Technical Requirements Manual (TRM)

Joseph M. Farley Nuclear Plant
Units 1 and 2

List of Effective Pages

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Note on section numbering: The TRM and TRM Bases numbering is intended to correspond to the associated ITS Specification. The numbering convention is to use the ITS Specification number, with the addition of a leading "1". For example, TRM spec 13.8, Electrical Power Systems, corresponds to ITS spec 3.8. Since all ITS specifications do not have associated TRM specifications, the TRM numbers do not run consecutively.

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11.0 Use and Application

11.1 Definitions

The definitions contained in the Technical Specifications Section 1.1, "Definitions," apply to the Technical Requirements contained in this manual. In the Technical Requirements, defined terms are shown in all capital letters, consistent with the Technical Specifications. In addition, the following term is defined for the TRM and TRM Bases.

Functional/Functionality – Functionality is an attribute of Structures, Systems and Components (SSCs) that is not controlled by Technical Specifications (TSs). An SSC is functional or has functionality when it is capable of performing its specified function, as set forth in the Current Licensing Basis (CLB). Functionality does not apply to specified safety functions, but does apply to the ability of non-TS SSCs to perform other specified functions that have a necessary support function.

11.2 Logical Connectors

The guidance provided for the use and application of logical connectors in Section 1.2, "Logical Connectors," of the Technical Specifications is applicable to the Technical Requirements contained in this manual.

11.3 Completion Times

The guidance provided for the use and application of Completion Times in Section 1.3, "Completion Times," of the Technical Specifications is applicable to the Technical Requirements contained in this manual.

11.4 Frequency

The guidance provided for the use and application of Frequency requirements in Section 1.4, "Frequency," of the Technical Specifications is applicable to the Technical Requirements contained in this manual.

11.5 Technical Requirement (TR) and Technical Requirement Surveillance (TRS) Implementation

TRs and TRSs are implemented the same as Technical Specifications (see 13.0). However, TRs and TRSs are treated as plant procedures and are not part of the Technical Specifications. Therefore the following exceptions apply:

a. Violations of the Action or Surveillance requirements in a TR are not reportable as conditions prohibited by, or deviations from, the Technical Specifications per 10 CFR 50.72 or 10 CFR 50.73, unless specifically required by the TR.

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11.0 Use and Application

b. Power reductions or plant shutdowns required to comply with the Actions of a TR or as a result of the application of TR 13.0.3 are not reportable per 10 CFR 50.72 or 10 CFR 50.73.

c. Violations of TR or TRS requirements, except as provided for in Section 13.0 of this manual, shall be treated the same as plant procedure violations.

11.6 Technical Requirement Manual Revisions

Changes to this manual are controlled in accordance with 10 CFR 50.59.

11.7 Alternative Actions (e.g., Initiate a Condition Report, Continue Action to Restore, Determination of Alternate Course of Action)

Alternative Actions, such as initiating a condition report or management determination of alternate course of action are provided for selected TRs as alternatives to performing a plant shutdown if the nonfunctional TR cannot be restored within the allowed Completion Time. To ensure safe operation of the plant, priority should be on restoration of the nonfunctional TR to FUNCTIONAL within the allowed Completion Time. The alternative Actions to restoration of the TR to FUNCTIONAL are to provide allowances for a course of action that would continue to ensure the safe operation of the plant. Alternative Actions would allow for evaluation of the specific circumstances and plant conditions present at the time to determine if a safe alternative to a shutdown exists. Alternative Actions may be appropriate for situations where continued operation can be justified; for example, if the specified limits in the TR (e.g., RCS Chemistry or Pressurizer) were only slightly exceeded and sufficient margin is available, or if a Completion Time or Surveillance Frequency extension would allow the restoration of the limits or component FUNCTIONALITY, or if an alternate means for determining the FUNCTIONALITY of a component can be identified

If the Alternative Action includes operation beyond the stated Completion Time, a plan for restoring the TR should be documented.

The plan for restoring the TR should consider:

- The technical basis of the requirement,
- The safety significance of continued operation beyond the stated Completion Time,
- A qualitative or quantitative evaluation of the operational risk associated with the TR not being met (e.g., online or outage risk assessments or engineering technical justifications),

11.0 Use and Application

- If required, compensatory actions put in place during the time the TR is not met, and
- Approval by the appropriate level of management prior to expiration of the Completion Time.

If the Alternate Action is taken it should be documented in a CR, ODMI, or other appropriate means and should contain the following:

- The reason the TR could not be restored within the allowed Completion Time,
- The results of the evaluation of operational risk,
- Any compensatory measures, and
- The operational conditions necessary to restore the TR to FUNCTIONAL.

The appropriate level of management is, as a minimum, the Shift Manager. However, the Shift Manager should consider the safety significance and operational risks associated with the nonfunctional TR and engage senior management in the decision to implement the alternative Action, as required.

13.0 Technical Requirement (TR) Applicability

TR 13.0.1 TRs shall be met during the MODES or other specified conditions in the Applicability, except as provided in TR 13.0.2 and TR 13.0.7.

TR 13.0.2 Upon discovery of a failure to meet a TR, the Required Actions of the associated Conditions shall be met, except as provided in TR 13.0.5.

If the TR is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

TR 13.0.3 When a TR is not met and the associated ACTIONS are not met or an associated ACTION is not provided, the unit shall be placed in a safe condition as determined by plant management. A Condition Report shall be initiated immediately.

TR 13.0.4 When a TR is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;

(continued)

13.0 Technical Requirement (TR) Applicability

TR 13.0.4 (continued)

b. After performance of a risk assessment addressing nonfunctional systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this requirement are stated in the individual requirement, or

c. When an allowance is stated in the individual value, parameter, or other requirement.

This TR shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

TR 13.0.5

Equipment removed from service or declared nonfunctional to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its FUNCTIONALITY or the FUNCTIONALITY or OPERABILITY of other equipment. This is an exception to TR 13.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate FUNCTIONALITY.

TR 13.0.7

Test Exception TR 13.1.9 allows TR 13.1.8, “Position Indication - Shutdown” to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TR requirements remain unchanged. Compliance with the Test Exception TR is optional. When the Test Exception TR is desired to be met but is not met, the ACTIONS of the Test Exception TR shall be met. When the Test Exception TR is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable TRs.

13.0 Technical Requirement Surveillance (TRS) Applicability

TRS 13.0.1 TRSs shall be met during the MODES or other specified conditions in the Applicability for individual TRs, unless otherwise stated in the TRS. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the TR. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the TR except as provided in TRS 13.0.3. Surveillances do not have to be performed on nonfunctional equipment or variables outside specified limits.

TRS 13.0.2 The specified Frequency for each TRS is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this requirement are stated in the individual TRSs.

TRS 13.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the TR not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the TR must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the TR must immediately be declared not met, and the applicable Condition(s) must be entered.

TRS 13.0.4 Entry into a MODE or other specified condition in the Applicability of a TR shall only be made when the TR's Surveillances have been met within

(continued)

13.0 Technical Requirement Surveillance (TRS) Applicability

TRS 13.0.4 (continued) their specified Frequency, except as provided by TRS 13.0.3. When a TR is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with TR 13.0.4.

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

13.1 Reactivity Control Systems

TR 13.1.1 SHUTDOWN MARGIN (SDM) – MODES 1 AND 2

TR 13.1.1 SDM shall be within the limits provided in the COLR.

APPLICABILITY: MODE 1 and MODE 2 with $k_{eff} \geq 1.0$

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. SDM not within limit.	A.1 Initiate boration to restore SDM to within limit.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.1.1.1	Verify SDM within limit with the control banks at the maximum insertion limit specified in the COLR and considering the following factors: 1) RCS boron concentration, 2) Control rod position, 3) RCS average temperature, 4) Fuel burnup based on gross thermal energy generation, 5) Xenon concentration, and 6) Samarium concentration	Prior to initial operation above 5% RTP after each fuel loading.

13.1 Reactivity Control Systems

TR 13.1.2 Boration Flow Path - Shutdown

TR 13.1.2 One of the following boron injection flow paths shall be FUNCTIONAL:

a. A flow path from a FUNCTIONAL boric acid storage tank via a boric acid transfer pump and a charging pump to the Reactor Coolant System, or

b. In MODE 6 only, a flow path from a FUNCTIONAL boric acid storage tank via a boric acid transfer pump through an idle charging pump to the Reactor Coolant System, or

c. A flow path from the FUNCTIONAL Refueling Water Storage Tank via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODE 5,
MODE 6 with any valve used to isolate an unborated water source not secured in the closed position.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required Flow Path nonfunctional.	A.1 Suspend CORE ALTERATIONS. AND A.2 Suspend positive reactivity changes.	Immediately Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE	FREQUENCY
TRS 13.1.2.1 ----------NOTE---------- Only required to be performed when a flow path from the boric acid storage tanks is required FUNCTIONAL and the ambient air temperature of the auxiliary building is < 65 °F. ---------- Verify that the temperature of the flow path is ≥ 65 °F.	31 days

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.1.2.2	Verify that each manual, power operated, or automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.	184 days
TRS 13.1.2.3	----------NOTE---------- Only required to be performed when the boric acid transfer pump is required FUNCTIONAL. ---------- Verify that, on recirculation flow, the boric acid transfer pump develops a discharge pressure of ≥ 100 psig.	184 days

13.1 Reactivity Control Systems

TR 13.1.3 Boration Flow Paths - Operating

TR 13.1.3 Two of the following three boron injection flow paths shall be FUNCTIONAL.

a. The flow path from the boric acid storage tanks via a boric acid transfer pump and a charging pump to the Reactor Coolant System.

b. Two flow paths from the Refueling Water Storage Tank via charging pumps to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One required flow path nonfunctional in MODE 1 or 2.	A.1	Restore at least two required flow paths to FUNCTIONAL status.	72 hours
B.	One required flow path nonfunctional in MODE 3 or 4.	B.1	Restore at least two required flow paths to FUNCTIONAL status.	7 days
C.	Required Actions and associated Completion Times not met.	C.1	Initiate a Condition Report.	Immediately
		AND		
		C.2	Continue action to restore the required flow path to FUNCTIONAL status.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.1.3.1	----------NOTE---------- Only required to be performed when a flow path from the boric acid storage tanks is required FUNCTIONAL and the ambient air temperature of the auxiliary building is < 65 °F. ---------- Verify that the temperature of the flow path from the boric acid tanks is ≥ 65 °F.	31 days
TRS 13.1.3.2	Verify that each manual, power operated, or automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.	184 days
TRS 13.1.3.3	----------NOTE---------- Only required to be performed when the boric acid transfer pump is required FUNCTIONAL. ---------- Verify that, on recirculation flow, the boric acid transfer pump develops a discharge pressure of ≥ 100 psig.	184 days
TRS 13.1.3.4	Verify required flow path from boric acid storage tanks delivers ≥ 30 gpm to the Reactor Coolant System.	While proceeding to or in MODE 5 if not performed in the previous 12 months

13.1 Reactivity Control Systems

TR 13.1.4 Boration Pump - Shutdown

TR 13.1.4 The required boration pump (charging or boric acid transfer) in the boron injection flow path required by TR 13.1.2 shall be FUNCTIONAL and capable of being powered from an OPERABLE emergency bus.

----------NOTE----------
The boric acid transfer pump may only be used in place of the charging pump in MODE 6 consistent with flow path b. in TR 13.1.2.

APPLICABILITY: MODE 5,
MODE 6 with any valve used to isolate an unborated water source not secured in the closed position.

----------NOTE----------
The requirement to have only one charging pump FUNCTIONAL is only applicable when one or more of the RCS cold legs is ≤180°F; however, while in this condition, two charging pumps may be capable of injecting into the RCS during pump swap operations for a period of no more than 15 minutes provided that the RCS is in a non-water solid condition and both RHR relief valves are OPERABLE or the RCS is vented via an opening of no less than 5.7 square inches in area.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required charging pump nonfunctional.	A.1 Suspend CORE ALTERATIONS. AND A.2 Suspend operations involving positive reactivity changes.	Immediately Immediately

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
B.	More than one charging pump capable of injecting into the RCS, except as allowed during pump swap operations.	B.1	Initiate action to render all but the above required FUNCTIONAL pump inoperable as specified in Technical Specifications SR 3.4.12.1.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.1.4.1	----------NOTE---------- Not required to be performed when the RCS is in a water solid condition. ---------- Verify that, on recirculation flow, the charging pump required by TR 13.1.2 develops a differential pressure of ≥ 2323 psid.	In Accordance with the Inservice Testing Program
TRS 13.1.4.2	TRS 13.1.2.3. is applicable when the boric acid transfer pump is required FUNCTIONAL.	In accordance with TRS 13.1.2.3

13.1 Reactivity Control Systems

TR 13.1.5 Charging Pumps - Operating

TR 13.1.5 Two charging pumps shall be FUNCTIONAL.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required charging pump nonfunctional in MODE 1 or 2.	A.1 Restore at least two charging pumps to FUNCTIONAL status.	72 hours
B. One required charging pump nonfunctional in MODE 3 or 4.	B.1 Restore at least two charging pumps to FUNCTIONAL status.	7 days
C. Required Action and associated Completion Time not met.	C.1 Initiate a Condition Report. AND C.2 Continue action to restore the required charging pump to FUNCTIONAL status.	Immediately Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.1.5.1	Verify that, on recirculation flow, each required charging pump develops a differential pressure of ≥ 2323 psid.	In Accordance with the Inservice Testing Program

13.1 Reactivity Control Systems

TR 13.1.6 Borated Water Source - Shutdown

TR 13.1.6 One of the following borated water sources shall be FUNCTIONAL:

a. A boric acid storage system, or

b. The refueling water storage tank (RWST)

APPLICABILITY: MODE 5,
MODE 6 with any valve used to isolate an unborated water source not secured in the closed position.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required borated water source nonfunctional.	A.1 Suspend CORE ALTERATIONS AND A.2 Suspend positive reactivity changes.	Immediately Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

----------NOTES----------

1. TRS 13.1.6.1, TRS 13.1.6.2, and TRS 13.1.6.3 are only required to be performed when the RWST is the required borated water source.

2. TRS 13.1.6.4, TRS 13.1.6.5, and TRS 13.1.6.6 are only required to be performed when the boric acid storage tank is the required borated water source.

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.1.6.1	----------NOTE---------- Only required to be performed when the outside air temperature is < 35 °F. ---------- Verify RWST solution temperature is ≥ 35 °F.	72 hours
TRS 13.1.6.2	Verify the RWST boron concentration is ≥ 2,300 ppm.	7 days
TRS 13.1.6.3	Verify RWST borated water volume is ≥ 30,000 gallons.	31 days
TRS 13.1.6.4	Verify the boric acid storage tank solution temperature is ≥ 65 °F.	31 days
TRS 13.1.6.5	Verify the boron concentration of the boric acid tank solution is between 7,000 ppm and 7,700 ppm.	31 days
TRS 13.1.6.6	Verify the contained borated water volume in the boric acid storage tank is ≥ 2,000 gallons.	31 days

13.1 Reactivity Control Systems

TR 13.1.7 Borated Water Sources - Operating

TR 13.1.7 The following borated water source(s) shall be FUNCTIONAL as required by TR 13.1.3:

a. A Boric acid storage system, and

b. The refueling water storage tank (RWST).

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required boric acid storage system nonfunctional in MODE 1 or 2.	A.1 Restore boric acid storage system to FUNCTIONAL status.	72 hours
B. Required boric acid storage system nonfunctional in MODE 3 or 4.	B.1 Restore the boric acid storage system to FUNCTIONAL status.	7 days
C. Required Actions and associated Completion Times of Condition A or B not met.	C.1 Initiate a Condition Report. AND C.2 Continue action to restore the boric acid storage system to FUNCTIONAL status.	Immediately Immediately

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. RWST nonfunctional.	D.1 Enter applicable Conditions of RWST Technical Specification 3.5.4.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

----------NOTES----------

1. TRS 13.1.7.1 is only required to be performed when the RWST is the required borated water source.

2. TRS 13.1.7.2, TRS 13.1.7.3, and TRS 13.1.7.4 are only required to be performed when the boric acid storage tank is the required borated water source.

SURVEILLANCE		FREQUENCY
TRS 13.1.7.1	When the RWST is required to be FUNCTIONAL, the SRs of Technical Specification 3.5.4 are applicable.	In accordance with applicable SRs.
TRS 13.1.7.2	Verify the boric acid storage system solution temperature is $\geq$ 65 °F.	31 days
TRS 13.1.7.3	Verify the boron concentration of the boric acid storage system solution is between 7,000 ppm and 7,700 ppm.	92 days
TRS 13.1.7.4	Verify the contained borated water volume in the boric acid storage system is $\geq$ 11,336 gallons.	31 days

13.1 Reactivity Control Systems

TR 13.1.8 Position Indication System - Shutdown

TR 13.1.8 One digital rod position indication (DRPI) channel (excluding demand position indication) shall be FUNCTIONAL and capable of determining the control rod position within ± 12 steps for each shutdown or control rod not fully inserted.

APPLICABILITY: When the reactor trip breakers are closed and Rod Control System capable of rod withdrawal in MODES 3, 4, or 5.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required DRPI channel for one or more shutdown or control rods nonfunctional.	A.1 Open the reactor trip system breakers.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.1.8.1	For each DRPI channel required FUNCTIONAL, verify the demand position indication system and the DRPI channels agree to within ± 12 steps.	24 hours

13.1 Reactivity Control Systems

TR 13.1.9 Test Exception for Position Indication System - Shutdown

TR 13.1.9 The requirements of TR 13.1.8, “Position Indication System – Shutdown,” may be suspended during the performance of individual shutdown and control rod drop time measurements provided:

a. Only one shutdown or control bank is withdrawn from the fully inserted position at a time, and

b. The DRPI is FUNCTIONAL during the withdrawal of the rods.

