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• •	Pages TRIVITE 3.3-3 and TRIVITE 3.3-3A	01/31/2003
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B.3.12 LOADS CONTROL PROGRAM BASES Pages TRM / B 3.12-1 through TRM / B 3.12-3

02/05/1999



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TRM / LOES-7

TRM Post Accident Monitoring Instrumentation 3.3.4

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3.3 Instrumentation

3.3.4 TRM Post-Accident Monitoring Instrumentation

TRO 3.3.4 The TRM post-accident monitoring instrumentation channels shown in Table 3.3.4-1 shall be OPERABLE.

NOTE

APPLICABILITY: According to Table 3.3.4-1

ACTIONS

Separate condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channel inoperable.	A.1 Enter the Condition referenced in Table 3.3.4-1 for the channel	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.4-1.	B.1 Initiate the preplanned alternate method of monitoring the appropriate parameter(s)	72 hours
	AND	
	B.2 Restore the required channel to OPERABLE status.	7 days
C. As required by Required Action A.1 and referenced in Table 3.3.4-1	C.1 Restore the required channel(s) to OPERABLE status.	30 days
D. As required by Required Action A.1 and referenced in Table 3.3.4-1	D.1 Verify affected SRV position by alternate methods.	Immediately <u>AND</u>
		Once per 24 hours thereafter

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TRM / 3.3-9

EFFECTIVE DATE 12/17/1998

TRM Post Accident Monitoring Instrumentation 3.3.4

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	AND	
	D.2 Verify a minimum 14 of the associated acoustic monitor channels and 5 of the ADS SRV acoustic	Immediately
	monitor channels are operable.	
	AND	
	D.3.1 Verify SRV tailpipe temperature indication and alarm are available.	Immediately
	<u>OR</u>	
	D.3.2 Restore SRV tailpipe temperature indication and alarm to functional status.	7 days
	AND	•
	D.4.1 Restore the required channel(s) to OPERABLE status	30 days
		OR
		At next outage with containment entry, not to exceed the next
		refueling outage for in-accessible containment components.

TRM / 3.3-9a

EFFECTIVE DATE 12/17/1998

TECHNICAL REQUIREMENT SURVEILLANCE

--NOTE---

- 1. Refer to Table 3.3.4-1 to determine which TRSs apply for each Post Accident Monitoring Function.
- 2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours.

	SURVEILLANCE	FREQUENCY
TRS 3.3.4.1	Perform CHANNEL CHECK	31 days
TRS 3.3.4.2	Perform CHANNEL FUNCTIONAL TEST	92 days
TRS 3.3.4.3	Perform a CHANNEL CALIBRATION. The Trip Setpoint shall be less than or equal to 0.25 of the full open noise level.	24 months
TRS 3.3.4.4	Perform CHANNEL CALIBRATION	24 months

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TRM / 3.3-10

EFFECTIVE DATE 12/17/1998

TRM Post Accident Monitoring Instrumentation 3.3.4

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TABLE 3.3.4-1	
TRM POST-ACCIDENT MONITORING INSTRUM	ENTATION

• •	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	REQUIRED SURVEILLANCE
1.	Suppression Chamber Air Temperature	1,2	2	С	TRS 3.3.4.1 TRS 3.3.4.4
2.	Main Steam Safety/Relief Valve Position Indicator (Acoustic Monitor) ^(c)	1,2	1/valve	D	TRS 3.3.4.1 TRS 3.3.4.2 TRS 3.3.4.3
3.	Reactor Building Vent Noble Gas Monitor				
	a. Mid Range ^(b)	1,2, (a)	1	В	TRS 3.3.4.1 TRS 3.3.4.4
•	b. High Range ^(b)	1,2, (a)	1	В	TRS 3.3.4.1 TRS 3.3.4.4
4.	Standby Gas Treatment System Vent Noble Gas Monitor				
	a. Mid Range ^(b)	1,2, (a)	2	B (Both Ch. Inop) C (One Ch. Inop)	TRS 3.3.4.1 TRS 3.3.4.4
. ,	b. High Range ^(b)	1,2, (a)	2	B (Both Ch. Inop) C (One Ch. Inop)	TRS 3.3.4.1 TRS 3.3.4.4
5.	Turbine Building Vent Noble Gas Monitor	. ,		 	
	a. Mid Range ^(b)	1,2	2	B (Both Ch. Inop) C (One Ch. Inop)	TRS 3.3.4.1 TRS 3.3.4.4
	b. High Range ^(b)	1,2	2	B (Both Ch. Inop) C (One Ch. Inop)	TRS 3.3.4.1 TRS 3.3.4.4
		•			

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TRM / 3.3-11

TABLE 3.3.4-1 (continued) TRM POST-ACCIDENT MONITORING INSTRUMENTATION

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	D REQUIRED SURVEILLANCE
6.	Standby Gas Treatment System Post Accident Vent Stack Sampling System (PAVSSS)	1	· · · · · ·		
•	a. Effluent System flow rate monitor ^(b)	1,2, (a)	1	C	TRS 3.3.4.1 TRS 3.3.4.4
	b. Sampler flow rate monitor	r ^(b) 1,2, (a)	1.	С	TRS 3.3.4.1 TRS 3.3.4.4
7.	Turbine Building Post Accident Vent Stack Sampling System (PAVSSS)				
	a. Effluent System flow rate monitor ^(b)	1,2	1	С	TRS 3.3.4.1 TRS 3.3.4.4
	b. Sampler flow rate monito	r ^(b) 1,2	1	с	TRS 3.3.4.1 TRS 3.3.4.4

