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TRM1 - TECHNICAL REQUIREMENTS MANUAL UNIT 1

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TEXT 3.4.1 1 04/26/2006
Title: REACTOR COOLANT SYSTEM REACTOR COOLANT SYSTEM CHEMISTRY

TEXT 3.4.2 1 04/16/2009
Title: REACTOR COOLANT SYSTEM INTENTIONALLY LEFT BLANK

TEXT 3.4.3 1 11/09/2007
Title: REACTOR COOLANT SYSTEM HIGH/LOW PRESSURE INTERFACE LEAKAGE MONITORS

TEXT 3.4.4 2 04/17/2008
Title: REACTOR COOLANT SYSTEM REACTOR RECIRCULATION FLOW AND ROD LINE LIMIT

TEXT 3.4.5 1 04/26/2006
Title: REACTOR COOLANT SYSTEM REACTOR VESSEL MATERIALS

TEXT 3.4.6 2 04/25/2013
Title: REACTOR RECIRCULATION SINGLE LOOP OPERATION SLO FLOW RATE RESTRICTION

TEXT 3.5.1 2 03/05/2019
Title: ECCS RPV WATER INVENTORY CONTROL AND RCIC SYSTEM ADS MANUAL INHIBIT

TEXT 3.5.2 2 03/05/2019
Title: ECCS RPV WATER INVENTORY CONTROL AND RCIC SYSTEM ECCS RPV WATER INVENTORY CONTROL AND RCIC MONITORING INSTRUMENTATION

TEXT 3.5.3 1 03/05/2019
Title: ECCS RPV WATER INVENTORY CONTROL AND RCIC SYSTEM LONG TERM NITROGEN SUPPLY TO ADS

TEXT 3.6.1 0 11/18/2002
Title: CONTAINMENT VENTING OR PURGING

TEXT 3.6.2 3 01/03/2019
Title: SUPPRESSION CHAMBER TO DRYWELL VACUUM BREAKER POSITION INDICATION

TEXT 3.6.3 0 11/18/2002
Title: CONTAINMENT SUPPRESSION POOL ALARM INSTRUMENTATION

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TEXT 3.6.4 0 11/18/2002
Title: CONTAINMENT PRIMARY CONTAINMENT CLOSED SYSTEM BOUNDARIES

TEXT 3.7.1 0 11/18/2002
Title: PLANT SYSTEMS EMERGENCY SERVICE WATER SYSTEM (ESW) SHUTDOWN

TEXT 3.7.2 0 11/18/2002
Title: PLANT SYSTEMS ULTIMATE HEAT SINK (UHS) AND GROUND WATER LEVEL

TEXT 3.7.3.1 4 02/16/2017
Title: PLANT SYSTEMS FIRE SUPPRESSION WATER SUPPLY SYSTEM

TEXT 3.7.3.2 3 04/16/2009
Title: PLANT SYSTEMS SPRAY AND SPRINKLER SYSTEMS

TEXT 3.7.3.3 4 05/16/2016
Title: PLANT SYSTEMS CO2 SYSTEMS

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Title: PLANT SYSTEMS HALON SYSTEMS

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Title: PLANT SYSTEMS FIRE HOSE STATIONS

TEXT 3.7.3.6 2 04/16/2009
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TEXT 3.7.3.7 1 04/26/2006
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TEXT 3.7.3.8 13 12/18/2017
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TEXT 3.7.4 1 04/26/2006
Title: PLANT SYSTEMS SOLID RADWASTE SYSTEM

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TEXT 3.7.5.1 1 03/05/2015
Title: PLANT SYSTEMS MAIN CONDENSER OFFGAS HYDROGEN MONITOR

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TEXT 3.7.5.3 1 04/26/2006
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TEXT 3.7.6 3 06/04/2012
Title: PLANT SYSTEMS ESSW PUMPHOUSE VENTILATION

TEXT 3.7.7 2 09/05/2008
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TEXT 3.7.8 5 03/05/2015
Title: PLANT SYSTEMS SNUBBERS

TEXT 3.7.9 3 03/05/2019
Title: PLANT SYSTEMS CONTROL STRUCTURE HVAC

TEXT 3.7.10 1 12/14/2004
Title: PLANT SYSTEMS SPENT FUEL STORAGE POOLS (SFSPS)