APPLICABILITY: During performance of rod drop time measurements in MODES 3, 4, or 5.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more required DRPI nonfunctional during rod withdrawal. OR More than one bank of rods withdrawn.	A.1	Open the reactor trip breakers.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.1.9.1	Verify the demand position indication system and the rod position indication system agree: a. Within 12 steps when the rods are stationary, and b. Within 24 steps during rod motion.	Within 24 hours prior to initiation of rod drop time measurements AND 24 hours thereafter

13.1 Reactivity Control Systems

TR 13.1.10 Rod Drop Time

TR 13.1.10 The individual rod drop time of each rod affected by maintenance on or modification to the control rod drive system which could affect the drop time of those specific rods shall be within limits.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more rods, affected by maintenance on or modification to the control rod drive system which could affect the drop time, with rod drop time not within limits	A.1 Restore rod drop time to within limits.	Prior to reactor criticality

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE	FREQUENCY
TRS 13.1.10.1 Verify, for specifically affected individual rods, rod drop time of each rod, from the fully withdrawn position, is ≤ 2.7 seconds from the beginning of decay of stationary gripper coil voltage to dashpot entry, with: a. $T_{avg} \geq 541$ °F; and b. All reactor coolant pumps operating.	Prior to reactor criticality, following maintenance on or modification to the control rod drive system which could affect the drop time of those specific rods

13.3 Instrumentation

TR 13.3.1 Movable Incore Detectors

TR 13.3.1 The movable incore detection system shall be FUNCTIONAL with:

1.1 ≥ 38 detector thimbles, with ≥ 2 detector thimbles per quadrant as identified in Figure 13.3.1-1,

OR

1.2 ≥ 32 and < 38 detector thimbles, with ≥ 3 detector thimbles per quadrant as identified in Figures 13.3.1-1 and 13.3.1-2,

OR

1.3 ≥ 25 and < 32 detector thimbles, with ≥ 4 detector thimbles per quadrant as identified in Figures 13.3.1-1 and 13.3.1-2.

AND

2. Sufficient movable detectors, drives, and readout equipment to map these thimbles.

----------NOTES----------

1. ≥ 38 detector thimbles, with ≥ 2 detector thimbles per quadrant as identified in Figure 13.3.1-1 are required during initial startup after a refueling outage up to and including performance of the first flux map at 100% RTP. An exception is discussed in the Bases for TR 13.3.1 for recalibration of the excore neutron flux detection system and for monitoring QPTR. However, a flux map with ≥ 38 detector thimbles, with ≥ 2 detector thimbles per quadrant as identified in Figure 13.3.1-1 is still required prior to reaching 50% RTP to detect a core misload event.
2. If a detector thimble is located on either the major axes of Figure 13.3.1-1 or minor axes of Figure 13.3.1-2, the detector thimble can be included in both quadrants that are divided by the axis for the purpose of determining the minimum number of detector thimbles per core quadrant.

APPLICABILITY: When the movable incore detection system is used for:

a. Recalibration of the excore neutron flux detection system, or

b. Monitoring the Quadrant Power Tilt Ratio (QPTR), or

c. Measurement of $F^N_{\Delta H}$, $F_Q(Z)$ and F_{xy}.

ACTIONS

----------NOTES----------

1. TR 13.0.3 is not applicable.

2. TR 13.0.4c is applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Movable incore detection system nonfunctional.	A.1 Restore the movable incore detection system to FUNCTIONAL status.	Prior to using the system for the above listed monitoring and calibration functions.

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.3.1.1	Verify movable incore system FUNCTIONALITY by normalizing each required detector output.	During use when required for the above listed monitoring and calibration functions

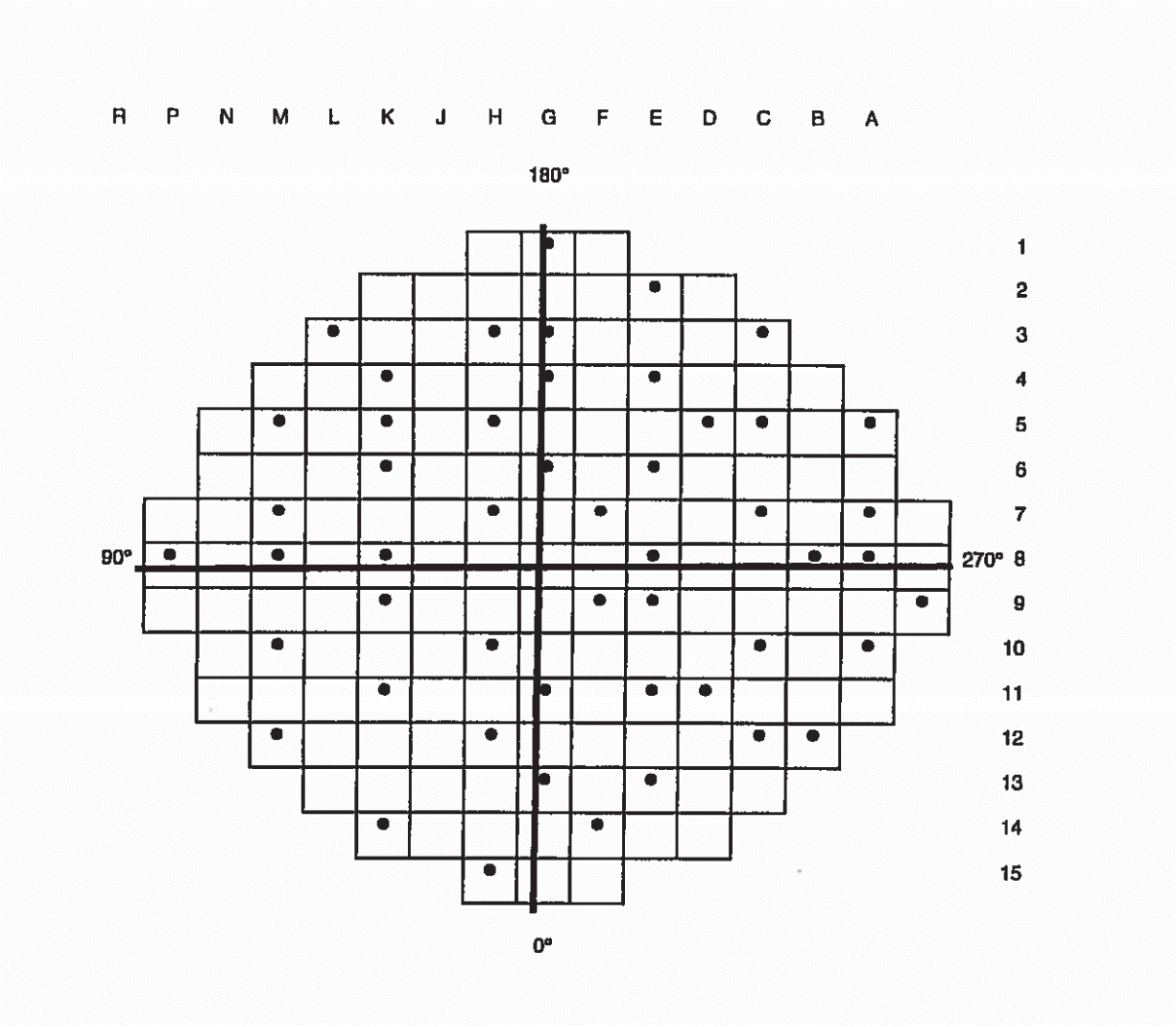

Figure 13.3.1-1

Movable Incore Detector Locations in Major Axes Quadrants

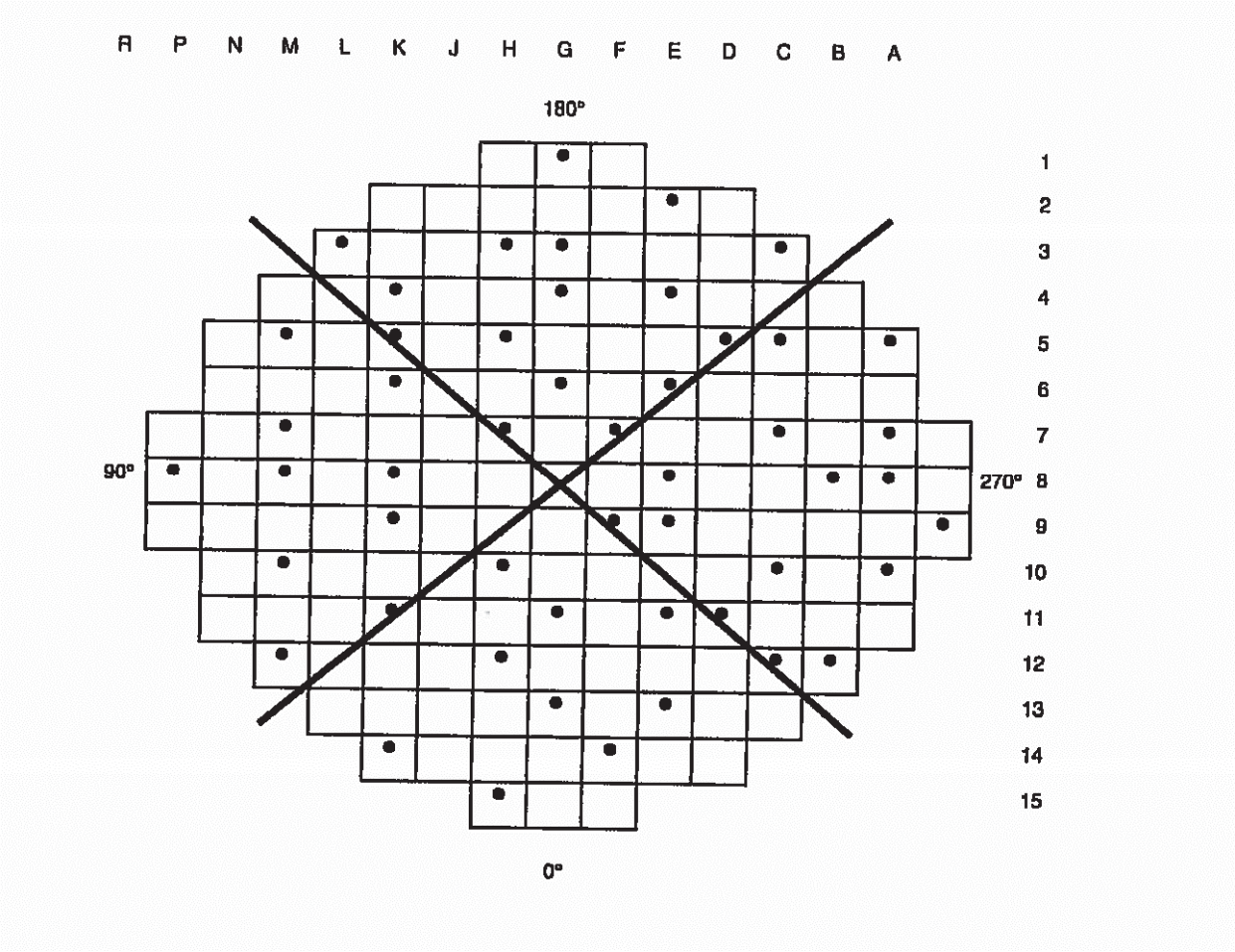

Figure 13.3.1-2

Movable Incore Detector Locations in Minor Axes Quadrants
(For use with TR 13.3.1 option for ≥ 25 and < 38 thimbles)

13.3 Instrumentation

TR 13.3.2 High Energy Line Break Isolation Sensors

TR 13.3.2 The high energy line break isolation instrumentation channels listed in Table 13.3.2-1 shall be FUNCTIONAL.

APPLICABILITY: MODES 1, 2 and 3.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each isolation Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required high energy line break isolation instrumentation channels nonfunctional.	A.1 Restore the nonfunctional channel to FUNCTIONAL status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate a Condition Report. AND B.2 Continue action to restore the required channel(s) to FUNCTIONAL status.	Immediately Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.3.2.1	Perform a COT on each required instrument channel listed in Table 13.3.2-1.	In accordance with Table 13.3.2-1.

Table 13.3.2-1
High-Energy Line Break Isolation Instrumentation

Instrument Channel	Sensor Location	Required Channels	Surveillance Frequency
1. Pressure Switches			
a. PDSH 3367 A,B	RHR Heat Exchanger Room El. 83 ft.	1	
b. PSH 2850 A,D	Auxiliary Feedwater Pump Room El. 100 ft.	1	
B,F	Equipment Room El. 100 ft.	1	
C,E	Auxiliary Feedwater Pump Room Corridor El. 100 ft.	1	
c. PSH 2851 A,F	Recycle Holdup Tank Room El. 121 ft.	1	
B,C	Moderating Heat Exchanger Room El. 121 ft.	1	
D,E	Moderating Heat Exchanger Valve Room El. 121 ft.	1	
d. PSH 2852 A,H	Piping Penetration Room El. 100 ft.	1	
B,C,	Letdown Heat Exchanger Room El. 100 ft.	1	18 months
D,E	Recycle Holdup Tank Room El. 121 ft.	1	
F,G			
e. PSH 2853 A,B	Piping Penetration Room El. 121 ft.	1	
C,D	Blowdown Heat Exchanger Room El. 130 ft.	1	
E,F	Corridor El. 121 ft. (Unit 1) / Recycle Evaporator Room El. 121 ft. (Unit 2)	1	
f. PSH 2853 G,H	Recycle Evaporator Room El. 121 ft.	1	
I,J	Corridor El. 121 ft. (I) and Sluice Filter Room El. 121 ft. (J – Unit 1) / Blowdown Surge Tank Room El. 130 ft. (J – Unit 2)	1	
2. Flooding Detectors			
a. LSH 2828 A,B,C	Main Steam Room El. 127 ft.	2	36 months
b. LSH 2829 A,B,C	Main Steam Room El. 127 ft.	2	

13.3 Instrumentation

TR 13.3.3 Turbine Overspeed Protection

TR 13.3.3 At least one turbine overspeed protection system shall be FUNCTIONAL.

APPLICABILITY: MODE 1
MODES 2 and 3 except when all main steam line isolation valves and associated bypass valves are closed and all other steam flow paths to the turbine are isolated.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One stop valve or one governor valve on one or more high pressure turbine steam lines nonfunctional.	A.1 Restore nonfunctional valve(s) to FUNCTIONAL status. OR	72 hours
	A.2 Isolate the affected steampath(s). OR	72 hours
	A.3 Plant management to determine an alternate course of action that continues to assure the safe operation of the plant.	72 hours

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
B.	One reheat stop valve or one reheat intercept valve on one or more low pressure turbine steam lines nonfunctional.	B.1	Restore nonfunctional valve(s) to FUNCTIONAL status.	72 hours
		OR		
		B.2	Isolate the affected steampath(s).	72 hours
		OR		
		B.3	Plant management to determine an alternate course of action that continues to assure the safe operation of the plant.	72 hours
C.	Required Action and associated Completion Time of Condition A or B not met.	C.1	Isolate the turbine from the steam supply.	6 hours
		OR		
	OR Turbine overspeed protection system nonfunctional for reasons other than Condition A or B.	C.2	Plant management to determine an alternate course of action that continues to assure the safe operation of the plant.	6 hours

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.3.3.1	The provisions of TRS 13.0.4 are not applicable.	N/A

13.3 Instrumentation

TR 13.3.4 Radiation Monitoring Instrumentation

TR 13.3.4 The radiation monitoring instrumentation channels listed in Table 13.3.4-1 shall be FUNCTIONAL with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 13.3.4-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more radiation monitoring channel(s) with alarm/trip setpoint exceeding limit.	A.1 Adjust the setpoint(s) to within the limit. OR A.2 Declare the channel(s) nonfunctional.	4 hours 4 hours
B. The fuel storage pool area (R-5) radiation monitoring channel nonfunctional.	B.1 ----------NOTE---------- The first performance of TRS 13.3.4.1 is not required to be completed until 24 hours after R-5 is declared nonfunctional. ---------- Initiate action to perform TRS 13.3.4.1 and continue at required frequency until the fuel storage pool area (R-5) radiation monitoring channel is returned to FUNCTIONAL status.	 Immediately

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. The plant vent stack effluent (R-29B) radiation monitoring channel nonfunctional. OR One or more main steam line (R-60A, B or C) radiation monitoring channels nonfunctional. OR One or more turbine building ventilation exhaust (R-15 B or C) radiation monitoring channel(s) nonfunctional.	C.1 Initiate the preplanned alternate method of monitoring the appropriate parameter(s). AND C.2 Restore the nonfunctional channel(s) to FUNCTIONAL status.	72 hours 7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Initiate a Condition Report. AND D.2 Continue action to restore the radiation monitoring channel(s) to FUNCTIONAL status.	Immediately Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.3.4.1	----------NOTE---------- Only required to be performed when the fuel storage pool area radiation monitoring channel (R-5) is nonfunctional. ----------	
	Perform area surveys of the monitored area with portable monitoring instrumentation.	24 hours
TRS 13.3.4.2	----------NOTE---------- Refer to Table 13.3.4-1 to determine which SRs apply for each radiation monitor channel. ----------	
	Perform a CHANNEL CHECK.	12 hours
TRS 13.3.4.3	----------NOTE---------- Refer to Table 13.3.4-1 to determine which SRs apply for each radiation monitor channel. ----------	
	Perform a COT.	92 days
TRS 13.3.4.4	----------NOTE---------- Refer to Table 13.3.4-1 to determine which SRs apply for each radiation monitor channel. ----------	
	Perform a CHANNEL CALIBRATION.	18 months

Table 13.3.4-1
Radiation Monitoring Instrumentation

Radiation Monitoring Instrument Channel	Applicable Modes or Other specified Conditions	Alarm/Trip Setpoint	Required Channels	Technical Requirement Surveillance
1. Area Monitors				
a. Fuel Storage Pool Area (R-5)	With fuel in the storage pool	≤ 15 mr/hr	1	TRS 13.3.4.1(Note 1) TRS 13.3.4.2 TRS 13.3.4.3 TRS 13.3.4.4
2. Process Monitors (Noble Gas Effluent Monitors)				
a. Plant Vent Stack Effluent Monitor (R-29B)	1, 2, 3, 4	N/A	1	TRS 13.3.4.2 TRS 13.3.4.4
b. Main Steam Line (R-60A, B, C)	1, 2, 3	N/A	3	TRS 13.3.4.2 TRS 13.3.4.4
c. Turbine Building Ventilation Exhaust (includes condenser air ejector exhaust) (R-15 B and C)	1, and With vacuum in the condenser	N/A	2	TRS 13.3.4.2 TRS 13.3.4.4

Note 1: Only required to be performed when the fuel storage pool area radiation monitoring channel (R-5) is nonfunctional.

13.3 Instrumentation

TR 13.3.5 Electric Hydrogen Recombiners Instrumentation and Control Circuits

TR 13.3.5 The electric hydrogen recombiner instrumentation and control circuits shall be in calibration.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more electric hydrogen recombiner instrumentation or control circuit(s) not in calibration.	A.1	Initiate action to restore the circuit(s) to within calibration limits.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.3.5.1	Perform a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.	18 months

13.3 Instrumentation

TR 13.3.6 Seismic Monitoring Instrumentation

TR 13.3.6 The seismic monitoring instrumentation shown in Table 13.3.6-1 shall be FUNCTIONAL.

