

TECHNICAL REQUIREMENTS MANUAL SPECIFICATIONS
AND BASES UPDATING INSTRUCTIONS

**MNGP TECHNICAL REQUIREMENTS
MANUAL SPECIFICATIONS AND BASES**

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MONTICELLO NUCLEAR GENERATING PLANT
TRM LIST OF EFFECTIVE SECTIONS/SPECIFICATIONS

<u>Section/Specification</u>	<u>Revision No.</u>
Table of Contents	15
1.1	0
1.2	0
1.3	0
1.4	0
3.0	7
3.3.1.1	0
3.3.2.1	16
3.3.3.1	0
3.3.4.1	0
3.3.5.1	17
3.3.7.1	1
3.4.1	0
3.4.2	0
3.4.3	(Deleted)
3.4.4	15
3.5.1	0
3.5.2	6
3.6.1.3	13
3.6.1.7	2
3.6.3.2	13
3.8.1	16
3.8.2	0
3.9.1	0
5.2	0
Appendix A	2
Appendix B	0
Appendix C	6

**TABLE 2 (Page 1 of 2)
TRM RECORD OF REVISIONS**

Revision Number	Affected Section/ Specification	Description of Revision
0	All	Original TRM Bases Issuance
1	3.3.7.1	Amendment 148 – removed the Control Room Air Intake Radiation Monitors from Technical Specification 3.3.7.1. The monitors were added to the TRM as new Specification 3.3.7.1 as required by NRC Commitment M06030A.
2	Appendix A	Revised control rod scram time limits at 0 psig reactor pressure to reflect Calculation CA-01-231, Revision 1.
	3.6.1.7	Corrected typo. Changed Required Action B.1 to A.1 in Specification 3.6.1.7.
3	3.4.3	Revised specification to incorporate ASME OM Code – 1995, 1996 Addenda and Code Case OMN-13 for visual inspection of snubbers. Removed Table 3.4.3-2. Changed surveillance frequency from referring to Table 3.4.3-1 to the Snubber Inservice Inspection Program.
4	3.4.3	Revised specification to remove incorrect MODE 4 restriction from Table 3.4.3-1 under Item C for functional testing of snubbers.
5	3.3.2.1	Amendment 159 – incorporated PRNMS TRM specification changes. Revised APRM functions in Table 3.3.2.1-1 to include APRM STP – High and Neutron Flux – High (Setdown) rod blocks. Added new SR 3.3.2.1.6 and SR 3.3.2.1.7.
6	3.5.2	Revised Specification to add a Note providing a 6-hour delay to entry into the Required Action solely for surveillance performance.
	Appendix C	Amendment 159 and 161 – Revised to clarify the methodologies for the determination of the NSTP values for several PRNMS functions and the Recirculation Riser Differential Pressure – High function (follow-on-action).
7	3.0	Replace GL 91-18 with the correct current reference, i.e., Regulatory Issue Summary (RIS) 2005-020.

**TABLE 2 (Page 2 of 2)
TRM RECORD OF REVISIONS**

Revision Number	Affected Section/ Specification	Description of Revision
8	None	N/A
9	3.8.1	Remove Condition C to reflect separation of 1ARS and Bus 1.
10	3.6.1.3	Change TSR 3.6.1.3.2 surveillance test frequency from 7 days to in accordance with the Inservice Testing Program.
11	3.4.3	Deleted Specification 3.4.3 – Snubbers. Addressed under ASME OM Code.
12	None	N/A
13	TOC, 3.3.2.1, 3.6.1.3, 3.6.3.2	Amendment 176 – Changes for EPU. Added Specification 3.6.3.2, “Online Containment Leakage Check,” with fully detailed TRM Bases.
14	None	N/A
15	TOC, 3.3.2.1, 3.4.4	MELLLA+ (also added new specification restricting operation with SRVs out-of-service).
16	3.3.2.1	Increase Channel Calibration interval of SDV level switches for high level rod block trip from 92 days to 12 months.
	3.8.1	Remove incorrect statement in TLCO that 1AR must be powered from 10 transformer when 1AR and 2R are the required offsite circuits.
17	3.3.5.1	Revised Applicability to clarify that the Loss of Auxiliary Power instrumentation is required when the associate ECCS injection/spray subsystem is required Operable per TS LCO 3.5.2.