TEXT 3.7.11 1 11/01/2018
Title: STRUCTURAL INTEGRITY

TEXT 3.8.1 2 04/05/2010
Title: ELECTRICAL POWER PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

TEXT 3.8.2.1 2 11/09/2007
Title: ELECTRICAL POWER MOTOR OPERATED VALVES (MOV) THERMAL OVERLOAD PROTECTION - CONTINUOUS

TEXT 3.8.2.2 2 12/14/2004
Title: ELECTRICAL POWER MOTOR OPERATED VALVES (MOV) THERMAL OVERLOAD PROTECTION - AUTOMATIC

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TEXT 3.8.3 3 03/05/2019
Title: ELECTRICAL POWER DIESEL GENERATOR (DG) MAINTENANCE ACTIVITIES

TEXT 3.8.4 0 11/18/2002
Title: ELECTRICAL POWER 24 VDC ELECTRICAL POWER SUBSYSTEM

TEXT 3.8.5 1 11/14/2013
Title: ELECTRICAL POWER DEGRADED VOLTAGE PROTECTION

TEXT 3.8.6 2 03/05/2019
Title: ELECTRICAL POWER EMERGENCY SWITCHGEAR ROOM COOLING

TEXT 3.8.7 1 06/15/2009
Title: BATTERY MAINTENANCE AND MONITORING PROGRAM

TEXT 3.9.1 0 11/18/2002
Title: REFUELING OPERATIONS DECAY TIME

TEXT 3.9.2 0 11/18/2002
Title: REFUELING OPERATIONS COMMUNICATIONS

TEXT 3.9.3 0 11/18/2002
Title: REFUELING OPERATIONS REFUELING PLATFORM

TEXT 3.10.1 1 04/26/2006
Title: MISCELLANEOUS SEAL SOURCE CONTAMINATION

TEXT 3.10.2 2 08/08/2006
Title: MISCELLANEOUS SHUTDOWN MARGIN TEST RPS INSTRUMENTATION

TEXT 3.10.3 2 06/15/2010
Title: MISCELLANEOUS INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)

TEXT 3.10.4 2 04/17/2008
Title: INTENTIONALLY LEFT BLANK

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TEXT 3.11.1.1 1 04/26/2006
Title: RADIOACTIVE EFFLUENTS LIQUID EFFLUENTS CONCENTRATION

TEXT 3.11.1.2 1 04/26/2006
Title: RADIOACTIVE EFFLUENTS LIQUID EFFLUENTS DOSE

TEXT 3.11.1.3 1 04/26/2006
Title: RADIOACTIVE EFFLUENTS LIQUID WASTE TREATMENT SYSTEM

TEXT 3.11.1.4 2 10/09/2012
Title: RADIOACTIVE EFFLUENTS LIQUID RADWASTE EFFLUENT MONITORING INSTRUMENTATION

TEXT 3.11.1.5 3 03/05/2015
Title: RADIOACTIVE EFFLUENTS RADIOACTIVE LIQUID PROCESS MONITORING INSTRUMENTATION

TEXT 3.11.2.1 3 04/26/2006
Title: RADIOACTIVE EFFLUENTS DOSE RATE

TEXT 3.11.2.2 1 04/26/2006
Title: RADIOACTIVE EFFLUENTS DOSE - NOBLE GASES

TEXT 3.11.2.3 1 04/26/2006
Title: RADIOACTIVE EFFLUENTS DOSE - IODINE, TRITIUM, AND RADIONUCLIDES IN PARTICULATE FORM

TEXT 3.11.2.4 0 11/18/2002
Title: RADIOACTIVE EFFLUENTS GASEOUS RADWASTE TREATMENT SYSTEM

TEXT 3.11.2.5 4 07/03/2013
Title: RADIOACTIVE EFFLUENTS VENTILATION EXHAUST TREATMENT SYSTEM

TEXT 3.11.2.6 8 06/29/2017
Title: RADIOACTIVE EFFLUENTS RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

TEXT 3.11.3 1 04/26/2006
Title: RADIOACTIVE EFFLUENTS TOTAL DOSE

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TEXT 3.11.4.1 5 03/05/2015
Title: RADIOACTIVE EFFLUENTS MONITORING PROGRAM