APPLICABILITY: At all times.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more required seismic monitoring instrument channels nonfunctional.	A.1	Initiate action to restore the seismic monitoring instrument channel(s) to FUNCTIONAL status.	Immediately
B.	One or more seismic monitoring instruments actuated during a seismic event.	B.1	Initiate action to retrieve and analyze data from the actuated seismic monitoring instruments to determine the magnitude of the vibratory ground motion.	Immediately
		AND		
		B.2	Restore affected seismic monitoring instruments to FUNCTIONAL status.	24 hours
		AND		
		B.3	Perform a CHANNEL CALIBRATION on the actuated seismic monitoring instruments.	5 days

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.3.6.1	Perform a CHANNEL CHECK.	184 days
TRS 13.3.6.2	Perform a CHANNEL OPERATIONAL TEST.	184 days
TRS 13.3.6.3	Perform a CHANNEL CALIBRATION.	18 months

Table 13.3.6-1
Seismic Monitoring Instrumentation

Instrumentation Number	Sensor Location	Measurement Range	Required Channels
Strong Motion Triaxial Accelographs			
1A	Containment Base(1)	.5g full scale	1
1B	Containment(1)	1.0g full scale	1
1C	Free Field	.5g full scale	1
2	Pond Intake Structure	.5g full scale	1
3	Diesel Generator Building	.5g full scale	1

Notes:

(1) Sensor located in Unit 1.

13.3 Instrumentation

TR 13.3.7 Meteorological Monitoring Instrumentation

TR 13.3.7 The meteorological monitoring instrumentation shown in Table 13.3.7-1 shall be FUNCTIONAL.

APPLICABILITY: At all times.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required meteorological monitoring instrument channels nonfunctional.	A.1 Initiate action to restore the meteorological monitoring instrument channel(s) to FUNCTIONAL status.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.3.7.1	Perform a CHANNEL CHECK.	24 hours
TRS 13.3.7.2	----------NOTE---------- CHANNEL CALIBRATIONS for the wind speed instruments shall be performed according to the manufacturer's recommendations. ---------- Perform a CHANNEL CALIBRATION.	184 days

Table 13.3.7-1
Meteorological Monitoring Instrumentation

	Instrument	Required Channels
1.	WINDSPEED	
	a. Meteorological tower, 10 m/32.8 ft	1 of 2
	b. Meteorological tower, 45.7 m/150 ft	1 of 2
2.	WIND DIRECTION	
	a. Meteorological tower, 10 m/32.8 ft	1 of 2
	b. Meteorological tower, 45.7 m/150 ft	1 of 2
3.	AIR TEMPERATURE DIFFERENCE	
	a. Meteorological tower, 60 m 10 m (196.9 ft to 32.8 ft)	1 of 2

Notes:

All heights are nominal above ground level (AGL).
There are two channels of each of the instruments listed in the table above (the second channel is mounted at the same height).

13.3 Instrumentation

TR 13.3.8 Containment Hydrogen Monitors

TR 13.3.8 Two containment hydrogen monitor instrumentation channels shall be FUNCTIONAL.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment hydrogen monitor instrument channels nonfunctional.	A.1 Initiate action to restore the containment hydrogen monitor instrument channel(s) to FUNCTIONAL status.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE	FREQUENCY
TRS 13.3.8.1 Perform a CHANNEL CHECK.	18 months
TRS 13.3.8.2 Perform a CHANNEL CALIBRATION.	18 months

13.3 Instrumentation

TR 13.3-9 Ultrasonic Mode Calorimetric

TR 13.3-9 The Ultrasonic Mode Calorimetric shall be FUNCTIONAL with:

a. The Caldon LEFM™ CheckPlus™ system FUNCTIONAL, and

b. The Integrated Plant Computer (IPC) calorimetric (QC4621) FUNCTIONAL and calorimetric calculation is in automatic mode or in manual mode with LEFM selected.

APPLICABILITY: MODE 1 with THERMAL POWER > 2775 MWt

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LEFM CheckPlus system nonfunctional.	A.1 Switch the calorimetric calculation on the calorimetric main menu display to a mode such that Normalized Venturi is selected, either by verifying that auto mode has selected it already or by selecting manual mode and choosing Normalized Venturi. AND A.2 Restore the LEFM CheckPlus system to FUNCTIONAL status.	Immediately 72 hours

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
B.	Required Actions and associated Completion Times of Condition A not met.	B.1	Verify the calorimetric calculation on the calorimetric menu display is set to Venturi. AND	Immediately
		B.2	Reduce reactor core power to ≤ 2775 MWt.	Immediately
C.	IPC Calorimetric (QC4621) nonfunctional.	C.1	Verify reactor core power ≤ 2821 MWt by ensuring the higher of average Power Range NIS or Delta-T indications ≤ 100% RTP. AND	1 hour
		C.2	Restore the IPC Calorimetric (QC4621) to FUNCTIONAL status.	Prior to performing the next required power range channel calorimetric heat balance comparison per SR 3.3.1.2
D.	Required Actions and associated Completion Times of Condition C not met.	D.1	Reduce reactor core power to ≤ 2775 MWt ensuring the higher of average Power Range NIS or Delta-T indications ≤ 98.3% RTP (2775 MWt).	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.3.9.1	Verify availability of the LEFM using the self-diagnostics feature indicated by the LEFM Normal, Minor-Alert, Major-Alert, Failed status indication, as displayed on the plant computer system, is not in Major-Alert (Alert Status 2) or Failed (Failed Status 3) status.	Prior to performance of SR 3.3.1.2

13.4 Reactor Coolant System (RCS)

TR 13.4.1 Chemistry

TR 13.4.1 Reactor Coolant System chemistry shall be maintained within the limits specified in Table 13.4.1-1.

APPLICABILITY: At all times, except for dissolved oxygen when $T_{avg} \leq 250$ °F.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more chemistry parameters > steady-state limit and ≤ transient limit in MODES 1, 2, 3, or 4.	A.1	Restore parameter to within steady-state limit.	24 hours
B.	One or more chemistry parameters > transient limit in MODES 1, 2, 3, or 4. OR Required Action and associated Completion Time of Condition A not met.	B.1	Plant management to determine an alternate course of action that continues to assure the safe operation of the plant.	6 hours
		OR		
		B.2.1	Be in Mode 3.	6 hours
			AND	
		B.2.2	Be in Mode 5.	36 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- All Required Actions must be completed whenever this Condition is entered. ----------	C.1 Initiate action to reduce the pressurizer pressure to ≤ 500 psig.	Immediately
	AND	
Chloride or fluoride concentration > steady-state limit for > 24 hours in any condition other than MODES 1, 2, 3, or 4.	C.2 Perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System.	Prior to increasing pressurizer pressure > 500 psig.
OR		OR
Chloride or fluoride concentration > transient limit in any condition other than MODES 1, 2, 3, or 4.		Prior to entering MODE 4.
	AND	
	C.3 Determine that the Reactor Coolant System remains acceptable for continued operation.	Prior to increasing pressurizer pressure > 500 psig.
		OR
		Prior to entering MODE 4.

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.4.1.1	----------NOTE---------- Not required to be performed for dissolved oxygen when T_{avg} ≤ 250 °F. ----------	
	Verify Reactor Coolant System chemistry within limits specified on Table 3.4.1-1.	72 hours

Table 13.4.1-1

Reactor Coolant System
Chemistry Limits

PARAMETER	STEADY-STATE LIMIT	TRANSIENT LIMIT
Dissolved Oxygen [(a)]	≤ 0.10 ppm	≤ 1.00 ppm
Chloride	≤ 0.15 ppm	≤ 1.50 ppm
Fluoride	≤ 0.15 ppm	≤ 1.50 ppm

[(a)] Limits not applicable when $T_{avg} \leq 250$ °F.

13.4 Reactor Coolant System

TR 13.4.2 Pressurizer

TR 13.4.2 The pressurizer temperature shall be limited to:

a. A maximum heatup of 100 °F in any 1-hour period,

b. A maximum cooldown of 200 °F in any 1-hour period, and

c. A maximum spray water temperature differential of 320 °F.

APPLICABILITY: At all times.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	----------NOTE---------- All Required Actions must be completed whenever this Condition is entered. ---------- Pressurizer temperature not within limits.	A.1	Restore pressurizer temperature to within limits.	30 minutes
		AND		
		A.2	Perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the pressurizer.	72 hours
		AND		
		A.3	Determine that the pressurizer remains acceptable for continued operation.	72 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Plant management to determine an alternate course of action that continues to assure the safe operation of the plant. OR	6 hours
	B.2.1 Be in MODE 3. AND	6 hours
	B.2.2 Reduce pressurizer pressure to < 500 psig.	36 hours

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.4.2.1	----------NOTE---------- Only required to be performed during system heatup and cooldown. ----------	
	Verify pressurizer heatup and cooldown rates are within limits.	1 hour
TRS 13.4.2.2	----------NOTE---------- Only required to be performed during auxiliary spray operation. ----------	
	Verify the spray water temperature differential is within limit.	12 hours

13.4 Reactor Coolant System (RCS)

TR 13.4.3 Reactor Vessel Head Vents

TR 13.4.3 At least one of the two reactor vessel head vent system paths, consisting of two valves in series powered from the Auxiliary Building D. C. Distribution System, shall be FUNCTIONAL and closed.

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

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Both reactor vessel head vent system paths nonfunctional.	A.1	Initiate action to maintain the nonfunctional vent paths closed with power removed from the valve actuators of all valves in the nonfunctional vent paths.	Immediately
		AND		
		A.2	Restore the at least one vent path to FUNCTIONAL status.	30 days
B.	Required Action and associated Completion Time not met.	B.1	Initiate a Condition Report.	Immediately
		AND		
		B.2	Continue action to restore the required vent path(s) to FUNCTIONAL status.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.4.3.1	Verify each valve in the vent system operates through one complete cycle of full travel from the control room during MODE 5 or 6.	18 months
TRS 13.4.3.2	Verify flow through the reactor vessel head vent systems by venting during MODE 5 or 6.	18 months

13.4 Reactor Coolant System (RCS)

TR 13.4.4 Safety Valves - Shutdown

TR 13.4.4 A minimum of one pressurizer code safety valve shall be FUNCTIONAL with a lift setting of 2485 psig ± 1%.

----------NOTE----------
The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

APPLICABILITY: MODE 4

ACTIONS

----------NOTE----------
TR 13.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required pressurizer code safety valve nonfunctional.	A.1 Suspend all operations involving positive reactivity changes	Immediately
	AND	
	A.2 Initiate action to place an FUNCTIONAL RHR loop into operation in the shutdown cooling mode.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.4.4.1	Verify requirements of the Inservice Testing Plan are met for the required pressurizer code safety valve.	In Accordance with the Inservice Testing Program

13.4 Reactor Coolant System (RCS)

TR 13.4.5 RCS Pressure Isolation Valve (PIV) Leakage

TR 13.4.5 Leakage from each RCS PIV shall be within the limit of Table 13.4.5-1 following maintenance, repair or replacement work on the valve affecting the seating capability of the valve.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each flow path.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more RCS pressure isolation valves (PIVs) with leakage in excess of limit following maintenance, repair or replacement work on the valve affecting the seating capability of the valve.	A.1 Restore leakage to within limit.	Prior to returning valve to service

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.4.5.1	Verify PIV leakage within limits of Table 13.4.5-1 following maintenance, repair or replacement work on the valve affecting the seating capability of the valve.	Prior to returning valve to service

Table 13.4.5-1

Reactor Coolant System
Pressure Isolation Valves

Valve Number	Description	Maximum Allowable Leakage
Q1/2E11V001A	12” Gate	5.000 gpm
Q1/2E11V001B	12” Gate	5.000 gpm
Q1/2E11V016A	12” Gate	5.000 gpm
Q1/2E11V016B	12” Gate	5.000 gpm
Q1/2E11V021A	6” Check	3.000 gpm
Q1/2E11V021B	6” Check	3.000 gpm
Q1/2E11V021C	6” Check	3.000 gpm
Q1/2E21V032A	12” Check	5.000 gpm
Q1/2E21V032B	12” Check	5.000 gpm
Q1/2E21V032C	12” Check	5.000 gpm
Q1/2E21V037A	12” Check	5.000 gpm
Q1/2E21V037B	12” Check	5.000 gpm
Q1/2E21V037C	12” Check	5.000 gpm
Q1/2E11V042A	10” Check	5.000 gpm
Q1/2E11V042B	10” Check	5.000 gpm
Q1/2E21V076A	6” Check	3.000 gpm
Q1/2E21V076B	6” Check	3.000 gpm
Q1/2E21V077A	6” Check	3.000 gpm
Q1/2E21V077B	6” Check	3.000 gpm
Q1/2E21V077C	6” Check	3.000 gpm

Note: See TS 3.4.14 for applicable Actions and Surveillance Requirements

13.5 Emergency Core Cooling System

TR 13.5.1 Emergency Core Cooling System (ECCS)

TR 13.5.1 The ECCS subsystems required OPERABLE in accordance with Technical Specifications 3.5.2 and 3.5.3 shall be maintained with:

a. Unrestricted containment sump suctions,

b. Throttle valves in correct position, and

c. Flow balanced.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more ECCS subsystems inoperable.	A.1 Refer to Technical Specification 3.5.2 or 3.5.3, as applicable, and associated Required Actions.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.5.1.1	Perform a visual inspection of accessible areas of containment (or those areas affected by a containment entry during MODES 1-4) to verify that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions.	Once prior to entry into MODE 4 from MODE 5 AND Thereafter at the completion of each containment entry.

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.5.1.2	Verify correct position of each mechanical position stop for the following ECCS throttle valves: CVC-V-8991 A/B/C CVC-V-8989 A/B/C CVC-V-8996 A/B/C CVC-V-8994 A/B/C	Once within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE.
TRS 13.5.1.3	Verify that the mechanical stops are intact for the following low head safety injection valves: RHR-HV-603 A/B	Prior to entry into MODE 3 from MODE 4.
TRS 13.5.1.4	Perform a flow balance test, during shutdown, and verify the following flow rates: a) For HHSI System – single pump that provides the greatest flow: ≥ 193 gpm for each cold leg injection line, and ≥ 183 gpm for each hot leg injection line Verify that the developed head of the other HHSI pumps is greater than or equal to the limits in Table 13.5.1-1 and within 580 feet of the developed head of the HHSI pump that provides the greatest flow. b) For LHSI System – single pump: ≥ 3911 gpm (total injection)	Once following completion of modifications to the ECCS subsystem(s) that alter the subsystem(s) flow characteristics.

Table 13.5.1-1

Minimum Allowable HHSI Pump Performance

PUMP FLOW (gpm)	PUMP HEAD (ft)
0	5420
125	5320
225	5220
260	5120
305	4920
390	4420
460	3920
520	3420
580	2920
635	2420
700	1770

13.6 Containment Systems

TR 13.6.1 Containment Ventilation System Leakage Rate

TR 13.6.1 The containment ventilation system leakage rate shall be within limits.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Indications of excess valve degradation (for the containment purge supply and exhaust penetrations) based on comparison of the leakage rate for each containment purge supply and exhaust penetration to the previously measured leakage rate.	A.1 Perform an engineering evaluation to determine what corrective action, if any, is necessary.	Prior to entering MODE 4 following the next entry into MODE 5 if the existing leakage is determined during testing per Technical Specification SR 3.6.3.5 OR Prior to entering MODE 4 if excess leakage is determined during MODE 5 per SR 3.6.3.5

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.6.1.1	Compare the leakage rate for each containment purge supply and exhaust penetration to the previously measured leakage rate (for the containment purge supply and exhaust penetrations) to detect excess valve degradation.	Prior to entering MODE 4 from MODE 5 if not performed in the previous 92 days
	----------NOTE---------- This surveillance is performed to address excess valve degradation concerns. ----------	
TRS 13.6.1.2	Replace the resilient material valve seals of the 48-inch and the 8-inch containment purge supply and exhaust isolation valves.	9 Years

13.6 Containment Systems

TR 13.6.2 Containment Isolation Valves

TR 13.6.2 The containment isolation valves in Table 13.6.2-1 shall be verified to have isolation times within the limits listed in Table 13.6.2-1 after maintenance, repair or replacement work is performed on the valve(s) or its associated actuator, control or power circuit.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTIONS

----------NOTE----------
Penetration flow path(s) except for 48 inch purge valve flow paths may be unisolated intermittently under administrative controls.

