss-of-voltage) initiate the following: starts the Emergency Diesel-Generators; trips the normal/reserve tie breakers and trips all 4kV motor breakers (in conjunction with 75 percent Emergency Diesel-Generator voltages); initiates diesel-generator breaker close permissive (in conjunction with 90 percent Emergency Diesel-Generator voltages) and; initiates sequential starting of vital loads in conjunction with low-low-low reactor water level or high drywell pressure.
6. A secondary voltage of 110.6 volts corresponds to approximately 93% of 4160 volts on the bus.
7. A secondary voltage of 85 volts corresponds to approximately 71.5% of 4160 volts on the bus.
8. Only one trip system.
9. Single channel trip systems.

DELETE

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71b (NEW PAGE)

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Table 3.2-2 (cont'd)

COLE AND CONTAMINANT COOLING SYSTEM INITIATION AND
CONTROL INSTRUMENTATION OPERABILITY REQUIREMENTS

Insert "D"

Amendment No.

71b

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TABLE 4.2-2

**CORE AND CONTAINMENT COOLING SYSTEM INSTRUMENTATION
TEST AND CALIBRATION REQUIREMENTS**

Instrument Channel	Instrument Functional Test	Calibration Frequency	Instrument Check (Note 4)
1) Reactor Water Level	Q (Note 5)	SA / R (Note 15)	D
2a) Drywell Pressure (non-ATTS)	Q	Q	NA
2b) Drywell Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
3a) Reactor Pressure (non-ATTS)	Q	Q	NA
3b) Reactor Pressure (ATTS)	Q (Note 5)	SA / R (Note 15)	D
4) Auto Sequencing Timers	NA	R	NA
5) ADS - LPCI or CS Pump Disch.	Q	Q	NA
6) Trip System Bus Power Monitors	Q	NA	NA
7) Core Spray Sparger d/p	Q	Q	D
8) HPCI & RCIC Suction Source Levels	Q	Q	NA
9) 4kV Emergency Bus Under-Voltage (Loss-of-Voltage, Degraded Voltage LOCA and non-LOCA) Relays and Timers.	R	R	NA
10) LPCI Cross Connect Valve Position	R	NA	NA

NOTE: See notes following Table 4.2-5.

LIST OF COMMITMENTS

CORE AND CONTAINMENT COOLING SYSTEM
INITIATION AND CONTROL INSTRUMENTATION

(JPTS-96-002)

Commitment No.	Description	Due Date
JPN-96-010-01	Relocate operability and surveillance requirements for containment spray permissive high drywell pressure instruments to an Authority controlled document. Ensure this document requires that any future changes to relocated requirements be controlled under the provisions of 10 CFR 50.59.	Within 60 days of Amendment issue date
JPN-96-010-02	Relocate operability and surveillance requirements for logic bus power monitors, core spray sparger d/p, and LPCI cross-connect valve position instruments to an Authority controlled document. Revise actions for inoperable instrument channels to require associated parameter be monitored at least every 12 hours, rather than placing channel in trip. Ensure the Authority controlled document requires that any future changes to relocated requirements be controlled under the provisions of 10 CFR 50.59.	Within 60 days of Amendment issue date