TEXT 3.11.4.2 2 04/26/2006
Title: RADIOACTIVE EFFLUENTS LAND USE CENSUS

TEXT 3.11.4.3 1 04/26/2006
Title: RADIOACTIVE EFFLUENTS INTERLABORATORY COMPARISON PROGRAM

TEXT 3.12.1 0 11/19/2002
Title: LOADS CONTROL PROGRAM CRANE TRAVEL-SPENT FUEL POOL STORAGE POOL

TEXT 3.12.2 4 04/17/2008
Title: LOADS CONTROL PROGRAM HEAVY LOADS REQUIREMENTS

TEXT 3.12.3 0 11/19/2002
Title: LOADS CONTROL PROGRAM LIGHT LOADS REQUIREMENT

TEXT 4.1 0 08/31/1998
Title: ADMINISTRATIVE CONTROLS ORGANIZATION

TEXT 4.2 1 01/03/2019
Title: ADMINISTRATIVE CONTROLS REPORTABLE EVENT ACTION

TEXT 4.3 1 01/03/2019
Title: ADMINISTRATIVE CONTROLS SAFETY LIMIT VIOLATION

TEXT 4.4 1 12/18/2008
Title: ADMINISTRATIVE CONTROLS PROCEDURES & PROGRAMS

TEXT 4.5 0 08/31/1998
Title: ADMINISTRATIVE CONTROLS REPORTING REQUIREMENTS

TEXT 4.6 0 08/31/1998
Title: ADMINISTRATIVE CONTROLS RADIATION PROTECTION PROGRAM

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TEXT 4.7 0 08/31/1998
Title: ADMINISTRATIVE CONTROLS TRAINING

TEXT B3.0 5 03/05/2015
Title: APPLICABILITY BASES TECHNICAL REQUIREMENT FOR OPERATION (TRO) APPLICABILITY

TEXT B3.1.1 2 04/29/2014
Title: REACTIVITY CONTROL SYSTEMS BASES ANTICIPATED TRANSIENT WITHOUT SCRAM ALTERNATE ROD INJECTION (ATWS-ARI) INSTRUMENTATION

TEXT B3.1.2 0 11/19/2002
Title: REACTIVITY CONTROL SYSTEMS BASES CONTROL ROD DRIVE (CRD) HOUSING SUPPORT

TEXT B3.1.3 4 12/18/2017
Title: REACTIVITY CONTROL SYSTEMS BASES CONTROL ROD BLOCK INSTRUMENTATION

TEXT B3.1.4 0 11/19/2002
Title: REACTIVITY CONTROL SYSTEMS BASES CONTROL ROD SCRAM ACCUMULATORS INSTRUMENTATION AND CHECK VALVE

TEXT B3.2.1 0 11/19/2002
Title: CORE OPERATING LIMITS BASES CORE OPERATING LIMITS REPORT (COLR)

TEXT B3.3.1 1 01/31/2014
Title: INSTRUMENTATION BASES RADIATION MONITORING INSTRUMENTATION

TEXT B3.3.2 2 03/31/2011
Title: INSTRUMENTATION BASES SEISMIC MONITORING INSTRUMENTATION

TEXT B3.3.3 3 12/18/2008
Title: INSTRUMENTATION BASES METEOROLOGICAL MONITORING INSTRUMENTATION

TEXT B3.3.4 7 06/29/2017
Title: INSTRUMENTATION BASES TRM POST ACCIDENT MONITORING (PAM) INSTRUMENTATION

TEXT B3.3.5 2 11/09/2007
Title: INTENTIONALLY LEFT BLANK

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TEXT B3.3.6 6 03/05/2019
Title: INSTRUMENTATION BASES TRM ISOLATION ACTUATION INSTRUMENTATION

