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TRM

APPROVED AMENDMENT TO UNIT 2 TECHNICAL REQUIREMENTS MANUAL

EFFECTIVE DATE 05/16/2003

Replace the following pages of the Technical Requirements Manual with the enclosed pages. The revised pages are identified by Effective Date and contain vertical lines indicating the area of change.

REMOVE PAGES	INSERT PAGES	EFFECTIVE DATE
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3.3 Instrumentation

3.3.10 Reactor Recirculation Pump MG Set Stops

TRO 3.3.10 Each Reactor Recirculation pump MG set scoop tube electrical and mechanical stop shall be OPERABLE with overspeed setpoints corresponding to a core flow of:

Electrical Stop: ≤ 109.5 million lbm/hr, and

Mechanical Stop: ≤ 110.5 million lbm/hr

APPLICABILITY: MODES 1 and 2

ACTIONS

NOTE

Separate Condition entry allowed for each recirculation pump MG set.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One electrical or mechanical stop for either or both reactor recirculation pump MG set scoop tube(s) inoperable.	A.1 Restore the inoperable stop(s) to OPERABLE status.	Next scheduled performance of TRS 3.3.10.1
B. Both electrical and mechanical stops for either Reactor Recirculation pump MG set scoop tube inoperable.	<p>NOTE</p> <p>Scoop tube may be unlocked intermittently under administrative control.</p> <p>B.1 Initiate actions to lock the scoop tube on the affected Reactor Recirculation MG Set in place.</p>	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.3.10.1	Demonstrate each Reactor Recirculation pump MG set scoop tube electrical and mechanical stop to be OPERABLE.	24 months

3.3 Instrumentation

3.3.11 MVP Isolation Instrumentation

TRO 3.3.11 The MVP Isolation Instrumentation for each Function in Table 3.3.11-1 shall be OPERABLE.

APPLICABILITY: MODE 1 or 2 with one or more Main Steam Isolation Valves open and mechanical vacuum pump in service.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channel inoperable.	A.1 Place channel in trip.	12 hours
B. MVP isolation capability not maintained.	B.1 Restore MVP Isolation capability.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Shut down the MVP and close the MVP suction valve.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE	FREQUENCY
TRS 3.3.11.1 Perform CHANNEL FUNCTIONAL TEST.	92 days
TRS 3.3.11.2 Perform CHANNEL CALIBRATION.	24 months
TRS 3.3.11.3 Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

B 3.3.10 Reactor Recirculation Pump MG Set Stops

BASES

TRO

In the case of recirculation control system failures (e.g., transistors, resistors, etc.) causing upscale signal failure, the reactor is protected by high pressure or high flux scram. Such faults have been analyzed in Chapter 15 and include both MG sets going to full speed simultaneously. For this analysis, the master flow controller is assumed to fail such that it causes a speed increase for both recirculation pumps.

Pump overspeed occurs during the course of a LOCA due to blowdown through the broken loop pump. Design studies determined that rotating component failure missiles caused by the overspeed was not sufficient to cause damage to the containment or to vital equipment, consequently no protective or preventative provision is made for this pump overspeed condition.

No credit is taken for electrical or mechanical stops to limit the speed of the recirculation pumps in these analyzed events.

Normally, operator implementation or procedural controls maintains the recirculation system within the system design limits and initial conditions of analyzed events. The reactor recirculation pump MG set stops are set with some operating margin above these limits. As such, the stops serve as backups to the operator control over normal operation. Additionally, in the event of a fault that results in inadvertent MG set speed increases above the normal operating limits, the stops can provide protection from the automatic reactor scram that terminate the analyzed worse case events. Therefore, the MG set stops also serve to provide additional plant reliability protection.

The electrical stop is the primary means for backing up procedural controls and for automatically limiting recirculation flow. The mechanical stop provides a diverse and redundant automatic backup to the electrical stop flow limiting mechanism.

ACTIONS

The Actions are modified by a Note allowing separate Condition entry for each recirculation pump. The Required Actions provide appropriate compensatory measures for each recirculation loop independent of the other loop.