When moving irradiated fuel in the secondary containment. The provisions of TRO 3.0.4 are not applicable. Alternate monitoring methods listed in Bases. (a) (b) (c)

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TRM / 3.3-11a

B 3.3.4 TRM Post Accident Monitoring (PAM) Instrumentation

BASES

TRO

The primary purpose of the TRM PAM instrumentation is to display plant variables that provide information required by the control room operators during accident situations. The OPERABILITY of the TRM PAM instrumentation ensures that the identified information is available on selected plant parameters to monitor and assess important variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97 Revision 2, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and following an Accident," and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations." It should be noted that the Technical Specifications LCO 3.3.3.1 contains all Category 1, non-type A instruments and Regulatory Guide 1.97 Type A instrument (References 1 and 2). This TRO requires instruments outside of these criteria.

Table 3.3.4-1 identifies the following required Functions. Suppression Chamber Air Temperature provides a post accident indication of problems with the primary containment pressure suppression system. The Suppression Chamber Air Temperature loops are comprised of the following instruments for the purpose of this TRM. The recorders are the primary method of indication used by the operator during an accident; therefore, the PAM specification deals specifically with this portion of the instrument.

	LOOP A	•	•	LOOP B
•	TE-15703		۰.	• TE-15725
	TT-15703	· · ·	•	• TT-15725
•	TR-15795A	•		• TR-15795B
	•			

Main Steam Safety/Relief Valve Position Indicators (Acoustic Monitors) provide indication when the valves are functioning. Alternate methods for monitoring SRV position are:

Suppression Pool Level

Suppression Pool Temperature

RPV Level

RPV Pressure

SRV Tailpipe Temperature (7 day restoration of requirement applies)

The required channels for REACTOR BUILDING VENT Noble Gas Monitor, Standby Gas Treatment System Vent Noble Gas Monitor, and Turbine Building Vent Noble Gas Monitor provide information regarding the release of radioactive materials to allow for early indication of the need to initiate action necessary to protect the public and for an estimate of the magnitude of any impending threat. For the Noble Gas Monitors the only required channels are the mid range and high range.

(continued)

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B 3.3.4 TRM Post Accident Monitoring (PAM) Instrumentation

BASES	
TRO (continued)	For the Standby Gas Treatment System Vent Noble Gas Monitor and the Turbine Building Vent Noble Gas Monitor, the "2" required channels for each Function consist of: the one channel of System Particulate, Iodine, and Noble Gas (SPING), which includes a Mid-Range monitor and a High-Range monitor; and the one channel of the Post Accident Vent Stack Sampling System (PAVSSS), which includes a Mid-Range monitor and a High-Range monitor.
	Functions 6 and 7 describe the requirements for determining PAVSSS effluent flow via sample flow instrumentation. For all the PAVSSS Channels, (Functions 4, 5, 6 and 7) the channels may be considered OPERABLE if they are ready for service even though sample flow is not established and Control Terminal monitoring is not initiated.
ACTIONS	The Actions are defined to ensure proper corrective measures are taken in response to the inoperable components.
	Action D requirements were determined by balancing the safety significance of the system with the impact of the actions on the operating unit. The loss of 1 or 2 channels of acoustic monitors is not safety significant providing the diverse and redundant alternate methods of determining SRV position are available. System components in the control room are restorable within 30 days without unit operation impact. Components located in containment require a unit shutdown to gain access to individual components. The system channels shall be restored to operable condition at earliest opportunity.
	Noble gas monitoring may be interrupted for up to 30 minutes to perform particulate filter/iodine cartridge changeout required by TRM Table 3.11.2-1 without entering the TRO ACTIONS.
	Components of alternate SRV position systems may be taken inoperable for routine surveillances and periodic maintenance providing the appropriate LCO requirements are met during this action statement. A TRM requirement of 7 days for restoring concurrent failures of the SRV tailpipe temperature monitoring for channels with failed acoustic monitors is added to ensure prompt restoration. Tailpipe temperature is the direct process monitoring, alternate method and is not covered by Technical Specification LCO's as are the other alternative methods.
	(continued)

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TRM / B 3.3-5

B 3.3.4 TRM Post Accident Monitoring (PAM) Instrumentation

BASES (continued)

TRS

The TRSs are defined to be performed at the specified Frequency to ensure that the TRM PAM Function is maintained OPERABLE.

TRS 3.3.4.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel against a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria, which are determined by the plant staff based on an investigation of a combination of the channel instrument uncertainties, may be used to support this parameter comparison and include indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit and does not necessarily indicate the channel is inoperable.

REFERENCES

1.

Regulatory Guide 1.97 Revision 2, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident,"

- 2. "NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations
- 3. Technical Specification Amendment No. 100 to License No. NPF-22 for failed Unit 2 "S" acoustic monitor.
- 4. Technical Specification Amendment No. 169 to License No. NPF-14 for failed Unit 1 "S" acoustic monitor
- 5. Proposed amendment No. 183 to License No. NPF-22 failed Unit 2 "J" acoustic monitor.