TEXT B3.3.7 2 11/10/2015
Title: INSTRUMENTATION BASES MAIN TURBINE OVERSPEED PROTECTION SYSTEM

TEXT B3.3.8 1 10/22/2003
Title: INTENTIONALLY LEFT BLANK

TEXT B3.3.9 4 01/03/2019
Title: OPRM INSTRUMENTATION

TEXT B3.3.10 3 08/09/2010
Title: INSTRUMENTATION BASES REACTOR RECIRCULATION PUMP MG SET STOPS

TEXT B3.3.11 1 10/22/2003
Title: INSTRUMENTATION BASES MVP ISOLATION INSTRUMENTATION

TEXT B3.3.12 0 04/16/2009
Title: WATER MONITORING INSTRUMENTATION

TEXT B3.4.1 0 11/19/2002
Title: REACTOR COOLANT SYSTEM BASES REACTOR COOLANT SYSTEM CHEMISTRY

TEXT B3.4.2 1 04/16/2009
Title: INTENTIONALLY LEFT BLANK

TEXT B3.4.3 1 11/09/2007
Title: REACTOR COOLANT SYSTEM BASES HIGH/LOW PRESSURE INTERFACE LEAKAGE MONITOR

TEXT B3.4.4 0 11/19/2002
Title: REACTOR COOLANT SYSTEM BASES REACTOR RECIRCULATION FLOW AND ROD LINE LIMIT

TEXT B3.4.5 0 11/19/2002
Title: REACTOR COOLANT SYSTEM BASES REACTOR VESSEL MATERIALS

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TEXT B3.4.6 3 01/03/2019
Title: REACTOR RECIRCULATION SINGLE LOOP OPERATION SLO FLOW RATE RESTRICTION

TEXT B3.5.1 1 03/05/2019
Title: ECCS RPV WATER INVENTORY CONTROL AND RCIC SYSTEM ADS MANUAL INHIBIT

TEXT B3.5.2 2 03/05/2019
Title: ECCS RPV WATER INVENTORY CONTROL AND RCIC SYSTEM ECCS RPV WATER INVENTORY CONTROL AND RCIC MONITORING INSTRUMENTATION

TEXT B3.5.3 2 03/05/2019
Title: ECCS RPV WATER INVENTORY CONTROL AND RCIC SYSTEM LONG TERM NITROGEN SUPPLY TO ADS

TEXT B3.6.1 0 11/19/2002
Title: CONTAINMENT BASES VENTING OR PURGING

TEXT B3.6.2 0 11/19/2002
Title: CONTAINMENT BASES SUPPRESSION CHAMBER-TO-DRYWELL VACUUM BREAKER POSITION INDICATION

TEXT B3.6.3 2 04/17/2008
Title: CONTAINMENT BASES SUPPRESSION POOL ALARM INSTRUMENTATION

TEXT B3.6.4 1 12/14/2004
Title: CONTAINMENT BASES PRIMARY CONTAINMENT CLOSED SYSTEM BOUNDARIES

TEXT B3.7.1 0 11/19/2002
Title: PLANT SYSTEMS BASES EMERGENCY SERVICE WATER SYSTEM (SHUTDOWN)

TEXT B3.7.2 0 11/19/2002
Title: PLANT SYSTEMS BASES ULTIMATE HEAT SINK (UHS) GROUND WATER LEVEL

TEXT B3.7.3.1 4 02/16/2017
Title: PLANT SYSTEMS BASES FIRE SUPPRESSION WATER SUPPLY SYSTEM

TEXT B3.7.3.2 2 04/26/2006
Title: PLANT SYSTEMS BASES SPRAY AND SPRINKLER SYSTEMS

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TEXT B3.7.3.4 3 04/29/2014
Title: PLANT SYSTEMS BASES HALON SYSTEMS

TEXT B3.7.3.5 1 04/26/2006
Title: PLANT SYSTEMS BASES FIRE HOSE STATIONS

TEXT B3.7.3.6 1 04/26/2006
Title: PLANT SYSTEMS BASES YARD FIRE HYDRANTS AND HYDRANT HOSE HOUSES

TEXT B3.7.3.7 0 11/19/2002
Title: PLANT SYSTEMS BASES FIRE RATED ASSEMBLIES

TEXT B3.7.3.8 3 09/27/2012
Title: PLANT SYSTEMS BASES FIRE DETECTION INSTRUMENTATION

TEXT B3.7.4 0 11/19/2002
Title: PLANT SYSTEMS BASES SOLID RADWASTE SYSTEM

TEXT B3.7.5.1 0 11/19/2002
Title: PLANT SYSTEMS BASES MAIN CONDENSER OFFGAS HYDROGEN MONITOR

TEXT B3.7.5.2 0 11/19/2002
Title: PLANT SYSTEMS BASES MAIN CONDENSER OFFGAS EXPLOSIVE GAS MIXTURE

TEXT B3.7.5.3 0 11/19/2002
Title: PLANT SYSTEMS BASES LIQUID HOLDUP TANKS

TEXT B3.7.6 4 06/04/2013
Title: PLANT SYSTEMS BASES ESSW PUMPHOUSE VENTILATION

TEXT B3.7.7 2 01/31/2008
Title: PLANT SYSTEMS BASES MAIN CONDENSER OFFGAS PRETREATMENT LOGARITHMIC RADIATION MONITORING INSTRUMENTATION