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more containment isolation valve(s) with isolation times exceeding the limit.	A.1	Restore the isolation time of the valve(s) to within the limit.	Prior to returning the valve(s) to service

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.6.2.1	----------NOTE---------- Only required after maintenance, repair or replacement work is performed on a valve or its associated actuator, control or power circuit. --- Perform a cycling test and verify the isolation time of the affected valve(s) is within the limit(s) listed in Table 13.6.2-1.	Prior to returning the valve(s) to service

Table 13.6.2-1 (Page 1 of 3)

Containment Isolation Valves

	Valve Number	Function	Isolation Time (sec)
A. Phase "A" Isolation			
1.	CVC-HV-8871	Accum. Test Line to RWST Iso. Valve	≤ 10
2.	CVC-HV-8961	Accum. Test Line to RWST Iso. Valve	≤ 10
3.	CVC-HV-8880	N2 Supply to Isolation Accum.	≤ 10
4.	RC-HV-8047	Pressurizer Relief Tank N2 Supply	≤ 10
5.	RC-HV-8033	Pressurizer Relief Tank N2 Supply	≤ 10
6.	RC-HV-8028	Reactor Makeup Water to PRT Iso. Valve	≤ 10
7.	LWP-LCV-1003	Reactor Coolant Drain Tank LCV	≤ 10
8.	LWP-HV-7136	RCDT Pumps Discharge Line Iso.	≤ 10
9.	CBV-MOV-3318A	CTMT Differential Press. Iso. Valve	≤ 15
10.	CBV-MOV-3318B	CTMT Differential Press. Iso. Valve	≤ 15
11.	CVC-HV-8152	Letdown Line CTMT Iso. Valve	≤ 10
12.	CVC-HV-8149A	Letdown Orifice Isolation Valve 45 gpm	≤ 10
13.	CVC-HV-8149B	Letdown Orifice Isolation Valve 60 gpm	≤ 10
14.	CVC-HV-8149C	Letdown Orifice Isolation Valve 60 gpm	≤ 10
15.	CVC-MOV-8100	RCP Seal Water Return Iso. Valve	≤ 15
16.	CVC-MOV-8112	RCP Seal Water Return Iso. Valve	≤ 15
17.	SS-HV-3104	Pressurizer Steam Sample Iso. Valve	≤ 10
18.	SS-HV-3331	Pressurizer Steam Sample Iso. Valve	≤ 10
19.	SS-HV-3103	Pressurizer Liquid Sample Iso. Valve	≤ 10
20.	SS-HV-3332	Pressurizer Liquid Sample Iso. Valve	≤ 10
21.	SS-HV-3765	Reactor Loops 2 and 3 Sample Iso. Valve	≤ 10
22.	SS-HV-3333	Reactor Loops 2 and 3 Sample Iso. Valve	≤ 10
23.	CBV-HV-3657	Containment Air Sample Iso. Valve	≤ 10
24.	CBV-MOV-3660	Containment Air Sample Iso. Valve	≤ 15
25.	CBV-HV-3658	Containment Air Sample Iso. Valve	≤ 10
26.	CBV-HV-3198A	Containment Purge Exhaust Iso. Valve	≤ 5
27.	CBV-HV-3198D	Containment Purge Supply Iso. Valve	≤ 5
28.	LWP-HV-3376	Containment Sump Discharge Valve	≤ 10
29.	LWP-HV-3377	Containment Sump Discharge Valve	≤ 10
30.	CCW-HV-3095	CCW to Excess Letdown/RCDT HXs.	≤ 10
31.	CCW-HV-3443	CCW from Excess Letdown/RCDT HXs	≤ 10

(continued)

Table 13.6.2-1 (Page 2 of 3)

Containment Isolation Valves

Valve Number	Function	Isolation Time (sec)
A. Phase "A" Isolation (continued)		
32. CCW-HV-3067	CCW from Exc. Letdown / RCDT HXs	≤ 10
33. CVC-HV-8860	Accum. Fill Line Isolation	≤ 10
34. SS-HV-3766	Accum. Tanks Sample Iso. Valve	≤ 10
35. SS-HV-3334	Accum. Tanks Sample Iso. Valve	≤ 10
36. LWP-HV-7126	RCDT Vent Line Iso. Valve	≤ 10
37. LWP-HV-7150	RCDT Vent Line Iso. Valve	≤ 10
38. LWP-HV-3380	CTMT Sump Recirculation Valve	≤ 10
39. CTS-HV-3659	Demin. Water to Reactor HD Storage	≤ 10
40. CBV-HV-3196	CTMT Purge Exhaust Iso. Valve	≤ 5
41. CBV-HV-3197	CTMT Purge Supply Iso. Valve	≤ 5
42. CBV-HV-2867C	CTMT Mini-Purge Exhaust Iso. Valve	≤ 5
43. CBV-HV-2867D	CTMT Mini-Purge Exhaust Iso. Valve	≤ 5
44. CBV-HV-2866C	CTMT Mini-Purge Supply Iso. Valve	≤ 5
45. CBV-HV-2866D	CTMT Mini-Purge Supply Iso. Valve	≤ 5
B. Phase "B" Isolation		
1. CCW-MOV-3052	CCW to RCP Coolers	< 15
2. CCW-MOV-3046	CCW from RCP Oil Coolers	< 36 for Unit 1 < 15 for Unit 2
3. CCW-MOV-3182	CCW from RCP Oil Coolers	< 15
4. CCW-HV-3184	CCW from RCP Thermal Barrier	< 10
5. CCW-HV-3045	CCW from RCP Thermal Barrier	< 10
6. IA-HV-3611	CTMT Instrument Air Supply Valve	< 10
7. IA-HV-2228	Pressurizer PORV Backup Air/N2 Supply Valve	< 10
C. Safety Injection Signal		
1. CVC-MOV-8107	Charging Pumps to Regenerative HX	< 10
2. CVC-MOV-8108	Charging Pumps to Regenerative HX	< 10
3. SW-MOV-3135	SW to RCP Motor Air Coolers	< 36
4. SW-MOV-3131	SW From RCP Motor Air Coolers	< 36
5. SW-MOV-3134	SW From RCP Motor Air Coolers	< 36

(continued)

Table 13.6.2-1 (Page 3 of 3)

Containment Isolation Valves

	Valve Number	Function	Isolation Time (sec)
D. Manual			
1.	Q1/2G31V012	Refueling Cavity Supply	N/A
2.	Q1/2G21V005	Reactor Coolant Drain Tank	N/A
3.	RHR-MOV-8701A	Reactor Coolant LP C to RHR Pump A	< 120
4.	RHR-MOV-8702A	Reactor Coolant LP A to RHR Pump B	< 120
5.	Q1/2P18V001	Service Air	N/A
6.	Q1/2P18V002	Service Air	N/A
7.	CBV-MOV-3238	CTMT Leak Rate Test Valve	N/A
8.	CBV-MOV-3239	CTMT Leak Rate Test Valve	N/A
9.	RHR-MOV-8811A	CTMT Sump to RHR Pump A	< 17
10.	RHR-MOV-8811B	CTMT Sump to RHR Pump B	< 17
11.	RHR-MOV-8812A	CTMT Sump to RHR Pump A	< 17
12.	RHR-MOV-8812B	CTMT Sump to RHR Pump B	< 17
13.	CS-MOV-8826A	CS Pump A CTMT Sump Suction Iso.	< 17
14.	CS-MOV-8826B	CS Pump B CTMT Sump Suction Iso.	< 17
15.	CS-MOV-8827A	CS Pump A CTMT Sump Suction Iso.	< 17
16.	CS-MOV-8827B	CS Pump B CTMT Sump Suction Iso.	< 17
17.	Q1/2B13V026B	Pressurizer Pressure Generator	N/A
18.	CBV-MOV-3528A	CTMT Post-LOCA Sampling Valve 1	N/A
19.	CBV-MOV-3528B	CTMT Post-LOCA Sampling Valve 2	N/A
20.	CBV-MOV-3528C	CTMT Post-LOCA Sampling Valve 3	N/A
21.	CBV-MOV-3528D	CTMT Post-LOCA Sampling Valve 4	N/A
22.	CBV-MOV-3739A	CTMT Post-LOCA Sampling Iso. Valve	N/A
23.	CBV-MOV-3739B	CTMT Post-LOCA Sampling Iso. Valve	N/A
24.	CBV-MOV-3745A	CTMT Post-LOCA Sampling Rtn. Valve	N/A
25.	CBV-MOV-3745B	CTMT Post-LOCA Sampling Rtn. Valve	N/A
26.	CBV-MOV-3835A	CTMT Post-LOCA Sampling Rtn. Valve	N/A
27.	CBV-MOV-3835B	CTMT Post-LOCA Sampling Rtn. Valve	N/A
28.	CBV-MOV-3740	CTMT Post-LOCA Vent Iso. Valve	N/A
29.	CBV-MOV-3530	CTMT Post-LOCA Vent Iso. Valve	N/A
30.	Q2P18V004	Breathing Air (Service Air) (Unit 2 Only)	N/A
31.	Q2P18V005	Breathing Air (Service Air) (Unit 2 Only)	N/A
32.	Q1/2P19V1099	HV2228 Bypass Manual Isolation Valve	N/A

13.7 Plant Systems

TR 13.7.1 Steam Generator (SG) Pressure/Temperature Limitation

TR 13.7.1 The temperatures of the primary coolant and feedwater shall be > 70 °F when the pressure of either coolant in the steam generator is > 200 psig.

APPLICABILITY: At all times.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	----------NOTE---------- All Required Actions must be completed whenever this Condition is entered. ----------	A.1	Reduce the SG pressure of the applicable side to ≤ 200 psig.	30 minutes
		AND		
	SG temperatures not within limits.	A.2	Perform an engineering evaluation to determine the effect of the over-pressurization on the structural integrity of the SG.	Prior to increasing the SG coolant temperatures > 200 °F
		AND		
		A.3	Determine that the SG remains acceptable for continued operation.	Prior to increasing the SG coolant temperatures > 200 °F

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.7.1.1	----------NOTE---------- Only required to be performed when the temperature of either the primary coolant or feedwater is < 70 °F. ----------	
	Verify the pressure in each side of the SG is < 200 psig.	1 hour

13.7 Plant Systems

TR 13.7.2 Snubbers

TR 13.7.2 All required snubbers utilized on safety-related systems shall be FUNCTIONAL. Snubbers utilized on non-safety-related systems shall be FUNCTIONAL if the failure of that snubber or the non-safety-related system would have an adverse effect on any safety-related system.

APPLICABILITY: MODES 1, 2, 3, and 4.
MODES 5 and 6 for snubbers located on systems required FUNCTIONAL in those MODES.

ACTIONS

----------NOTES----------

1. Separate Condition entry is allowed for each affected system.

2. Removal of a snubber from supported system does not result in the snubber becoming nonfunctional.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required snubbers removed from supported system. OR One or more required snubbers inoperable while in place.	A.1 Refer to the requirements of Technical Specification LCO 3.0.8.	Immediately
B. One or more required snubbers nonfunctional.	B.1 Perform an engineering evaluation on the supported component in accordance with the OM Code version as indicated in the IST Snubber Program Plan.	72 hours
C. Required Action and associated Completion Time of Condition B not met.	C.1 Declare supported system nonfunctional or inoperable as appropriate.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

----------NOTE----------
Each snubber shall be demonstrated FUNCTIONAL by performance of an inservice examination and testing inspection program in accordance with the OM Code version as indicated in the IST Snubber Program Plan.

	SURVEILLANCE	FREQUENCY
TRS 13.7.2.1	Perform visual examinations of each snubber in accordance with ASME OM Code. Preservice Examinations shall be in accordance with ASME OM Code. Inservice Examinations shall be in accordance with ASME OM Code.	In accordance with ASME OM Code and ASME OM Code Case OMN-13 as applicable.
TRS 13.7.2.2	Perform a functional test on a representative sample of snubbers in accordance with ASME OM Code. Preservice Examinations shall be in accordance with ASME OM Code. Inservice Examinations shall be in accordance with ASME OM Code.	Each fuel Cycle
TRS 13.7.2.3	Snubber service life will be monitored in accordance with ASME OM Code.	Each fuel Cycle

Table 13.7.2-1

Visual Examinations

1. Visual Examinations shall be performed in accordance with the ASME OM Code, Subsection ISTD.

2 Visual Examinations interval may be extended in accordance with ASME Code Case OMN-13.

3. Preservice and Inservice Examinations shall be performed using the visual examination method described in the OM Code version as indicated in the IST Snubber Program Plan.

Table 13.7.2-2

Functional Tests

Snubbers shall be selected in accordance with a specified sampling plan and functionally tested in accordance with the requirements of ASME OM Code. The tests may be done either in place or in a test bench. One of the sampling plans described in Subsection ISTD shall be used to select the snubbers to be tested.

13.7 Plant Systems

TR 13.7.3 Sealed Source Contamination

TR 13.7.3 The removable contamination shall be < 0.005 microcuries for each sealed source containing radioactive material >100 microcuries of beta and/or gamma emitting material or > 5 microcuries of alpha emitting material.

APPLICABILITY: At all times.

ACTIONS

----------NOTE----------
TR 13.0.3 is not applicable

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Sealed source removable contamination not within limit.	A.1 Remove sealed source from use. AND	Immediately
	A.2.1 Decontaminate and repair the sealed source OR	Prior to returning the sealed source to use
	A.2.2 Dispose of sealed source in accordance with Commission regulations.	In accordance with Commission regulations

TECHNICAL REQUIREMENT SURVEILLANCES

----------NOTES----------

1. The licensee, or other persons specifically authorized by the Commission or an Agreement State, shall perform the Technical Requirement Surveillances.

2. The test methods shall have a detection sensitivity of at least 0.005 microcuries per test sample.

SURVEILLANCE		FREQUENCY
TRS 13.7.3.1	----------NOTES---------- 1. Not applicable to startup sources and fission detectors previously subjected to core flux. 2. Only applicable to sources in use with: a. Half-lives > 30 days, excluding Hydrogen 3, and b. In any form other than gas. ---------- Verify removable contamination is within limit for each sealed source.	6 months
TRS 13.7.3.2	----------NOTES---------- 1. Only applicable to stored sources not in use. 2. Sealed sources and fission detectors transferred without a certificate indicating the last test date shall be tested prior to being placed into use. ---------- Verify the removable contamination is within limit for each sealed source and fission detector.	Within 6 months prior to use or transfer to another licensee.

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.7.3.3	----------NOTE---------- Only applicable to sealed startup sources and fission detectors not in use. ----------	
	Verify the removable contamination is within limit for each sealed startup source and fission detector.	Within 31 days prior to being subjected to core flux or being installed in the core. AND Following repair or maintenance to the source.

13.7 Plant Systems

TR 13.7.4 The Ultimate Heat Sink (UHS) Support Structures

TR 13.7.4 The Ultimate Heat Sink (UHS) support structures shall be maintained in accordance with applicable maintenance requirements.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Ultimate Heat Sink (UHS) support structures in degraded condition.	A.1 Initiate action to return support structure to compliance with related maintenance requirements.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.7.4.1	Verify the spillway channel and adjacent areas are free of erosion damage.	After each storm that raises the pond level ≥ 187 ft., mean sea level
TRS 13.7.4.2	Verify the spillway channel and structure are intact.	2 years
TRS 13.7.4.3	Verify the ground water seepage from the pond to be < 15 cfs.	5 years

13.7 Plant Systems

TR 13.7.5 Area Temperature Monitoring (Unit 2 Only)

TR 13.7.5 The temperature of each area shown in Table 13.7.5-1 shall be maintained within the limits indicated in Table 13.7.5-1.

APPLICABILITY: Whenever the equipment in an affected area is required to be FUNCTIONAL or OPERABLE.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more areas not within limits for more than 4 hours.	A.1 Declare the equipment in the area nonfunctional or inoperable and apply the appropriate Required Action(s) for the nonfunctional/inoperable equipment.	Immediately
	AND	72 hours
	A.2 Perform an engineering evaluation to determine the effects of the out of limit temperature on the service life of the equipment located in the area.	

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.7.5.1	Verify the temperature in each of the areas in Table 13.7.5-1 is within limits.	7 days

Table 13.7.5-1

Area Temperature Monitoring

Area	Temperature Limit (°F)
1. ESF Pump Rooms	
a. RHR Pump 2A	150 °F
b. RHR Pump 2B	150 °F
c. AFW Pump 2A	150 °F
d. AFW Pump 2B	150 °F
e. CCW Pump Room	150 °F
f. Containment Spray Pump 2A	150 °F
g. Containment Spray Pump 2B	150 °F
h. Charging Pump Room 2A	150 °F
i. Charging Pump Room 2B	150 °F
j. Charging Pump Room 2C	150 °F
2. Electrical Areas	
k. MCC 2A Room	150 °F
l. MCC 2B Room	150 °F
m. 600 Volt Load Center 2D Room	150 °F
n. 600 Volt Load Center 2E Room	150 °F
o. Battery Charger Room A	120 °F
p. Battery Charger Room B	120 °F
q. Battery Room A	120 °F
r. Battery Room B	120 °F
s. Diesel Generator Rooms	150 °F
t. Diesel Generator Switchgear Rooms	150 °F

13.7 Plant Systems

TR 13.7.6 Main Steam Isolation Valves (MSIVs)

----------NOTE----------
This Technical Requirement contains a listing of the MSIVs subject to Technical Specification SR 3.7.2.1.

Table 13.7.6-1

Main Steam Isolation Valves

VALVE NUMBER	ISOLATION TIME (SECONDS)
HV-3369A	≤ 7
HV-3369B	≤ 7
HV-3369C	≤ 7
HV-3370A	≤ 7
HV-3370B	≤ 7
HV-3370C	≤ 7

13.8 Electrical Power Systems

TR 13.8.1 Containment Penetration Conductor Overcurrent Protective Devices (Unit 2 Only)

TR 13.8.1 Each required penetration conductor overcurrent protective device shall be FUNCTIONAL for each containment penetration provided with required penetration conductor overcurrent protection. Required circuits for all other containment penetrations shall be deenergized unless energized under administrative control.