3.3 INSTRUMENTATION

3.3.5.1 Loss of Auxiliary Power Instrumentation

TLCO 3.3.5.1 Two channels (one channel is a circuit breaker contact and the other channel is an undervoltage relay) of Loss of Auxiliary Power instrumentation shall be OPERABLE in each of two trip systems.

APPLICABILITY: MODES 1, 2, and 3
When associated ECCS injection/spray subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS – Shutdown".

ACTIONS

NOTE

Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Loss of Auxiliary Power instrument channel inoperable in one or more required trip systems.	A.1 Restore Loss of Auxiliary Power instrument channels to OPERABLE status.	12 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Two Loss of Auxiliary Power instrument channels inoperable in one or both required trip systems.	B.1 Declare associated low pressure ECCS pumps inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----

When a channel is placed in an inoperable status solely for performance of the required Surveillance, entry into the associated Conditions and Required Actions may be delayed for up to 6 hours provided that at least one other OPERABLE channel in the same trip system is monitoring that parameter.

SURVEILLANCE	FREQUENCY
TSR 3.3.5.1.1 Perform CHANNEL CALIBRATION.	24 months

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MONTICELLO NUCLEAR GENERATING PLANT
TRM BASES LIST OF EFFECTIVE SECTIONS/SPECIFICATIONS

<u>Section/Specification</u>	<u>Revision No.</u>
Table of Contents	15
B 3.0	0
B 3.3.1.1	0
B 3.3.2.1	16
B 3.3.3.1	0
B 3.3.4.1	0
B 3.3.5.1	17
B3.3.7.1	12
B 3.4.1	0
B 3.4.2	0
B 3.4.3	(Deleted)
B 3.4.4	15
B 3.5.1	0
B 3.5.2	8
B 3.6.1.3	13
B 3.6.1.7	0
B 3.6.3.2	13
B 3.8.1	0
B 3.8.2	0
B 3.9.1	0

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TRM BASES RECORD OF REVISIONS

Revision Number	Affected Bases Section/ Specification	Description of Revision
0	All	Original TRM Bases Issuance
1	B 3.3.7.1	Amendment 148 – removed the Control Room Air Intake Radiation Monitors from Technical Specification 3.3.7.1. The monitors were added to the TRM as new Specification 3.3.7.1 as required by NRC Commitment M06030A.
2	None	N/A
3	3.4.3	Complete rewrite of existing TRM Bases to TS Bases standards. Revised TRM Bases to incorporate ASME OM Code – 1995, 1996 Addenda and Code Case OMN-13 for visual inspection of snubbers.
4	None	N/A
5	3.3.2.1	Amendment 159 – incorporated PRNMS. Revised APRM functions in Table 3.3.2.1-1 to include APRM STP – High and Neutron Flux – High (Setdown) rod blocks. Added new SR 3.3.2.1.6 and SR 3.3.2.1.7. Complete rewrite of existing TRM Specification 3.3.2.1 bases to TS Bases standards.
6	3.5.2	Revised Specification to add a Note providing a 6-hour delay to entry into the Required Action solely for surveillance performance. Added complete TRM Bases for Specification 3.5.2 to TS Bases standards.
7	None	N/A
8	3.5.2	Each Core Spray sparger break detection instrumentation is associated with a single sparger. Removed incorrect statement in TRM Bases for Specification 3.5.2 implying that monitoring capability is maintained when the instrumentation for that sparger is inoperable.
9	None	N/A
10	3.6.1.3	Added TRM Bases discussion about changing TSR 3.6.1.3.2 surveillance test frequency from 7 days to in accordance with the Inservice Testing Program.

TABLE 2 (Page 2 of 2)
TRM BASES RECORD OF REVISIONS

Revision Number	Affected Bases Section/ Specification	Description of Revision
11	3.4.3	Deleted Specification 3.4.3 – Snubbers. Addressed under ASME OM Code.
12	3.3.7.1	Correct page numbers on TRM Bases pages.
13	TOC, 3.6.1.3, 3.6.3.2	Amendment 176 – Changes for EPU. Added Specification 3.6.3.2, “Online Containment Leakage Check,” with fully detailed TRM Bases.
14	3.3.5.1	Added complete Loss of Auxiliary Power Instrumentation TRM Bases in TS Bases format.
15	TOC, 3.3.2.1, 3.4.4	MELLLA+ (also added bases for specification which discusses limitation on an SRV being out of service in the MELLLA+ domain.
16	3.3.2.1	Correct the number of SDV water level rod block instrument channels and instruments.
17	3.3.5.1	Revised Applicability to clarify that the Loss of Auxiliary Power instrumentation is required when the associate ECCS injection/spray subsystem is required Operable per TS LCO 3.5.2.