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Title: PLANT SYSTEMS BASES SNUBBERS

TEXT B3.7.9 3 03/05/2019
Title: PLANT SYSTEMS BASES CONTROL STRUCTURE HVAC

TEXT B3.7.10 1 12/14/2004
Title: PLANT SYSTEMS BASES SPENT FUEL STORAGE POOLS

TEXT B3.7.11 2 11/01/2018
Title: STRUCTURAL INTEGRITY

TEXT B3.8.1 2 03/10/2010
Title: ELECTRICAL POWER BASES PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

TEXT B3.8.2.1 0 11/19/2002
Title: ELECTRICAL POWER BASES MOTOR OPERATED VALVES (MOV) THERMAL OVERLOAD PROTECTION - CONTINUOUS

TEXT B3.8.2.2 1 09/17/2004
Title: ELECTRICAL POWER BASES MOTOR OPERATED VALVES (MOV) THERMAL OVERLOAD PROTECTION - AUTOMATIC

TEXT B3.8.3 0 11/19/2002
Title: ELECTRICAL POWER BASES DIESEL GENERATOR (DG) MAINTENANCE ACTIVITIES

TEXT B3.8.4 0 11/19/2002
Title: ELECTRICAL POWER BASES 24 VDC ELECTRICAL POWER SUBSYSTEM

TEXT B3.8.5 1 11/14/2013
Title: ELECTRICAL POWER BASES DEGRADED VOLTAGE PROTECTION

TEXT B3.8.6 3 03/05/2019
Title: ELECTRICAL POWER BASES EMERGENCY SWITCHGEAR ROOM COOLING

TEXT B3.8.7 2 06/04/2013
Title: BATTERY MAINTENANCE AND MONITORING PROGRAM

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Title: REFUELING OPERATIONS BASES DECAY TIME

TEXT B3.9.2 0 11/19/2002
Title: REFUELING OPERATIONS BASES COMMUNICATIONS

TEXT B3.9.3 0 11/19/2002
Title: REFUELING OPERATIONS BASES REFUELING PLATFORM

TEXT B3.10.1 0 11/19/2002
Title: MISCELLANEOUS BASES SEALED SOURCE CONTAMINATION

TEXT B3.10.2 1 03/31/2006
Title: MISCELLANEOUS BASES SHUTDOWN MARGIN TEST RPS INSTRUMENTATION

TEXT B3.10.3 0 11/19/2002
Title: MISCELLANEOUS BASES INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)

TEXT B3.10.4 1 04/17/2008
Title: INTENTIONALLY LEFT BLANK

TEXT B3.11.1.1 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES LIQUID EFFLUENTS CONCENTRATION

TEXT B3.11.1.2 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES LIQUID EFFLUENTS DOSE

TEXT B3.11.1.3 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES LIQUID WASTE TREATMENT SYSTEM

TEXT B3.11.1.4 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES LIQUID RADWASTE EFFLUENT MONITORING INSTRUMENTATION

TEXT B3.11.1.5 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES RADIOACTIVE LIQUID PROCESS MONITORING INSTRUMENTATION

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TEXT B3.11.2.1 1 12/14/2004
Title: RADIOACTIVE EFFLUENTS BASES DOSE RATE

TEXT B3.11.2.2 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES DOSE - NOBLE GASES

TEXT B3.11.2.3 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES DOSE - IODINE, TRITIUM, AND RADIONUCLIDES IN PARTICULATES FORM

TEXT B3.11.2.4 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES GASEOUS RADWASTE TREATMENT SYSTEM

TEXT B3.11.2.5 5 07/03/2013
Title: RADIOACTIVE EFFLUENTS BASES VENTILATION EXHAUST TREATMENT SYSTEM

TEXT B3.11.2.6 2 09/08/2016
Title: RADIOACTIVE EFFLUENTS BASES RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