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

ACTIONS

----------NOTE----------
TR 13.0.4c is applicable to overcurrent devices in circuits which are deenergized.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required containment penetration conductor overcurrent protective device(s) nonfunctional.	A.1.1 Restore the protective device(s) to FUNCTIONAL status. OR A.1.2 Deenergize the circuit(s).	72 hours 72 hours
B. One or more containment penetration circuit(s), which are required to be deenergized, energized.	B.1 Deenergize the circuit(s).	72 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time not met.	C.1 Initiate a Condition Report. AND	Immediately
	C.2 Continue action to restore the required protective device(s) to FUNCTIONAL status or deenergize the circuits which are required to be deenergized.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.8.1.1	----------NOTE---------- Only required to be performed on one reactor coolant pump circuit every 36 months provided that all reactor coolant pump circuits are demonstrated FUNCTIONAL at least once per 108 months. ----------	
	Verify FUNCTIONALITY of at least one 4.16 kV reactor coolant pump circuit, by performance of: a. A CHANNEL CALIBRATION of the associated protective relays, and b. An integrated system functional test which includes simulated automatic actuation of the system and verification that each relay and associated circuit breakers and control circuits function as designed, and c. For each circuit breaker found nonfunctional during these functional tests, an additional representative sample of at least one of the circuit breakers of the nonfunctional type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.	36 months

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.8.1.2	----------NOTES---------- 1. Circuit breakers selected for functional testing shall be selected on a rotating basis. 2. The functional test shall consist of injecting a current input at the specified setpoint to each selected circuit breaker and verifying that each circuit breaker functions as designed. 3. For each circuit breaker found nonfunctional during these functional tests, an additional representative sample of ≥ 10% of all the circuit breakers of the nonfunctional type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested. ----------	
	Perform a functional test on a representative sample of ≥ 10% of each type of lower voltage circuit breakers.	18 months
TRS 13.8.1.3	Inspect and perform preventive maintenance on each circuit breaker in accordance with procedures prepared in conjunction with its manufacturer's recommendations.	
	For reactor coolant pump circuit breakers	108 months
	For all other circuit breakers	72 months
TRS 13.8.1.4	Verify power sources feeding circuits required to be deenergized are interrupted by an open breaker or removed fuse.	18 months

13.8 Electrical Power Systems

TR 13.8.2 Motor Operated Valves Thermal Overload Protection Devices (Unit 2 Only)

TR 13.8.2 The thermal overload protection devices, integral with the motor starter, of each valve listed in Table 13.8.2-1 shall be FUNCTIONAL.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more nonfunctional thermal overload protection device(s).	A.1 Declare the affected valve(s) inoperable and enter the appropriate Technical Specification Condition and follow the applicable Required Actions for the affected valve(s).	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

	SURVEILLANCE	FREQUENCY
TRS 13.8.2.1	----------NOTE---------- CHANNEL CALIBRATION must be performed on each thermal overload device at least once per 12 years. ----------	
	Verify the required thermal overload protection devices FUNCTIONAL by performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overload devices.	36 months

Table 13.8.2-1 (Page 1 of 4)

Motor Operated Valves Thermal Overload Protection Devices (Note 1)

Valve Number	Function	Bypass Device
MOV-3052	CCW to RCP Coolers	No
MOV-3046	CCW from RCP Coolers	No
MOV-3182	CCW from RCP Coolers	No
MOV-3019A	SW to Coolers (SI open)	No
MOV-3019B	SW to Coolers (SI open)	No
MOV-3019C	SW to Coolers (SI open)	No
MOV-3019D	SW to Coolers (SI open)	No
MOV-3441A	SW from Coolers	No
MOV-3441B	SW from Coolers	No
MOV-3441C	SW from Coolers	No
MOV-3441D	SW from Coolers	No
MOV-3024A	SW from Coolers	No
MOV-3024B	SW from Coolers	No
MOV-3024C	SW from Coolers	No
MOV-3024D	SW from Coolers	No
MOV-3149	SW to Blowdown Hx	No
MOV-3150	SW from Blowdown Hx	No
MOV-3135	RCP Air Cooler SW Isolation	No
MOV-3134	RCP Air Cooler SW Isolation	No
MOV-3131	RCP Air Cooler SW Isolation	No
MOV-3764A	MD Discharge Isolation (AFW)	No
MOV-3764B	MD Discharge Isolation (AFW)	No
MOV-3764C	MD Discharge Isolation (AFW)	No
MOV-3764D	MD Discharge Isolation (AFW)	No
MOV-3764E	MD Discharge Isolation (AFW)	No
MOV-3764F	MD Discharge Isolation (AFW)	No
MOV-3350A	AFW Header Isolation	No
MOV-3350B	AFW Header Isolation	No
MOV-3350C	AFW Header Isolation	No
MOV-3209A	Service Water for AFW Suction	No
MOV-3209B	Service Water for AFW Suction	No
MOV-3210A	Service Water for AFW Suction	No
MOV-3210B	Service Water for AFW Suction	No
MOV-3216	Service Water for AFW Suction	No
MOV-3660	CTMT Rad Monitor Isolation	No
MOV-3318A	CTMT Differential Pressure Isolation	No
MOV-3318B	CTMT Differential Pressure Isolation	No
MOV-2768A	Control Room Vent. Damper	No
MOV-2768B	Control Room Vent. Damper	No

(continued)

Table 13.8.2-1 (Page 2 of 4)

Motor Operated Valves Thermal Overload Protection Devices (Note 1)

Valve Number	Function	Bypass Device
MOV-2769A	Control Room Vent. Damper	No
MOV-2769B	Control Room Vent. Damper	No
MOV-3478A	Control Room Vent. Damper	No
MOV-3478B	Control Room Vent. Damper	No
MOV-3872A	Hydrogen Dilution Fan Damper	No
MOV-3872B	Hydrogen Dilution Fan Damper	No
MOV-8106	Charging Pump Mini Flow Isolation	No
MOV-8826A	CTMT Spray Suction from CTMT Sump	No
MOV-8826B	CTMT Spray Suction from CTMT Sump	No
MOV-8827A	CTMT Spray Suction from CTMT Sump	No
MOV-8827B	CTMT Spray Suction from CTMT Sump	No
MOV-8817A	CTMT Spray Suction from RWST	No
MOV-8817B	CTMT Spray Suction from RWST	No
MOV-8820A	Discharge to Spray Ring	No
MOV-8820B	Discharge to Spray Ring	No
MOV-8803A	BIT Inlet	No
MOV-8803B	BIT Inlet	No
MOV-8886	Charging Pump Discharge to Hot Leg	No
MOV-8884	Charging Pump Discharge to Hot Leg	No
MOV-8885	Charging Pump Discharge to Cold Leg	No
MOV-8808A	SIS Accumulator Outlet	No
MOV-8808B	SIS Accumulator Outlet	No
MOV-8808C	SIS Accumulator Outlet	No
MOV-8811A	RHR Suction from CTMT Sump	No
MOV-8811B	RHR Suction from CTMT Sump	No
MOV-8812A	RHR Suction from CTMT Sump	No
MOV-8812B	RHR Suction from CTMT Sump	No
MOV-8809A	RHR Suction from RWST	No
MOV-8809B	RHR Suction from RWST	No
MOV-8887A	RHR Discharge Crossconnect	No
MOV-8887B	RHR Discharge Crossconnect	No
FCV-602A	RHR Pump Mini Flow	No
FCV-602B	RHR Pump Mini Flow	No
MOV-8889	RHR Discharge to Hot Leg	No
MOV-8888A	RHR Discharge to Cold Leg	No
MOV-8888B	RHR Discharge to Cold Leg	No
MOV-8706A	RHR Discharge to Charging Pump Suction	No

(continued)

Table 13.8.2-1 (Page 3 of 4)

Motor Operated Valves Thermal Overload Protection Devices (Note 1)

Valve Number	Function	Bypass Device
MOV-8706B	RHR Discharge to Charging Pump Suction	No
MOV-8112	Seal Water Return CTMT Isolation	No
MOV-8100	Seal Water Return CTMT Isolation	No
QSP25V513	RW to Pond Isolation	No
QSP25V514	RW to Pond Isolation	No
QSP25V517	RW to Wet Pit Isolation	No
QSP25V518	RW to Wet Pit Isolation	No
MOV-3536	CTMT Air Purge Isolation	No
MOV-3530	Post LOCA Vent Isolation	No
MOV-3740	Post LOCA Vent Isolation	No
MOV-3528A	CTMT Air Sample Isolation	No
MOV-3528B	CTMT Air Sample Isolation	No
MOV-3528C	CTMT Air Sample Isolation	No
MOV-3528D	CTMT Air Sample Isolation	No
MOV-3739A	CTMT Air Sample Isolation	No
MOV-3739B	CTMT Air Sample Isolation	No
MOV-3745A	CTMT Air Sample Isolation	No
MOV-3745B	CTMT Air Sample Isolation	No
MOV-3835A	CTMT Air Sample Isolation	No
MOV-3835B	CTMT Air Sample Isolation	No
MOV-3362A	Penetration Room Vent Damper	No
MOV-3362B	Penetration Room Vent Damper	No
MOV-3361A	Penetration Room Vent Damper	No
MOV-3361B	Penetration Room Vent Damper	No
MOV-3406	Turbine Trip and Throttle	No
MOV-3232A	Feedwater Isolation	No
MOV-3232B	Feedwater Isolation	No
MOV-3232C	Feedwater Isolation	No
Q2P16V514	Turbine Building Isolation	No
Q2P16V515	Turbine Building Isolation	No
Q2P16V516	Turbine Building Isolation	No
Q2P16V517	Turbine Building Isolation	No
Q2P16V538	Pond Recirculation	No
Q2P16V539	Pond Recirculation	No
LCV-115C	Charging Pump Suction from VCT	No
LCV-115E	Charging Pump Suction from VCT	No
LCV-115B	Charging Pump Suction from RWST	No
LCV-115D	Charging Pump Suction from RWST	No
MOV-8131A	Charging Pump Suction Crossconnect	No

(continued)

Table 13.8.2-1 (Page 4 of 4)

Motor Operated Valves Thermal Overload Protection Devices (Note 1)

Valve Number	Function	Bypass Device
MOV-8131B	Charging Pump Suction Crossconnect	No
MOV-8130A	Charging Pump Suction Crossconnect	No
MOV-8130B	Charging Pump Suction Crossconnect	No
MOV-8132A	Charging Pump Discharge Crossconnect	No
MOV-8132B	Charging Pump Discharge Crossconnect	No
MOV-8133A	Charging Pump Discharge Crossconnect	No
MOV-8133B	Charging Pump Discharge Crossconnect	No
MOV-8107	Charging Line Isolation	No
MOV-8108	Charging Line Isolation	No
MOV-8109A	Charging Pump Mini Flow Isolation	No
MOV-8109B	Charging Pump Mini Flow Isolation	No
MOV-8109C	Charging Pump Mini Flow Isolation	No

Note 1: Licensee may delete valves from this table provided the thermal overload protection devices are permanently bypassed.

13.8 Electrical Power Systems

TR 13.8.3 Emergency Diesel Generators (EDGs) Maintenance and Inspection Requirements

TR 13.8.3 The Emergency Diesel Generators (EDGs) shall be maintained in accordance with applicable maintenance and inspection requirements.

APPLICABILITY: When associated EDG is required to be OPERABLE.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more EDG maintenance or inspection requirements not met.	A.1 Initiate action to restore compliance with maintenance and inspection requirements.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.8.3.1	Verify that the following EDG lockout features prevent the EDG's from starting only when required: a. Oil Temperature High (OTH) b. Coolant Temperature High (CTH) c. Coolant Pressure Low (CPL) d. Crankcase Pressure High (CCPH)	36 months
TRS 13.8.3.2	Verify that the permanently connected and auto-connected loads to each EDG do not exceed the 2000-hour rating of 4353 kw for the 4075 kw generators and 3100 kw for the 2850 kw generator.	18 months on a STAGGERED TEST BASIS

13.9 Refueling Operations

TR 13.9.1 Decay Time

TR 13.9.1 The Reactor shall be subcritical for ≥ 100 hours.

APPLICABILITY: During movement of irradiated fuel in the reactor pressure vessel.

----------NOTE----------
TR 13.0.3 is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Reactor subcritical for < 100 hours.	A.1 Suspend all operations involving movement of irradiated fuel in the reactor pressure vessel.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.9.1.1	Verify the reactor has been subcritical for ≥ 100 hours by confirming the date and time of subcriticality.	Prior to movement of irradiated fuel in the reactor pressure vessel.

13.9 Refueling Operations

TR 13.9.2 Communications

TR 13.9.2 Direct Communications shall be maintained between the control room and personnel at the refueling station.

APPLICABILITY: During CORE ALTERATIONS

----------NOTE----------
TR 13.0.3 is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Direct communications between control room and refueling station not maintained.	A.1 Suspend all CORE ALTERATIONS.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.9.2.1	Verify direct communication exists between control room and refueling station.	Once within 1 hour prior to start of CORE ALTERATIONS AND 12 hours thereafter during CORE ALTERATIONS

13.9 Refueling Operations

TR 13.9.3 Manipulator Crane

TR 13.9.3 The manipulator crane and auxiliary hoist shall be used for movement of drive rods or fuel assemblies and shall be FUNCTIONAL with:

a. The manipulator crane used for movement of fuel assemblies having:

1) A minimum capacity of 3250 pounds, and

2) An overload cut off limit less than or equal to 2850 pounds.

b. The auxiliary hoist used for movement of control rods having:

1) A minimum capacity of 700 pounds, and

2) Load indicators which shall be used to assure that loads in excess of 600 pounds are not lifted.

APPLICABILITY: During movement of drive rods or fuel assemblies within the reactor pressure vessel.

----------NOTE----------
TR 13.0.3 is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Manipulator crane nonfunctional.	A.1 Suspend use of manipulator crane from operations involving the movement of fuel assemblies within the reactor pressure vessel.	Immediately

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Auxiliary hoist nonfunctional.	B.1 Suspend use of auxiliary hoist from operations involving the movement of control rods within the reactor pressure vessel.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.9.3.1	Verify manipulator crane FUNCTIONALITY by: a. Performing a load test of ≥ 3250 pounds, and b. Demonstrating operation of the automatic load cutoff when the crane load exceeds 2850 pounds.	Once within 100 hours prior to the start of movement of fuel assemblies within the reactor pressure vessel
TRS 13.9.3.2	Verify auxiliary hoist and associated load indicator FUNCTIONAL by performance of a load test ≥ 700 pounds.	Once within 100 hours prior to the start of movement of drive rods within the reactor pressure vessel

13.9 Refueling Operations

TR 13.9.4 Crane Travel - Spent Fuel Storage Building

TR 13.9.4 Loads > 3000 pounds shall be prohibited from travel over fuel assemblies in the storage pool.

APPLICABILITY: With fuel assemblies in the storage pool.

----------NOTE----------
TR 13.0.3 is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Technical Requirement not met.	A.1 Place the crane load in a safe condition.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE	FREQUENCY
TRS 13.9.4.1 Verify loads ≤ 3000 pounds.	Prior to movement over irradiated fuel assemblies in the storage pool

13.9 Refueling Operations

TR 13.9.5 Spent Fuel Cask Crane

TR 13.9.5 The spent fuel cask crane shall be FUNCTIONAL.

APPLICABILITY: When handling the spent fuel cask.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Ambient air temperature less than the cold proof test temperature AND material testing has not been performed.	A.1 ---------- TR 13.0.3 is not applicable ---------- Perform cold proof test at the established lower temperature OR perform material testing as prescribed in the UFSAR Section 9.1.4.4.	Immediately
B. Lifting components not meeting any of the criteria of TRS 13.9.5.2.	B.1 Suspend lifting of loads with the main hoist until the degraded components are repaired or replaced.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.9.5.1	Perform a cold proof test at 125% of rated load pursuant to ANSI-B.30.2.0 OR perform Material Testing as described in UFSAR 9.1.4.4.	As needed
TRS 13.9.5.2	Perform testing and inspection of the lifting components pursuant to ANSI-B.30.2.0 and the manufacturers recommendations.	As needed

13.9 Refueling Operations

TR 13.9.7 Average Reactor Coolant Temperature

TR 13.9.7 The average reactor coolant temperature shall be ≤ 140 °F.

APPLICABILITY: MODE 6

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Average reactor coolant temperature > 140 °F.	A.1 Initiate action to restore average reactor coolant temperature to within limit.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE	FREQUENCY
TRS 13.9.7.1 Verify average reactor coolant temperature ≤ 140 °F.	12 hours

13.12 Explosive Gas and Storage Tank Radioactivity Monitoring (EGSTRAM) Program

TR 13.12.1 Waste Gas Monitoring Instrumentation

TR 13.12.1 The following waste gas monitoring instrumentation channels shall be FUNCTIONAL with their alarm/trip setpoints set to ensure that the limits of TR 13.12.3 are not exceeded:

a. One hydrogen monitor per recombiner, and

b. Two oxygen monitors per recombiner.

APPLICABILITY: During recombiner operation.

ACTIONS

----------NOTES----------

1. TR 13.0.3 is not applicable.
2. TR 13.0.4c is applicable.

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	----------NOTE---------- Not applicable during testing of oxygen monitors. ---------- One oxygen monitor for one or more recombiners nonfunctional.	A.1	Isolate the oxygen supply to the affected recombiner(s).	Immediately
B.	Both oxygen monitors for one or more recombiners nonfunctional.	B.1	Analyze grab samples from the affected on-service waste decay tank during addition of waste gas. AND	4 hours (continued)

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
B.	(continued)	B.2	Verify oxygen concentration remains less than 1 percent.	4 hours
C.	Required hydrogen monitor for one or more recombiners nonfunctional.	C.1	Analyze grab samples from the affected on-service waste decay tank during addition of waste gas.	4 hours
		AND		
		C.2	Verify oxygen concentration remains less than 1 percent.	4 hours
D.	Required Actions and associated Completion Times of Conditions A, B or C not met.	D.1	Suspend addition of waste gas to the system.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE REQUIREMENTS	FREQUENCY
TRS 13.12.1.1 ----------NOTE---------- Only required to be performed during recombiner operation. ---------- Perform CHANNEL CHECK	24 hours
TRS 13.12.1.2 ----------NOTE---------- Only required to be performed during recombiner operation. ---------- Perform COT	31 days
TRS 13.12.1.3 ----------NOTES---------- 1. Only required to be performed during recombiner operation. 2. For the hydrogen monitors, the CHANNEL CALIBRATION shall include the use of standard gas samples in accordance with the manufacturer's recommendations. 3. For the oxygen monitors, the CHANNEL CALIBRATION shall include the use of standard gas samples in accordance with the manufacturer's recommendations. In addition, a standard gas sample of nominally four volume percent oxygen, balance nitrogen shall be used for inlet oxygen monitor linearity check. ---------- Perform CHANNEL CALIBRATION	92 days

13.12 Explosive Gas and Storage Tank Radioactivity Monitoring (EGSTRAM) Program

TR 13.12.2 Liquid Holdup Tanks

TR 13.12.2 The quantity of radioactive material contained in any outside temporary tank, excluding liners being used to solidify radioactive wastes, shall be limited to ≤ 10 curies, excluding tritium and dissolved or entrained noble gases.

APPLICABILITY: At all times.

ACTIONS

----------NOTES----------

1. TR 13.0.3 is not applicable.
2. TR 13.0.4c is applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Quantity of radioactive material in any outside temporary tank, excluding liners being used to solidify radioactive wastes, in excess of limit.	A.1 Suspend addition of radioactive material to the tank. AND A.2 Reduce the tank contents to within limit.	Immediately 48 hours

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.12.2.1	Verify quantity of radioactive material contained in each outdoor temporary tank, excluding liners being used to solidify radioactive wastes, to be less than the limit by analyzing a representative sample of the tank contents.	7 days when radioactive materials are being added to a tank.

13.12 Explosive Gas and Storage Tank Radioactivity Monitoring (EGSTRAM) Program

TR 13.12.3 Waste Gas Monitoring

TR 13.12.3 The concentration of oxygen in any portion of the gaseous radwaste treatment system shall be limited to:

A. ≤ 2% by volume whenever the hydrogen concentration in that portion of the gaseous radwaste treatment system exceeds 4% by volume and the hydrogen and oxygen monitors required by TR 13.12.1 are FUNCTIONAL; or

B. ≤ 1% by volume whenever the hydrogen concentration in that portion of the gaseous radwaste treatment system exceeds 4% by volume and the hydrogen and oxygen monitors required by TR 13.12.1 are not FUNCTIONAL.

APPLICABILITY: At all times.