B 3.3 INSTRUMENTATION

B 3.3.5.1 Loss of Auxiliary Power (LOP) Instrumentation

BASES

BACKGROUND Successful operation of the required safety functions of the Emergency Core Cooling Systems (ECCS) is dependent upon the availability of adequate power sources for energizing the pump motors. The LOP instrumentation monitors the 4.16 kV essential buses and source breakers. The Loss of Auxiliary Power "Pump Bus Power Monitor" instrumentation determines if there is sufficient power available to allow the starting of the ECCS pump motors in sequence.

Each 4.16 kV essential bus has its own independent LOP Pump Bus Power Monitor instrumentation and associated trip logic. The 4.16 kV power availability for each bus is monitored by two different methods, which can be considered as two different LOP Pump Bus Power Monitor power availability monitoring Channels: 4.16kV Essential Bus Loss of Voltage channel and 4.16 kV Essential Bus source breaker position channel.

The 4.16 kV Essential Bus Loss of Voltage Channel is monitored by two (2) undervoltage relays for each emergency bus, whose outputs are arranged in a one-out-of-two logic configuration (i.e., either undervoltage relay must sense 4kV power is available to provide a permissive to allow the Core Spray and RHR pumps to start in sequence). The undervoltage relays are shown in the Core Spray System Schematic Diagrams.

The 4.16 kV Essential Bus source breaker position Channel is monitored by breaker contacts on the three (3) Essential Bus Power Source breakers for each essential bus (from the EDG, 1AR or the Non-Essential Bus respectively) (i.e., one source breaker must indicate the source breaker is closed and therefore 4kV power is available at the essential bus to provide a permissive to allow the Core Spray and RHR pumps to start in sequence). The 4.16kV Essential Bus source breaker contacts for the three (3) Essential Bus Power Source breakers are shown in the RHR System Schematic Diagrams.

Either Bus Power Monitoring Channel will provide the permissive signal to allow both the Core Spray and RHR pumps to start in sequence.

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY The LOP instrumentation is required to ensure the availability of adequate power sources for energizing the ECCS pump motors. The LOP instrumentation monitors the 4.16 kV essential buses and source breakers. The Loss of Auxiliary Power Pump Bus Power Monitor instrumentation determines if there is sufficient power available to allow the starting of the ECCS pump motors in sequence.

ACTIONS

A Note has been provided to modify the ACTIONS related to LOP instrumentation channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable LOP instrumentation channels provide appropriate compensatory measures for separate inoperable channels. As such, a Note has been provided that allows separate Condition entry for each inoperable LOP instrumentation channel.

A.1

With one channel of a Function inoperable in one required trip system, the channel is not capable of performing the intended function for that trip system. Therefore, only 12 hours is allowed to restore the inoperable channel to OPERABLE status.

If the inoperable channel cannot be restored to OPERABLE status within the allowable out of service time, Condition B must be entered and its Required Action taken.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. The 12 hour Completion Time is acceptable because it minimizes risk while allowing time for restoration of channels.

BASES

ACTIONS (continued)

B.1

If any Required Action and associated Completion Time are not met, or if two Loss of Auxiliary Power instrument channels are inoperable in one or both required trip systems, the associated Function is not capable of performing the intended function. Therefore, the associated low pressure ECCS Pumps are declared inoperable immediately. This requires entry into applicable Conditions and Required Actions of LCO 3.5.1 and LCO 3.5.2, which provide appropriate actions for inoperable Core Spray and RHR Pumps.

SURVEILLANCE
REQUIREMENTS

The Surveillances are modified by a Note to indicate that 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 provided the channel in the same trip system is monitoring that parameter. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken.

TSR 3.3.5.1.1

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy.

CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequency of TSR 3.3.5.1.1 is based upon the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

BASES

- REFERENCES
1. USAR, Section 8.4.1.3.
 2. USAR, Section 6.2.
 3. USAR, Section 14.7.2.
 4. AR 01429107
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