TEXT B3.11.3 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES TOTAL DOSE

TEXT B3.11.4.1 5 03/05/2015
Title: RADIOACTIVE EFFLUENTS BASES MONITORING PROGRAM

TEXT B3.11.4.2 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES LAND USE CENSUS

TEXT B3.11.4.3 0 11/19/2002
Title: RADIOACTIVE EFFLUENTS BASES INTERLABORATORY COMPARISON PROGRAM

TEXT B3.12.1 1 10/04/2007
Title: LOADS CONTROL PROGRAM BASES CRANE TRAVEL-SPENT FUEL STORAGE POOL

TEXT B3.12.2 1 12/03/2010
Title: LOADS CONTROL PROGRAM BASES HEAVY LOADS REQUIREMENTS

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TEXT B3.12.3 0 11/19/2002

Title: LOADS CONTROL PROGRAM BASES LIGHT LOADS REQUIREMENTS

3.3 Instrumentation

3.3.6 TRM Isolation Actuation Instrumentation

TRO 3.3.6 The TRM containment isolation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE.

APPLICABILITY: As specified in Table 3.3.6-1

ACTIONS

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

1. Penetration flow paths isolated to comply with Action C may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable	A.1 Place channel in trip.	12 hours for Function 2.a AND 24 hours for Functions other than Function 2.a
B. One or more Functions with isolation capability not maintained.	B.1 Restore isolation capability.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Initiate appropriate compensatory measures for the degraded condition.	24 hours

(continued)

TECHNICAL REQUIREMENT SURVEILLANCE

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

1. Refer to Table 3.3.6-1 to determine which TRSs apply for each TRM Isolation Actuation Instrumentation 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 provided the associated function maintains isolation capability.

SURVEILLANCE	FREQUENCY
TRS 3.3.6.1 Perform CHANNEL CHECK	12 hours
TRS 3.3.6.2 Perform CHANNEL FUNCTIONAL TEST	92 days
TRS 3.3.6.3 Perform CHANNEL CALIBRATION	92 days
TRS 3.3.6.4 Perform CHANNEL CALIBRATION	24 months
TRS 3.3.6.5 Perform LOGIC SYSTEM FUNCTIONAL TEST	24 months
TRS 3.3.6.6 Perform RESPONSE TIME TEST	24 months on a staggered test basis

(continued)

TABLE 3.3.6-1
PRIMARY CONTAINMENT ISOLATION INSTRUMENTATION

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation				
a. Turbine Building Main Steam Line Tunnel Temperature - High	1,2,3	2	TRS 3.3.6.2 TRS 3.3.6.3 TRS 3.3.6.5	≤ 200°F
2. Primary Containment Isolation				
a. Main Steam Line Radiation - High, High	1,2,3	2	TRS 3.3.6.1 TRS 3.3.6.2 TRS 3.3.6.4 TRS 3.3.6.5 TRS 3.3.6.6[a]	≤ 21 x full power background without hydrogen injection
3. Shutdown Cooling System Isolation [b]				
a. RHR Flow - High	3,4[c],5[c]	1[d]	TRS 3.3.6.1 TRS 3.3.6.2 TRS 3.3.6.4 TRS 3.3.6.5	≤ 26,000 gpm

(a) Radiation detectors are exempt from response time testing.

(b) Not required when the penetration is isolated from the reactor vessel via manual isolation valve, blind flange, or deactivated auto isolation valve.

(c) Required in MODES 4 and 5 when automatic isolation of the associated penetration flow path is credited in calculating DRAIN TIME per LCO 3.5.2.

(d) When required in Modes 4 and 5, only one trip system is required.

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3.5 Emergency Core Cooling Systems (ECCS), Reactor Pressure Vessel (RPV) Water Inventory Control, and Reactor Core Isolation Cooling (RCIC) System

3.5.1 Automatic Depressurization System (ADS) Manual Inhibit

TRO 3.5.1 One ADS Manual Inhibit function per division shall be OPERABLE

APPLICABILITY: ADS Inhibit: When SLCS is required to be OPERABLE per LCO 3.1.7
ADS Permissive: When ADS is required to be OPERABLE per LCO 3.3.5.1