ACTIONS

----------NOTES----------

1. TR 13.0.3 is not applicable.
2. TR 13.0.4c is applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Monitors in TR 13.12.1 FUNCTIONAL. AND Concentration of oxygen in the gaseous radwaste treatment system > 2% by volume but ≤ 4% by volume.	A.1 Reduce oxygen concentration to ≤ 2% by volume.	48 hours

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
B.	Monitors in TR 13.12.1 not FUNCTIONAL. AND Concentration of oxygen in the gaseous radwaste treatment system > 1% by volume but ≤ 4% by volume.	B.1	Analyze grab samples from the affected on-service waste decay tank during addition of waste gas. AND Reduce oxygen concentration to ≤ 1% by volume.	4 hours 4 hours
C.	Required Actions and associated Completion Times of Conditions A or B not met.	C.1	Suspend addition of waste gas to the system.	Immediately
D.	Concentration of oxygen in the gaseous radwaste treatment system > 4% by volume.	D.1	Suspend all additions of waste gases to the system. AND Reduce oxygen concentration to ≤ 4%. AND Reduce oxygen concentration to within limit.	Immediately 1 hour 49 hours

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.12.3.1	Verify concentration of hydrogen or oxygen in the gaseous radwaste treatment system to be less than the limit by monitoring the waste gases in the gaseous radwaste treatment system.	During addition of waste gases to the gaseous radwaste treatment system: by use of the hydrogen and/or oxygen monitors required by TR 13.12.1, when FUNCTIONAL OR by analyzing grab samples from the affected waste decay tank at least once every 4 hours.

13.12 Explosive Gas and Storage Tank Radioactivity Monitoring (EGSTRAM) Program

TR 13.12.4 Gas Storage Tanks

TR 13.12.4 The quantity of radioactivity contained in each gas storage tank shall be limited to ≤ 70,500 curies of noble gases (considered as Xe-133).

APPLICABILITY: At all times.

ACTIONS

----------NOTES----------

1. TR 13.0.3 is not applicable.
2. TR 13.0.4c is applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A.1 Quantity of radioactive material in any gas storage tank exceeding limit.	A.1 Suspend all additions of radioactive material to the tank. AND A.2 Reduce the tank contents to within the limit.	Immediately 48 hours

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.12.4.1	Verify quantity of radioactive material contained in each gas storage tank to be less than the limit.	Once per 7 days when radioactive materials have been added to the tank during the previous 7 days.

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.12.4.2	In the event of confirmed major fuel failure (> 1%), verify quantity of radioactive material contained in each waste gas storage tank to be less than the limit.	Once per 24 hours when radioactive materials have been added to the tank during the previous 24 hours.

13.13 Emergency Response Facilities

TR 13.13.1 Emergency Response Facilities

TR 13.13.1 The Technical Support Center, the Operations Support Center, and the Emergency Operations Facility shall be FUNCTIONAL.

APPLICABILITY: At all times.

ACTIONS

----------NOTES----------

1. Separate condition entry is allowed for each Emergency Response Facility (ERF).
2. TR 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more emergency facilities nonfunctional.	A.1 Restore emergency facilities to FUNCTIONAL status. AND	1 hour
	A.2 Verify availability of alternate locations for performing ERF functions.	Immediately
B. Required Action A and associated Completion Time not met.	B.1 Initiate compensatory actions, as necessary, to provide emergency response functions. AND	Immediately (continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. (continued)	B.2	Review NMP-AD-031 for potential reporting criteria.	Immediately
	AND		
	B.3	Proceed with actions to return ERFs to FUNCTIONAL status with a high priority.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCES

SURVEILLANCE		FREQUENCY
TRS 13.13.1.1	Perform testing to ensure FUNCTIONALITY of an ERF.	In accordance with applicable procedures.
TRS 13.13.1.2	Perform inventory to ensure FUNCTIONALITY of an ERF.	In accordance with applicable procedures.

Technical Requirements Manual (TRM) Bases

Joseph M. Farley Nuclear Plant
Units 1 and 2

List of Effective Pages

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Note on section numbering: The TRM and TRM Bases numbering is intended to correspond to the associated ITS Specification. The numbering convention is to use the ITS Specification number, with the addition of a leading "1". For example, TRM spec 13.8, Electrical Power Systems, corresponds to ITS spec 3.8. Since all ITS specifications do not have associated TRM specifications, the TRM numbers do not run consecutively.

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B 13.0 TECHNICAL REQUIREMENT (TR) Applicability

BASES

TR 13.0.1 through TR 13.0.7 establish the general requirements applicable to all Technical Requirements and apply at all times, unless otherwise stated.

13.0.1 MODES

TR 13.0.1 establishes the Applicability statement within each individual Technical Requirement as the requirement for when the TR is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Technical Requirement).

13.0.2 REQUIRED ACTIONS

TR 13.0.2 establishes that upon discovery of a failure to meet a TR, the associated ACTIONS shall be met. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of a TR are not met. This Technical Requirement establishes that:

a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Technical Requirement; and

b. Completion of the Required Actions is not required when a TR is met within the specified Completion Time, unless otherwise specified.

There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the TR must be met. This time limit is the Completion Time to restore an nonfunctional system or component to FUNCTIONAL status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Technical Requirement is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS.) The second type of Required Action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation.

Completing the Required Actions is not required when a TR is met or is no longer applicable, unless otherwise stated in the individual Technical Requirements.

(continued)

B 13.0 TECHNICAL REQUIREMENT (TR) Applicability

BASES

The nature of some Required Actions of some Conditions necessitates that, once the Condition is entered, the Required Actions must be completed even though the associated Conditions no longer exist. The individual TR's ACTIONS specify the Required Actions where this is the case. An example of this is in TR 13.4.2, "Pressurizer Pressure and Temperature (P/T) Limits."

The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally. The reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should not be made for operational convenience. Additionally, if intentional entry into ACTIONS would result in redundant equipment being nonfunctional, alternatives should be used instead. Doing so limits the time both subsystems/trains of a safety function are nonfunctional and limits the time conditions exist which may result in TR 13.0.3 being entered. Individual Technical Requirements may specify a time limit for performing a TRS when equipment is removed from service or bypassed for testing. In this case, the Completion Times of the Required Actions are applicable when this time limit expires, if the equipment remains removed from service or bypassed.

When a change in MODE or other specified condition is required to comply with Required Actions, the unit may enter a MODE or other specified condition in which another Technical Requirement becomes applicable. In this case, the Completion Times of the associated Required Actions would apply from the point in time that the new Technical Requirement becomes applicable, and the ACTIONS Condition(s) are entered.

13.0.3 COMPLETION TIMES

TR 13.0.3 establishes the actions that must be implemented when a TR is not met and:

a. An associated Required Action and Completion Time is not met and no other Condition applies; or

b. The condition of the unit is not specifically addressed by the associated ACTIONS. This means that no combination of Conditions stated in the ACTIONS can be made that exactly corresponds to the actual condition of the unit. Sometimes, possible combinations of Conditions are such that entering TR 13.0.3 is warranted; in such cases, the ACTIONS specifically state a Condition corresponding to such combinations and also that TR 13.0.3 be entered immediately.

This Technical Requirement specifies that the unit shall be placed in a safe condition as determined by plant management and that a Condition Report shall be initiated immediately. The Actions required to ensure the unit is placed in a safe condition may include a unit shutdown as determined by plant management. It is not intended to be used as an operational convenience that permits routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being nonfunctional.

(continued)

B 13.0 TECHNICAL REQUIREMENT (TR) Applicability

BASES

Actions initiated in accordance with TR 13.0.3 may be terminated and TR 13.0.3 exited if any of the following occurs:

a. The TR is now met.

b. A Condition exists for which the Required Actions have now been performed.

c. ACTIONS exist that do not have expired Completion Times. These Completion Times are applicable from the point in time that the Condition is initially entered and not from the time TR 13.0.3 is exited.

(continued)

BASES

Exceptions to TR 13.0.3 are provided in instances where the Technical Requirement already provides the appropriate remedial measures to ensure the continued safe operation of the unit as required by TR 13.0.3. An example of this is in TR 13.9.6, "Storage Pool Ventilation (fuel storage)." TR 13.9.6 has an Applicability of "Whenever irradiated fuel is in the fuel storage pool." Therefore, this TR can be applicable in any or all MODES. If the TR and the Required Actions of TR 13.9.6 are not met , the Required Action of TR 13.9.6 of "Suspend all operations involving movement of fuel within the storage pool until required penetration room filtration system is restored to FUNCTIONAL status" is the appropriate Required Action to complete in order to ensure the safe operation of the unit in any operating MODE. These exceptions are addressed in the individual Technical Requirements.

13.0.4 MODE CHANGES

TR 13.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when a TR is not met. It allows placing the unit in a MODE or other specified condition stated in that Applicability (e.g., the Applicability desired to be entered) when unit conditions are such that the requirements of the TR would not be met, in accordance with TR 13.0.4a, TR 13.0.4b, or TR 13.0.4c.

TR 13.0.4a allows entry into a MODE or other specified condition in the Applicability with the TR not met when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. Compliance with Required Actions that permit continued operation of the unit for an unlimited period of time in a MODE or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the unit before or after the MODE change. Therefore, in such cases, entry into a MODE or other specified condition in the Applicability may be made in accordance with the provisions of the Required Actions. TR 13.0.4b allows entry into a MODE or other specified condition in the Applicability with the TR not met after performance of a risk assessment addressing nonfunctional systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate.

The risk assessment may use quantitative, qualitative, or blended approaches, and the risk assessment will be conducted using the plant program, procedures, and criteria in place to implement 10 CFR 50.65(a)(4), which requires that risk impacts of maintenance activities be assessed and managed. The risk assessment, for the purposes of TR 13.0.4b, must take into account all inoperable Technical Specification equipment regardless of whether the equipment is included in the normal 10 CFR 50.65(a)(4) risk assessment scope. The risk assessments will be conducted using the procedures and guidance endorsed by Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." Regulatory Guide 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These

(continued)

documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is acceptable. Consideration should also be given to the probability of completing restoration such that the requirements of the TR would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

TR 13.0.4b may be used with single, or multiple systems and components unavailable. NUMARC 93-01 provides guidance relative to consideration of simultaneous unavailability of multiple systems and components.

The results of the risk assessment shall be considered in determining the acceptability of entering the MODE or other specified condition in the Applicability, and any corresponding risk management actions. The TR 13.0.4b risk assessments do not have to be documented.

The Technical Requirements allow continued operation with equipment unavailable in MODE 1 for the duration of the Completion Time. Since this is allowable, and since in general the risk impact in that particular MODE bounds the risk of transitioning into and through the applicable MODES or other specified conditions in the Applicability of the TR, the use of the TR 13.0.4b allowance should be generally acceptable, as long as the risk is assessed and managed as stated above. However, there maybe a small subset of systems and components that have been determined to be more important to risk and use of the TR 13.0.4b allowance is prohibited. The TRs governing these systems and components contain Notes prohibiting the use of TR 13.0.4b by stating that TR 13.0.4b is not applicable.

TR 13.0.4c allows entry into a MODE or other specified condition in the Applicability with the TR not met based on a Note in the requirement which states TR 13.0.4c is applicable. These specific allowances permit entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time and a risk assessment has not been performed. This allowance may apply to all the ACTIONS or to a specific Required Action of a requirement. The risk assessments performed to justify the use of TR 13.0.4b usually only consider systems and components. For this reason, TR 13.0.4c is typically applied to requirements which describe values and parameters (e.g., Containment Air Temperature, Containment Pressure, Moderator Temperature Coefficient), and may be applied to other requirements based on NRC plant-specific approval.

The provisions of this requirement should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to FUNCTIONAL status before entering an associated MODE or other specified condition in the Applicability.

(continued)

BASES

The provisions of TR 13.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of TR 13.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown.

In this context, a unit shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

Upon entry into a MODE or other specified condition in the Applicability with the TR not met, TR 13.0.1 and TR 13.0.2 require entry into the applicable Conditions and Required Actions until the Condition is resolved, until the TR is met, or until the unit is not within the Applicability of the Technical Requirements.

Surveillances do not have to be performed on the associated nonfunctional equipment (or on variables outside the specified limits), as permitted by TRS 13.0.1. Therefore, utilizing TR 13.0.4 is not a violation of TRS 13.0.1 or TRS 13.0.4 for any Surveillances that have not been performed on nonfunctional equipment. However, TRSs must be met to ensure FUNCTIONALITY prior to declaring the associated equipment FUNCTIONAL (or variable within limits) and restoring compliance with the affected TR.

13.0.5 OPERABILITY DETERMINATION / FUNCTIONALITY ASSESSMENT

Regulatory Issues Summary (RIS) 2005-020 revised the Operability Determination (OD) guidelines (Inspection Manual, Part 9900) previously issued under Generic Letter 91 -18. The new guidelines introduced the concept of "Functionality" as applicable to Systems, Structures, and Components (SSCs) outside of the Technical Specifications (TS). Operability is now applied only to TS SSCs. Functionality is an attribute of SSCs that is not controlled by the TS. However, when the Technical Requirements Manual (TRM) refers to TS equipment, it remains appropriate to refer to these SSCs as either *operable* or *inoperable*. The definition of operability assumes that an SSC described in TS can perform its specified function when all necessary support systems are capable of performing their related support functions.

Functionality Assessments are applied to those SSCs not described in the TS, specifically those SSCs that perform specified functions described in the Updated Final Safely Analysis (UFSAR), TRM, Emergency Plan, Fire Protection Plan, regulatory commitments, or other elements of the Current Licensing Basis.

Operability Determinations are performed for those SSCs described in the TS. This includes those SSCs that are explicitly required to be operable by the TS as well as those that are not explicitly required to be operable by the TS, but that perform required support functions (as specified by the TS definition of operability) for SSCs that are required to be operable by the TS. Note that for SSCs not explicitly required to be operable by the TS but that support SSCs that are explicitly required to be operable by the TS, degraded conditions are subject to Functionality Assessments. However, these Functionality Assessments provide input to an Operability Determination for the impacted supported TS SSCs.

(continued)

BASES

TR 13.0.5 establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared nonfunctional to comply with ACTIONS. The sole purpose of this Technical Requirement is to provide an exception to TR 13.0.2 (e.g., to not comply with the applicable Required Action(s)) to allow the performance of required testing to demonstrate:

a. The FUNCTIONALITY of the equipment being returned to service; or

b. The FUNCTIONALITY or OPERABILITYof other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the ACTIONS is limited to the time absolutely necessary to perform the required testing to demonstrate FUNCTIONALITY. This Technical Requirement does not provide time to perform any other preventive or corrective maintenance.

An example of demonstrating the FUNCTIONALITY of the equipment being returned to service is reopening a containment isolation valve that has been closed to comply with Required Actions and must be reopened to perform the required testing.

An example of demonstrating the FUNCTIONALITY or OPERABILITY of other equipment is taking a nonfunctional channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of required testing on another channel in the other trip system. A similar example of demonstrating the FUNCTIONALITY or OPERABILITY of other equipment is taking a nonfunctional channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of required testing on another channel in the same trip system.

13.0.7 TEST EXCEPTIONS

There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Test Exception TR 13.1.9 allows specified Technical Requirements (TRs) to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with the requirements of these TRs. Unless otherwise specified, all the other TRM requirements remain unchanged. This will ensure all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The Applicability of a Test Exception TR represents a condition not necessarily in compliance with the normal requirements of the TRM. Compliance with Test Exception TRs is optional. A special operation may be performed either under the provisions of the appropriate Test Exception TR or under the other applicable TRM requirements. If it is desired to perform the special operation under the provisions of the Test Exception TR, the requirements of the Test Exception TR shall be followed.

B 13.0 TECHNICAL REQUIREMENT SURVEILLANCES (TRS) Applicability

BASES

TRS 13.0.1 through TRS 13.0.4 establish the general requirements applicable to all Technical Requirements and apply at all times, unless otherwise stated.

TRS 13.01 MODES

TRS 13.0.1 establishes the requirement that TRSs must be met during the MODES or other specified conditions in the Applicability for which the requirements of the TR apply, unless otherwise specified in the individual TRSs. This Technical Requirement is to ensure that Surveillances are performed to verify the FUNCTIONALITY of systems and components, and that variables are within specified limits. Failure to meet a Surveillance within the specified Frequency, in accordance with TRS 13.0.2, constitutes a failure to meet a TR.

Systems and components are assumed to be FUNCTIONAL when the associated TRSs have been met. Nothing in this Technical Requirement, however, is to be construed as implying that systems or components are FUNCTIONAL when:

a. The systems or components are known to be nonfunctional, although still meeting the TRSs; or

b. The requirements of the Surveillance(s) are known not to be met between required Surveillance performances.

Surveillances do not have to be performed when the unit is in a MODE or other specified condition for which the requirements of the associated TR are not applicable, unless otherwise specified. The TRSs associated with a test exception are only applicable when the test exception is used as an allowable exception to the requirements of a Technical Requirement.

Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given TRS. In this case, the unplanned event may be credited as fulfilling the performance of the TRS. This allowance includes those TRSs whose performance is normally precluded in a given MODE or other specified condition.

Surveillances, including Surveillances invoked by Required Actions, do not have to be performed on nonfunctional equipment because the ACTIONS define the remedial measures that apply. Surveillances have to be met and performed in accordance with TRS 13.0.2, prior to returning equipment to FUNCTIONAL status.

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Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment FUNCTIONAL. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with TRS 13.0.2. Post maintenance testing may not be possible in the current MODE or other specified conditions in the Applicability due to the necessary unit parameters not having been established. In these situations, the equipment may be considered FUNCTIONAL provided testing has been satisfactorily completed to the extent possible and the equipment is not otherwise believed to be incapable of performing its function. This will allow operation to proceed to a MODE or other specified condition where other necessary post maintenance tests can be completed.

TRS 13.0.2 REQUIRED ACTIONS

TRS 13.0.2 establishes the requirements for meeting the specified Frequency for Surveillances and any Required Action with a Completion Time that requires the periodic performance of the Required Action on a "once per . . ." interval.

TRS 13.0.2 permits a 25% extension of the interval specified in the Frequency. This extension facilitates Surveillance scheduling and considers plant operating conditions that may not be suitable for conducting the Surveillance (e.g., transient conditions or other ongoing Surveillance or maintenance activities).

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the TRSs. The exceptions to TRS 13.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Technical Requirements.

As stated in TRS 13.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the nonfunctional equipment in an alternative manner.

The provisions of TRS 13.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

BASES

TRS 13.0.3 COMPLETION TIMES

TRS 13.0.3 establishes the flexibility to defer declaring affected equipment nonfunctional or an affected variable outside the specified limits when a Surveillance has not been completed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with TRS 13.0.2, and not at the time that the specified Frequency was not met.

This delay period provides adequate time to complete Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or other remedial measures that might preclude completion of the Surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.

When a Surveillance with a Frequency based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, SR 3.0.3 allows for the full delay period of up to the specified Frequency to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

TRS 13.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by Required Actions.