(continued)

B 3.3.10 - Reactor Recirculation Pump MG Set Stops

BASES

ACTIONS
(continued)

A.1

Either the electrical or the mechanical stop can provide backup protection to the procedural controls in place to maintain recirculation pump operation within the system design limits and initial conditions of analyzed events. In the event one of these un-credited backup features is inoperable it is reasonable to extend the restoration time (in the event conditions do not permit more timely corrective action) until the next scheduled required calibration. With the backup protection of the electrical or mechanical stop remaining OPERABLE, backup protection remains and allows time to schedule and plan appropriate repairs. Since there is no assumed credit for either backup function, this Completion Time is considered appropriate.

B.1

With both the electrical and mechanical stops inoperable for any recirculation pump MG set, the automatic backup protection is not available. In this case, the scoop tube is locked in place to protect against unintended / inadvertent speed increases. This action conservatively compensates for lack of backup protection and allows continued operation until at least one MG set stop function (electrical or mechanical) is restored to operable status. The Required Action is modified by a Note allowing intermittent unlocking of the scoop tube. This may be required for power reductions or other power level adjustments. The administrative control consists of stationing a dedicated operator at the controls while the scoop tube is unlocked and the duration should be limited to the time necessary to complete the change in core flow.

TRS

The TRS assures that the stops are demonstrated OPERABLE at least once per cycle. Normal scoop tube positioner calibration is performed after each refueling outage. Inoperable stops are detectable on line during scoop tube positioner calibration.

REFERENCES

1. FSAR Section 5.4.1.4.
 2. FSAR Section 7.7.2.3.1.
 3. FSAR Section 15.4.5.
-

B 3.3.11 MVP Isolation Instrumentation

BASES

TRO The MVP Isolation instrumentation automatically shuts down the MVP and closes its suction valve. The purpose is to limit fission product release following a postulated Design Basis Control Rod Drop Accident with the MSIV's open and the MVP System in operation. The MVP draws gases from the main condenser and discharges to the Turbine Building vent stack, providing an unfiltered release path for fission product activity to the environment. Automatic Isolation of the MVP System in response to a Main Steam Line-High radiation trip is part of the design basis of the units as described in the FSAR.

The Isolation instrumentation includes the sensors, relays, and devices that are necessary to initiate the above actions. The input parameter to the isolation logic is main steam line (MSL) radiation. When the MSL Radiation – High trip setpoint is reached on either MSL Radiation Monitor "A" or "B", the sensor actuates, which then generates a shutdown signal to the MVP system control logic. There is only one trip system for the MVP Isolation.

The components associated with this trip channel are identified in Table B 3.3.11-1.

ACTIONS This TRO is only applicable when the MVP System is in service drawing or maintaining condenser vacuum with the reactor in Mode 1 or 2 and one or more MSIV's open. The time of exposure is relatively short, usually during startup from initial criticality up to a maximum of 5% reactor power. The Actions are defined to ensure that the capability to automatically isolate the MVP System is restored promptly if lost during MVP operation.

TRS The TRSs are defined to be performed at the specified Frequency to ensure that the MVP Isolation Function is OPERABLE prior to entering the applicable condition. The CHANNEL FUNCTIONAL TEST, CHANNEL CALIBRATION and LOGIC SYSTEM FUNCTIONAL TEST are performed at the same interval as the equivalent surveillance of the MSLRM channels for the RPS Trip and Primary Containment Isolation functions.

REFERENCES

1. FSAR Section 7.3.1.1a.2.4.1.2.
2. FSAR Section 10.4.2.2.
3. FSAR Section 11.5.2.1.

Table B 3.3.11-1
MVP Isolation Components

Plant Systems	Component Number	Component Description	Isolation Signal Function No. (Table 3.3.11-1)
Vacuum Hogging	HV-20731	MVP Suction Isolation Valve	1.
	2P105	Mechanical Vacuum Pump	1.