Failure to comply with specified Frequencies for TRSs is expected to be an infrequent occurrence. Use of the delay period established by TRS 13.0.3 is a flexibility which is not intended to be used as an operational convenience to extend Surveillance intervals. While up to 24 hours or the limit of the specified Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." The Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation

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may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee's Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered nonfunctional or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable TR Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is nonfunctional, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable TR Conditions begin immediately upon the failure of the Surveillance.

Completion of the Surveillance within the delay period allowed by this Technical Requirement, or within the Completion Time of the ACTIONS, restores compliance with TRS 13.0.1.

TRS 13.0.4 MODE CHANGES

TRS 13.0.4 establishes the requirement that all applicable TRSs must be met before entry into a MODE or other specified condition in the Applicability.

This requirement ensures that system and component FUNCTIONALITY requirements and variable limits are met before entry into MODES or other specified conditions in the Applicability for which these systems and components ensure safe operation of the unit. The provisions of this requirement should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to FUNCTIONAL status before entering an associated MODE or other specified condition in the Applicability.

A provision is included to allow entry into a MODE or other specified condition in the Applicability when a TR is not met due to Surveillance not being met in accordance with TR 13.0.4.

However, in certain circumstances, failing to meet a TRS will not result in TR 13.0.4 restricting a MODE change or other specified condition change. When a system, subsystem, division, component, device, or variable is nonfunctional or outside its specified limits, the associated TRS(s) are not required to be performed, per TRS 13.0.1, which states that surveillances do not have to be performed on nonfunctional equipment. When equipment is nonfunctional, TRS 13.0.4 does not apply to the associated TRS(s) since the requirement for the TRS(s) to be performed is removed. Therefore, failing to perform the Surveillance(s) within the specified Frequency does not result in a TRS 13.0.4 restriction to changing MODES or other specified conditions in the Applicability. However, since the TR is not met in this instance, TR 13.0.4 will govern any restrictions that may (or may not) apply to MODE or other specified condition changes.

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BASES

TRS 13.0.4 does not restrict changing MODES or other specified conditions of the Applicability when a Surveillance has not been performed within the specified Frequency, provided the requirement to declare the TR not met has been delayed in accordance with TRS 13.0.3.

The provisions of TRS 13.0.4 shall not prevent entering into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of TRS 13.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

The precise requirements for performance of TRSs are specified such that exceptions to TRS 13.0.4 are not necessary. The specific time frames and conditions necessary for meeting the TRSs are specified in the Frequency, in the Surveillance, or both. This allows performance of Surveillances when the prerequisite condition(s) specified in a Surveillance procedure require entry into the MODE or other specified condition in the Applicability of the associated TR prior to the performance or completion of a Surveillance. A Surveillance that could not be performed until after entering the TR's Applicability, would have its Frequency specified such that it is not "due" until the specific conditions needed are met. Alternately, the Surveillance may be stated in the form of a Note as not required (to be met or performed) until a particular event, condition, or time has been reached. Further discussion of the specific formats of TRSs' annotation is found in Section 11.4, Frequency.

B 13.1 REACTIVITY CONTROL SYSTEMS

BASES

SHUTDOWN MARGIN

TR 13.1.1 Shutdown Margin

A sufficient SHUTDOWN MARGIN ensures that:

1) the reactor can be made subcritical from all operating conditions,
2) the reactivity transients associated with postulated accident conditions are controllable within acceptable limits, and
3) the reactor will be maintained sufficiently subcritical to preclude inadvertent criticality in the shutdown condition.

SHUTDOWN MARGIN requirements vary throughout core life as a function of fuel depletion, RCS boron concentration, and RCS Tavg. The most restrictive condition occurs at EOL, with Tavg at no load operating temperature, and is associated with a postulated steam line break accident and resulting uncontrolled RCS cooldown. In the analysis of this accident, a minimum SHUTDOWN MARGIN as specified in the COLR is required to control the reactivity transient. Accordingly, the SHUTDOWN MARGIN requirement is based upon this limiting condition and is consistent with FSAR safety analysis assumptions.

BORATION SYSTEMS

TR 13.1.2 Boration Flow Path- Shutdown
TR 13.1.3 Boration Flow Paths- Operating
TR 13.1.4 Charging Pump- Shutdown
TR 13.1.5 Charging Pumps- Operating
TR 13.1.6 Borated Water Source- Shutdown
TR 13.1.7 Borated Water Sources- Operating

The boron injection system ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include 1) borated water sources, 2) charging pumps, 3) separate flow paths, 4) boric acid transfer pumps, and 5) an emergency power supply from OPERABLE diesel generators. With the RCS average temperature above 200°F, a minimum of two boron injection flow paths are required to ensure single functional capability in the event an assumed failure renders one of the flow paths nonfunctional. The boration capability of either flow path is sufficient to provide the required SHUTDOWN MARGIN from expected operating conditions after xenon decay and cooldown to 200°F. The maximum expected boration capability requirement occurs at EOL from full power equilibrium xenon conditions and requires 11,336 gallons of 7000 ppm borated water from the boric acid storage tanks or 44,826 gallons of 2300 ppm borated water from the refueling water storage tank.

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B 13.1 REACTIVITY CONTROL SYSTEMS

BASES

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity changes in the event the single injection system becomes nonfunctional.

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Technical Specification Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable below 180°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single RHR relief valve. Two charging pumps may be capable of injecting into the RCS for a short time to allow the pumps to be swapped. This allows seal injection flow to be continually maintained, thus, minimizing the potential for RCP number one seal damage by reducing pressure transients on the seal and by preventing RCS water from entering the seal. Particles in the RCS water may cause wear on the seal surfaces and loss of seal injection pressure may cause the seal not to fully reseat when pressure is reapplied. Low temperature overpressure protection is most critical during shutdown when the RCS is water solid. Mass input transients can cause a very rapid increase in RCS pressure allowing little time for operator action to mitigate the event. For these reasons, more than one pump should be made capable of injecting into the RCS only when the RCS is in a non water solid condition and when both RHR relief valves are OPERABLE or the RCS is vented via an opening of at least 5.7 square inches. A 5.7 square inch opening is equivalent to the throat size area of two RHR relief valves.

The boron capability required below 200°F is sufficient to provide a SHUTDOWN MARGIN as specified in the COLR after xenon decay and cooldown from 200°F to 140°F. This condition requires either 2,000 gallons of 7000 ppm borated water from the boric acid storage tanks or 7,750 gallons of 2300 ppm borated water from the refueling water storage tank.

The contained water volume limits include allowance for water not available because of discharge line location and other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 7.0 and 10.5 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

The FUNCTIONALITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

Operability is applied only to TS SSCs. Functionality is an attribute of SSCs that is not controlled by the TS. However, when the Technical Requirements Manual (TRM) refers to TS equipment, it remains appropriate to refer to these SSCs as either *operable* or *inoperable.)*

MOVABLE CONTROL ASSEMBLIES

TR 13.1.8 Position Indication System- Shutdown
TR 13.1.9 Test Exception for Position Indication System- Shutdown
TR 13.1.10 Rod Drop Time

TR 13.1.8 Position Indication System-Shutdown

Control rod positions and FUNCTIONALITY of the rod position indicators are required to be verified when the reactor trip breakers are closed and the rod control system is capable of rod withdrawal. In MODES in which the reactor is required to be shut down, FUNCTIONALITY of rod position indicators provides positive assurance that the control rods are being maintained in a safe condition.

TR 13.1.9 Test Exception for Position Indication System- Shutdown

This special test exception permits the position indication channels to be nonfunctional during rod drop time measurements. The exception is required since the data necessary to determine the rod drop time is derived from the induced voltage in the position indicator coils as the rod is dropped. This induced voltage is small compared to the normal voltage and, therefore, can not be observed if the position indication channels remain FUNCTIONAL.

TR 13.1.10 Rod Drop Time

The maximum rod drop time restriction is consistent with the assumed rod drop time used in the safety analyses. Measurement with Tavg greater than or equal to 541°F and with all reactor coolant pumps operating ensures that the measured drop times will be representative of insertion times experienced during a reactor trip at operating conditions.

B 13.3 INSTRUMENTATION

BASES

TR 13.3.1 Movable Incore Detectors

The FUNCTIONALITY of the movable incore detectors with the specified minimum complement of equipment ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the reactor core. The FUNCTIONALITY of this system is demonstrated by irradiating each detector used and determining the acceptability of its voltage curve.

For the purpose of measuring FQ(Z) and Fxy a full incore flux map is used. Quarter-core flux maps, as defined in WCAP-8648, June 1976, may be used in recalibration of the excore neutron flux detection system. Full incore flux maps or symmetric incore thimbles may be used for monitoring the QUADRANT POWER TILT RATIO when one Power Range Channel is nonfunctional.

TR 13.3.2 High Energy Line Break Isolation Sensors

The high energy line break isolation sensors are designed to mitigate the consequences of the discharge of steam and/or water to the affected room and other lines and systems contained therein. In addition, the sensors will initiate signals that will alert the operator to bring the plant to a shutdown condition.

TR 13.3.3 Turbine Overspeed Protection

This Technical Requirement is provided to ensure that the turbine overspeed protection instrumentation and the turbine speed control valves are FUNCTIONAL and will protect the turbine from excessive overspeed. Protection from turbine excessive overspeed is required since excessive overspeed of the turbine could generate potentially damaging missiles which could impact and damage safety related components, equipment or structures.

TR 13.3.4 Radiation Monitoring Instrumentation

The FUNCTIONALITY of the radiation monitoring channels ensures that:
1) the radiation levels are continually measured in the areas served by the individual channels and
2) the alarm is initiated when the radiation level trip setpoint is exceeded.

TR 13.3.5 Electric Hydrogen Recombiner Instrumentation and Control Circuits

The FUNCTIONALITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. The containment atmosphere post-accident sampling system can be used as an alternative to a hydrogen analyzer should a hydrogen analyzer become nonfunctional. Either recombiner unit (or the purge system) is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

TR 13.3.6 Seismic Monitoring Instrumentation

The FUNCTIONALITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to EPRI NP-5930, July 1988 and NP-6695, December 1988. The instrumentation is consistent with the recommendations of EPRI TR-104239, “Seismic Instrumentation in Nuclear Power Plants for Response to OBE Exceedance: Guidelines for Implementation,” July 1994.

TR 13.3.7 Meteorological Monitoring Instrumentation

The FUNCTIONALITY of the meteorological instrumentation ensures that sufficient meteorological data are available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is generally consistent with the recommendations of Regulatory Guide 1.23, “Onsite Meteorological Program,” February 1972.

TR 13.3.8 Containment Hydrogen Monitors

This TR was added to support NRC commitment # 10755 as defined in NRC Safety Evaluation Report (SER) for Technical Specifications (TS) Amendments 167/159 (Unit 1/Unit 2), dated March 8, 2005. These amendments removed the hydrogen recombiners from the TS. SNC committed to include the hydrogen monitors within the post accident monitoring instruments program described in the FSAR.

BASES

The FUNCTIONALITY of the containment hydrogen monitors ensures the detection of high hydrogen concentration conditions that represent a potential for containment breach from a hydrogen explosion. This variable is also important in verifying the adequacy of mitigating actions. The hydrogen monitors are not Type A or Category I instrumentation (reference A-181866 and A-204866 Unit 1 & Unit 2, RG 1.97 Compliance Review and NRC SER for FNP RG 1.97 Compliance Report, Letter, Reeves to McDonald, 2/12/87).

The containment hydrogen monitors are part of the Post Accident Monitoring Display Instrumentation discussed in FSAR section 7.5.

TR 13.3.9 Ultrasonic Mode Calorimetric

The reactor core power levels discussed in this Technical Requirement (TR) are based on the reactor core power level assumed in the reactor safety analysis and the magnitude of the calorimetric power determination uncertainty which is a function of the calorimetric method.

Operation at indicated core power levels above 2775 MWt requires a calorimetric power uncertainty determination of less than 2.0%. This is only possible if the Ultrasonic Mode calorimetric is functional. The Ultrasonic Mode calorimetric is unique in that it receives feedwater mass flow, feedwater temperature, and feedwater pressure inputs directly from the Caldon LEFM CheckPlus system. The LEFM system measures and transmits this data with lower uncertainty than the functionally equivalent instrumentation from the feedwater Venturi Mode calorimetric. The reduced uncertainty that is characteristic of the Ultrasonic Mode calorimetric requires a FUNCTIONAL LEFM System to provide the feedwater parameters listed above as well as a FUNCTIONAL IPC calorimetric (QC4621) for performing the thermal power calculations. The Normalized Venturi calorimetric will support operation above 2775 MWt and the required Power Range NIS channel adjustments for power level monitoring for up to 72 hours while the LEFM system is nonfunctional (Condition A). Upon the expiration of the 72-hour allowed outage time, reactor core power is reduced to ≤ 2775 MWt (Condition B). Use of a non-normalized venturi-based calorimetric does not support operation above 2775 MWt.

Conditions A and B address situations when the Caldon LEFM CheckPlus System is not FUNCTIONAL. Conditions C and D address situations when the IPC Calorimetric is not FUNCTIONAL. If both the Caldon LEFM CheckPlus System and the IPC calorimetric (QC4621) are concurrently non-FUNCTIONAL, then their respective Conditions are entered and Completion Times tracked separately in accordance with the TRM.

FUNCTIONALITY REQUIREMENTS

LEFM CheckPlus System

“FUNCTIONAL” is defined as the ability of the system to calculate and communicate feedwater mass flow, feedwater temperature and pressure at the required uncertainty level to be used as input for the IPC Ultrasonic Mode calorimetric calculation. The LEFM electronics package and the IPC/LEFM data link application, which perform extensive self monitoring and diagnostics to ensure proper operation, are required for the LEFM CheckPlus system to be FUNCTIONAL. Conditions which impact the LEFM status, LEFM/IPC communication status, or electronics cabinet internal temperature will trigger a MCB annunciator. An available IPC screen may be reviewed to determine what condition has caused the annunciator to alarm. More detailed diagnostic information is available locally at the LEFM electronics cabinet display screen.

LEFM Condition	Discussion	LEFM System Status
Both LEFM/IPC communication links, LEFM PLCA, and LEFM PLCB have failed	The data from the LEFM cabinet are not communicating properly to the IPC. The IPC Ultrasonic Mode for calorimetric determination is impacted. Alarm condition.	nonfunctional
LEFM system or any one of the three LEFM meters (LEFM-1, Loop A, LEFM-2, Loop B, or LEFM-3, Loop C) in non-normal Alert Status 2 or Failed Status 3 status (LEFM system or any one of three LEFM meters in Major-Alert (Alert Status 2) or Failed (Failed Status 3))	The LEFM system has experienced a failure affecting the uncertainty requirements for the Ultrasonic Mode Calorimetric. Specific cause of the status is available locally at the LEFM electronics display.	nonfunctional

LEFM system or any one of three LEFM meters (LEFM-1, Loop A, LEFM-2, Loop B or LEFM-3, Loop C) in non-normal Alert Status 1 (LEFM system or any one of three LEFM meters in Minor-Alert (Alert Status 1))	The LEFM system can continue to meet the uncertainty requirements for the Ultrasonic Mode Calorimetric, however, some maintenance condition exists.	FUNCTIONAL
LEFM system and all three meters (LEFM-1, Loop A, LEFM-2, Loop B, and LEFM-3, Loop C) in Normal Status 0 (LEFM system and all three LEFM meters in Normal Status (Normal Status 0))	All paths and analog inputs in the system and meter are operable without error and no conditions require attention.	FUNCTIONAL

Failure to restore the LEFM CheckPlus system to FUNCTIONAL status requires entry into Condition B which requires reducing the reactor core power to ≤ 2775 MWt.

TRS 13.3.9.1

TRS 13.3.9.1 requires that the availability of the LEFM be verified prior to its use for the performance of SR 3.3.1.2. The self diagnostic features of the LEFM Check are used for this surveillance. If the LEFM Normal, Minor-Alert, Major-Alert, Failed status indication, as displayed on the plant computer system, is not in Major-Alert (Alert Status 2) or Failed (Failed Status 3), it is considered FUNCTIONAL.

B 13.4 REACTOR COOLANT SYSTEM

BASES

TR 13.4.1 Chemistry

The limitations on Reactor Coolant System chemistry ensure that corrosion of the Reactor Coolant System is minimized and reduces the potential for Reactor Coolant System leakage or failure due to stress corrosion. Maintaining the chemistry within the Steady State Limits provides adequate corrosion protection to ensure the structural integrity of the Reactor Coolant System over the life of the plant.

The associated effects of exceeding the oxygen, chloride, and fluoride limits are time and temperature dependent. Corrosion studies show that operation may be continued with contaminant concentration levels in excess of the Steady State Limits, up to the Transient Limits, for the specified limited time intervals without having a significant effect on the structural integrity of the Reactor Coolant System. The time interval permitting continued operation within the restrictions of the Transient Limits provides time for taking corrective actions to restore the contaminant concentrations to within the Steady State Limits.

The Technical Requirement Surveillances provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

TR 13.4.2 Pressurizer

The pressurizer heatup and cooldown rates shall not exceed 100°F/hr and 200°F/hr respectively. The spray shall not be used if the temperature difference between the pressurizer and the spray fluid is greater than 320°F.

System preservice hydrotests and in-service leak and hydrotests shall be performed at pressures in accordance with the requirements of ASME Boiler and Pressure Vessel Code, Section XI.

Allowable pressure-temperature relationships for various heatup and cooldown rates are calculated using methods derived from Appendix G in Section XI of the ASME Boiler and Pressure Vessel Code as required by Appendix G to 10 CFR Part 50 and these methods are discussed in detail in WCAP-14040-NP-A, Revision 2, and the NRC letters dated March 31, 1998 and April 3, 1998.

Although the pressurizer operates in temperature ranges above those for which there is reason for concern of non-ductile failure, operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Code requirements.

The 72 hour limit for performance of engineering evaluation was established based on engineering judgment, to allow an adequate time for performance while ensuring promptness.

TR 13.4.3 Reactor Vessel Head Vents

The FUNCTIONALITY of the Reactor Head Vent System ensures that adequate core cooling can be maintained in the event of the accumulation of non-condensable gases in the reactor vessel. This system is in accordance with 10 CFR 50.44(c)(3)(iii).

TR 13.4.4 Safety Valves- Shutdown

The pressurizer code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2735 psig. Each safety valve is designed to relieve 345,000 lbs per hour of saturated steam at the valve set point. The relief capacity of a single safety valve is adequate to relieve any overpressure condition which could occur during shutdown. In the event that no safety valves are FUNCTIONAL, an operating RHR loop, connected to the RCS, provides overpressure relief capability and will prevent RCS overpressurization. In addition, the Overpressure Protection System provides a diverse means of protection against RCS overpressurization at low temperatures.

Demonstration of the safety valves' lift settings will occur only during shutdown and will be performed in accordance with the provisions of the ASME Code for Operation and Maintenance of Nuclear Power Plants (OM Code).

TR 13.4.5 RCS Pressure Isolation Valve (PIV) Leakage

The Technical Requirement Surveillances for RCS Pressure Isolation Valves provide added assurance of valve integrity, thereby reducing the probability of gross valve failure and consequent intersystem LOCA. Leakage from the RCS Pressure Isolation valves is IDENTIFIED LEAKAGE and will be considered a portion of the allowed limit.

B 13.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

BASES

TR 13.5.1 Emergency Core Cooling System (ECCS)

As per TR 13.0.5, the term "operable" should be used for Structures, Systems, and Components (SSCs) that are explicitly required to be operable by the Technical Specifications (TSs) as well as those that are not explicitly required to be operable by the TSs, but that perform required support functions (as specified by the TS definition of operability) for SSCs that are required to be operable by the TSs. The definition of operability assumes that an SSC described in TSs can perform its specified function when all necessary support systems are capable of performing their related support functions. Since the ECCS is a SSC that is explicitly required to be operable in MODES 1, 2, and 3 while operating and MODE 4 during shutdown in TS 3.5.2 and 3.5.3, the term "operable," and all of its forms , should be used.

The OPERABILITY of two independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the accumulators is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

With the RCS temperature below 350°F, one OPERABLE ECCS subsystem is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.

The Technical Specification Surveillance Requirements and Technical Requirement Surveillances provided to ensure OPERABILITY of each component ensure that at a minimum the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Technical Specification Surveillance Requirements and Technical Requirement Surveillances for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses.

B 13.6 CONTAINMENT SYSTEMS

BASES

TR 13.6.1 Containment Ventilation System Leakage Rate

The purpose of the comparison of the results of degradation tests of the isolation valves in the containment purge supply and exhaust lines per TRS 13.6.1 is to identify excessive degradation of the resilient seals for these valves. In addition, these degradation tests are not subject to the requirements applicable to 10CFR50 Appendix J testing but are to be utilized to provide reasonable assurance that at least one set (inside containment or outside containment) of isolation valves provides a sufficient barrier to containment leakage. These degradation tests do not replace Appendix J testing, but are performed in addition to the type C tests required by Appendix J. Failure to satisfy the containment purge supply and exhaust isolation valve leakage rate specifications while in MODES 1-4 will be governed by the ACTION requirements of TS 3.6.3.D.

TR 13.6.2 Containment Isolation Valves

The purpose of TR 13.6.2 is to ensure that containment isolation valves are restored to an operable status following maintenance activities which could affect their stoke times. Activities such as cleaning or inspection of the power circuits which do not affect the stroke time are not considered to be “maintenance” and therefore verification of isolation times is not required.

The FUNCTIONALITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

TR 13.7.1 Steam Generator Pressure/Temperature Limitation

The limitation on steam generator pressure and temperature ensures that the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on steam generator average impact values taken at 10°F and are sufficient to prevent brittle fracture.

TR 13.7.2 Snubbers

Snubbers that are supporting safety equipment that is in the Technical Specifications are required to be OPERABLE. All other snubbers are required to be FUNCTIONAL. This ensures that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety related system.

A manual, which contains a tabulation of the hydraulic and mechanical snubbers which are within the scope of TR 13.7.2, is maintained as a comprehensive list of snubbers which are to be included in the snubber inspection and test program. The snubbers originally in the program were identified in Technical Specification Tables 3.7-4a and 3.7-4b as of License Amendment No. 43. (Unit 1) and 34 (Unit 2) and also reflected changes identified in Alabama Power Company letter dated December 8, 1983, entitled, “Safety-Related Snubber Technical Specification Table Changes.” The manual will be controlled in accordance with 10 CFR 50.59.

Beginning with the Unit 2 R19 Refueling Outage (Fall 2008), the snubber inservice examination and testing meets the requirements of the ASME OM Code, 2001 Edition with Addenda through 2003 as supplemented by ASME OM Code Case OMN-13, Revision 0 and 10 CFR 50.55a(b)(3)(v), dated October 1, 2004.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of nonfunctional snubbers found during an inspection. ASME OM Code Case OMN-13 provides an alternative for extending the visual examination interval provided the extension is justified by visual examination results.

When a snubber is found nonfunctional, an engineering evaluation is performed. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the attached component.

(continued)

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.) in accordance with the ASME OM Code, Article ISTD-6000. The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

TR 13.7.3 Sealed Source Contamination

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values.

Sealed sources are classified into three groups with Technical Requirement Surveillances commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e. sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

TR 13.7.4 Ultimate Heat Sink (UHS) Support Structures

Maintenance of the UHS Support Structures in accordance with applicable maintenance requirements ensures that the UHS has the capability to perform its design basis functions as defined in FSAR section 9.2.5.1.A, during and after the most severe natural phenomena expected at the site, or site related events that may occur during the plant lifetime, in conformance with the criteria of Regulatory Guide 1.27. It also ensures that loss of the pond dam will not become a credible failure, in accordance with the accident analysis in FSAR section 9.2.5.

The measurement of the ground water seepage at least once per 5 years will provide assurance that the 30 day supply of water is available.

TR 13.7.5 Area Temperature Monitoring (Unit 2 Only)

The area temperature limitations ensure that safety-related equipment will not be subjected to temperatures in excess of their environmental qualification temperatures. Exposure to excessive temperatures may degrade equipment and can cause a loss of its FUNCTIONALITY. The temperature limits include an allowance for instrument error of 2°F.

The 72 hour limit for performance of engineering evaluation was established based on engineering judgment, to allow an adequate time for performance while ensuring promptness.

TR 13.8.1 Containment Penetration Conductor Overcurrent Protective Devices (Unit 2 Only)

Containment electrical penetrations and penetration conductors are protected by either deenergizing circuits not required during reactor operation or by demonstrating the FUNCTIONALITY of overcurrent protection circuit breakers during periodic surveillance.

The tabulation of required containment penetration conductor overcurrent protective devices and circuits which are within the scope of TR 13.8.1 are contained in Farley Nuclear Plant procedures. The overcurrent protection devices and circuits originally in the program were identified in Unit 2 License Amendment 34. The procedures will be controlled in accordance with 10CFR50.59.

TR 13.8.2 Motor Operated Valves Thermal Overload Protection Devices (Unit 2 Only)

The Technical Requirement Surveillances applicable to lower voltage circuit breakers and fuses provides assurance of breaker and fuse reliability by testing at least one representative sample of each manufacturer's brand of circuit breaker and/or fuse. Each manufacturer's molded case and metal case circuit breakers and/or fuses are grouped into representative samples which are then tested on a rotating basis to ensure that all breakers and/or fuses are tested. If a wide variety exists within any manufacturer's brand of circuit breakers and/or fuses, it is necessary to divide that manufacturer's breakers and/or fuses into groups and treat each group as a separate type of breaker or fuses for surveillance purposes.

The FUNCTIONALITY of the motor operated valves thermal overload protection devices ensures that these devices will not prevent safety related valves from performing their function. The Technical Requirement Surveillances for demonstrating the FUNCTIONALITY of these devices are in accordance with Regulatory Guide 1.106 "Thermal Overload Protection for Electric Motors on Motor Operated Valves", Revision 1, March 1977.

If one or more thermal overload protection device(s) are nonfunctional the operability of the valve is affected. The Required Action in TR 13.8.2 A.1 requires a TS Condition to be entered and the related TS Required Actions to be completed. The definition of "functional", as per TR 13.0.5, does not apply to the valve(s) only to the thermal overload protection devices.

TR 13.8.3 Emergency Diesel Generators (EDG) Maintenance and Inspection Requirements

The Technical Requirement Surveillances for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guides 1.9, “Selection of Diesel Generator Set Capacity for Standby Power Supplies,” March 10, 1971, and 1.108, “Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants,” Revision 1, August 1977. Emergency Diesel Generators provide power to the Emergency Safety Feature loads due to a loss of offsite power along with a Loss of Coolant

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B 13.8 ELECTRICAL POWER SYSTEMS

BASES

Accident. The EDGs perform required support functions for other SSCs that are required to be operable by TSs, the term functional will not replace operable in TR subsection 13.8.3. TR 13.8.3 was revised by STI Evaluation Number 558904.

B 13.9 REFUELING OPERATIONS

BASES

TR 13.9.1 Decay Time

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short lived fission products. This decay time of 100 hours is consistent with the assumptions used in the SFP cooling analyses. [Note: A decay time of 70 hours is assumed in the fuel handling accident analysis.]

TR 13.9.2 Communications

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity conditions during CORE ALTERATIONS.

TR 13.9.3 Manipulator Crane

The FUNCTIONALITY requirements for the manipulator cranes ensure that:

1) manipulator cranes will be used for movement of control rods and fuel assemblies,
2) each crane has sufficient load capacity to lift a control rod or fuel assembly, and
3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

TR 13.9.4 Crane Travel- Spent Fuel Storage Building
TR 13.9.5 Spent Fuel Cask Crane

The restriction on movement of loads in excess of the nominal weight of a fuel and control rod assembly and associated handling tool over other fuel assemblies in the storage pool ensures that in the event this load is dropped:

1) the activity release will be limited to that contained in a single fuel assembly, and
2) any possible distortion of fuel in the storage racks will not result in a critical array.

This assumption is consistent with the activity release assumed in the accident analyses.

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The outdoor overhead gantry crane does not meet the design requirements for wire rope strength and fleet angle safety margins of reeving systems, therefore the ropes must be inspected to assure that they meet the requirements of the standard specified in the surveillance. Cold proof tests of the crane or material testing will be performed to demonstrate FUNCTIONALITY.

TR 13.9.7 Average Reactor Coolant Temperature

This Technical Requirement is provided to ensure that the average reactor coolant temperature remains consistent with initial conditions assumed in analysis of a dilution event during refueling. Supporting this requirement is also a Technical Specification requirement that at least one residual heat removal pump be in operation in MODE 6 to provide sufficient coolant circulation to minimize the effects of a boron dilution accident and prevent boron stratification.

B 13.12 EXPLOSIVE GAS AND STORAGE TANK RADIOACTIVITY MONITORING (EGSTRAM) PROGRAM

BASES

TR 13.12.1 Waste Gas Monitoring Instrumentation

This instrumentation monitors (and controls) the concentrations of potentially explosive gas mixtures in the waste gas holdup system. The FUNCTIONALITY and use of this instrumentation are consistent with the requirements of General Design Criteria 60 and 63 of Appendix A to 10 CFR Part 50.

TR 13.12.2 Liquid Holdup Tanks

Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, (to paragraphs 20.1001 -20.2401), Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an unrestricted area.

TR 13.12.3 Waste Gas Monitoring

This Technical Requirement is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas holdup system is maintained below the flammability limits of hydrogen and oxygen. During recombiner operation, an automatic control feature is included in the system to prevent the oxygen concentration from reaching these flammability limits. The automatic control feature includes isolation of the source of oxygen (the recombiner oxygen supply), to reduce the concentration below the flammability limit. When the recombiner is not operating and thus the recombiner oxygen supply is isolated, a grab sample can be taken to measure oxygen levels in the waste gas system. Maintaining the concentration of oxygen below the flammability limit when hydrogen is above 4% by volume provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

TR 13.12.4 Gas Storage Tanks

Restricting the quantity of radioactivity contained in each gas storage tank provides assurance that in the event of an uncontrolled release of the tanks’ contents, the resulting total body exposure to an individual at the nearest exclusion area boundary will not exceed 0.5 rem. This is consistent with Standard Review Plan 15.7.1, "Waste Gas System Failure".

B 13.13 EMERGENCY RESPONSE FACILITIES

B 13.13.1 Emergency Response Facilities

BASES

Applicability

This TR is applicable to the Technical Support Center (TSC), the Operations Support Center (OSC), and the Emergency Operations Facility (EOF).

Emergency events could occur during all modes of operation; consequently, the emergency response facilities (ERFs) shall be FUNCTIONAL at all times.

Conditions

Condition A

The 1-hour completion time is acceptable since it is within the ERF activation time specified in the Emergency Plan. If alternate locations for performing the ERF functions for the affected facility are not available, then Condition B is immediately entered.

Condition B

If the alternate locations are available, then no additional compensatory actions may be needed, provided the necessary compensatory actions are encompassed in the procedures for the alternate locations. If the alternate locations are not available, then compensatory actions must immediately be put in place.

Reference NMP-AD-031 for potential reporting criteria.

Admittedly, the term “high priority” is subjective. Consequently, the following clarification is provided: In the context of this TR, “high priority” is taken to mean that all necessary resources (for example, work planning, parts expediting, vendor support, craft support, etc.) for prompt restoration of a component, facility or function are applied to include 24/7 support as necessary to restore the facility to FUNCTIONAL status upon completion of the work activity. Planned maintenance in excess of 1 hour is allowed under the provision of CONDITION A and CONDITION B. The planned maintenance activity shall occur with the high priority objective to minimize the time the ERF is not FUNCTIONAL.

FUNCTIONALITY Requirements

TSC

The following is required for FUNCTIONALITY of the TSC:

- The ventilation system for radiological control.
- Offsite dose projection capability.
- Communication capability between control room, TSC, OSC, EOF, Field Monitoring Teams and offsite agencies.
- Event assessment capability.

If any of the following are out of service, the impact of their loss shall be evaluated in determining the ability of the TSC to perform its required function:

- Climate control capable of maintaining an adequate environment.
- Communication devices capable of performing the indicated function as provided below:

Communication Function	FNP
TSC Management with EOF	Commercial Telephone Lines TSC/EOF/OSC Conference Bridge Radio
Resource Management	Commercial Telephone Lines (Offsite Premises Extension) OPX
Radiological Monitoring	Southern LINC Kenwood Radio System
The Emergency Notification Network (ENN) and Offsite Protective Action Recommendations (PAR)	ENN Commercial Telephone Lines

- The Emergency Notification System (ENS) for NRC notifications.

- Availability of plant procedures and plant drawings. For example:

  Technical Specifications, EOPs, plant operating procedures, emergency implementing procedures, system piping and instrumentation drawings, and elementary diagrams.

BASES

- Emergency supplies and equipment as delineated in the Emergency Plan, section III.

- Technical data displays for event assessment.

OSC

The following is required for FUNCTIONALITY of the OSC:

- Communication capability with the TSC and control room.

If any of the following are out of service, the impact of their loss shall be evaluated in determining the ability of the OSC to perform its required function:

- Emergency equipment supplies as delineated in the Emergency Plan, section III.
- Communication devices capable of performing the indicated function as provided below:

Communication Function	FNP
OSC Management with TSC	Commercial Telephone Lines TSC/EOF/OSC Conference Bridge
Resource Management	Commercial Telephone Lines OPX
Radiological Monitoring	Portable Radio Equipment

EOF

The following is required for FUNCTIONALITY of the EOF:

- Offsite dose projection capability.
- Communication capability between control room, TSC, OSC, EOF and offsite agencies.

If any of the following are out of service, the impact of their loss shall be evaluated in determining the ability of the EOF to perform its required function:

- Technical data displays.
- Availability of procedural information for EOF positions.
- Communication devices capable of performing the indicated function as provided below:

Communication Function	FNP
TSC Management with EOF	Commercial Telephone Lines TSC/EOF/OSC Conference Bridge Radio
Resource Management	Commercial Telephone Lines OPX
Radiological Monitoring	Southern LINC Kenwood Radio System
Offsite (PARs)	ENN Commercial Telephone Lines

Technical Requirement Surveillances

TRS 13.13.1.1

Procedure FNP-2-ETP-4181, TSC Systems Filtration Performance Testing, requires FUNCTIONAL testing of the TSC ventilation and filtration system. A suitable environment must be maintained in the TSC for personnel occupancy and equipment operation during radiological events. To accomplish this, the TSC ventilation and filtration system provides an adequate supply of filtered, fresh air during accident conditions, as well as minimizing airborne radioactivity in the TSC during and after an accident. FUNCTIONAL testing of the ventilation system is therefore performed to ensure the TSC remains habitable.

TRS 13.13.1.2

Procedure FNP-0-EIP-16.0, Emergency Equipment and Supplies, requires that inventories be performed of equipment in the TSC once per calendar quarter. This TRS also ensures the availability of emergency equipment supplies that are normally kept in the OSC. This surveillance ensures that the ERFs are maintained in a state of readiness with respect to the equipment and items necessary for emergency response. If some items are not in place, they shall be immediately replaced. However, if certain items cannot be replaced, Emergency Preparedness personnel shall evaluate their loss with respect to the FUNCTIONALITY of the respective ERF.

BASES

Communication equipment capable of performing the indicated functions provided below shall be available. Availability of any combination of equipment to perform the desired function is acceptable to maintain ERF FUNCTIONALITY for communications.

Communication Function	FNP
TSC Management with EOF and EOF Management with TSC	Commercial Telephone Lines TSC/EOF/OSC Conference Bridge Radio
Resource Management	Commercial Telephone Lines OPX
Radiological Monitoring	Southern LINC Kenwood Radio System
Offsite (PARs)	ENN Commercial Telephone Lines

For onsite ERFs, Procedure FNP-0-EPP-3.0, Emergency Communications Operability Tests, requires FUNCTIONAL testing of the ENN and ENS offsite notification systems every calendar month. The multiline ERF phones require FUNCTIONAL testing each calendar quarter and provide communications within the plant during an emergency to facilitate event diagnosis, the assignment and dispatch of emergency personnel, and information updates of plant conditions. The ENN and ENS systems are the primary methods of notifying State and local authorities and the NRC and, as such, these systems should remain FUNCTIONAL. ENN and ENS equipment are available in both the TSC and EOF. Testing of EOF communication equipment is performed quarterly in accordance with NMP-EP-300.

A single nonfunctional communications system will not necessarily indicate a nonfunctional ERF. Emergency Preparedness shall evaluate each case in determining the FUNCTIONALITY of the particular ERF.

Procedure FNP-0-EIP-16.0, Emergency Equipment and Supplies, requires FUNCTIONAL testing of offsite dose projection equipment once per calendar month. Initial offsite dose projections are often made from the TSC. Followup projections are usually made from the EOF. Consequently, it is appropriate that both facilities retain FUNCTIONAL offsite dose projection equipment. The calendar month frequency is appropriate since, realistically, the offsite dose projection equipment will be also tested during the three or four drills that are held each year at Plant Farley.