ACTIONS

---------- NOTE ----------
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or both ADS Manual Inhibit functions inoperable.	A.1 Restore ADS Manual Inhibit function to OPERABLE status	96 hours from discovery of inoperable channel concurrent with HPCI or reactor core isolation cooling (RCIC) inoperable AND 8 days
	AND	
	A.2 Enter applicable Conditions and Required Actions of LCO 3.3.5.1 "ECCS Instrumentation" for Technical Specification Instrumentation Functions made inoperable by failure of the ADS Manual Inhibit switch.	Immediately

(continued)

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.5.1.1	Perform LOGIC SYSTEM FUNCTIONAL TEST	24 months
TRS 3.5.1.2	Perform CHANNEL FUNCTIONAL TEST	24 months

3.5 Emergency Core Cooling Systems (ECCS), Reactor Pressure Vessel (RPV) Water Inventory Control, and Reactor Core Isolation Cooling (RCIC) System

3.5.2 ECCS, RPV Water Inventory Control, and RCIC System Monitoring Instrumentation

TRO 3.5.2 ECCS, RPV Water Inventory Control, and RCIC System Monitoring Instrumentation for each Function in Table 3.5.2-1 shall be OPERABLE.

APPLICABILITY: See Table 3.5.2-1

ACTIONS

---------- NOTE ----------
Separate Condition entry is allowed for each instrument or event
---

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Core Spray System (CSS) header ΔP instrumentation channel inoperable	A.1 Restore the inoperable channel to OPERABLE status. OR	72 hours
	A.2 Determine the ECCS header ΔP	Once per 12 hours
B. ADS Accumulator Backup Compressed Gas Low Pressure Instrumentation Channel inoperable	B.1 Restore the inoperable channel to OPERABLE status OR	72 hours
	B.2 Determine the ADS Accumulator Backup Compressed Gas Pressure	Once per 12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Condensate transfer pump discharge low pressure alarm instrumentation inoperable	C.1 Verify piping filled by venting at the high point vents. AND	12 hours AND Once per 31 days thereafter
	C.2 Monitor the RCIC, LPCI, and HPCI pressure locally and the CSS pressure remotely. AND	Once per 24 hours
	C.3 Restore Monitor to OPERABLE Status.	30 days

TECHNICAL REQUIREMENT SURVEILLANCE

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

1. Refer to Table 3.5.2-1 to determine which TRS apply for each instrument function.

2. When a channel (except for the Core Spray HeaderΔP) 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 an alternate means of monitoring the parameter is available.

SURVEILLANCE		FREQUENCY
TRS 3.5.2.1	Perform a CHANNEL FUNCTIONAL TEST	92 days
TRS 3.5.2.2	Perform a CHANNEL CALIBRATION	18 months
TRS 3.5.2.3	Perform a CHANNEL CALIBRATION	24 months

(continued)

Table 3.5.2-1
ECCS and RCIC Monitoring Instrumentation

FUNCTION	APPLICABILITY	MINIMUM CHANNELS REQUIRED	SURVEILLANCE REQUIREMENTS	SETPOINT
1. Core Spray Header ΔP	1,2,3	1/Header	TRS 3.5.2.1 TRS 3.5.2.3	$\leq$ 1.0 psid
2. ADS Accumulator Backup Compressed Gas Low Pressure	1,2[(c)],3[(c)]	1/Bank	TRS 3.5.2.1 TRS 3.5.2.2	$\geq$ 2035 psig and $\leq$ 2105 psig[(b)]
3. Condensate Transfer Pump Discharge Low Pressure	1,2,3,4[(a)], 5[(a)]	1	TRS 3.5.2.1 TRS 3.5.2.3	$\geq$ 113 psig

(a) As required to support required ECCS injection/spray subsystem operability for TS 3.5.2.
(b) Setpoint on decreasing pressure.
(c) Not required to be OPERABLE with reactor steam dome pressure $\leq$ 100 psig.

3.5 Emergency Core Cooling Systems (ECCS), Reactor Pressure Vessel (RPV) Water Inventory Control, and Reactor Core Isolation Cooling (RCIC) System

3.5.3 Long Term Nitrogen Supply to Automatic Depressurization System (ADS)

TRO 3.5.3 The Long Term Nitrogen Supply to ADS System shall be OPERABLE

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One bank of the backup nitrogen bottle supply is isolated or the long term nitrogen supply is otherwise inoperable.	A.1 Restore the bottle bank and associated header to OPERABLE status	14 days
B. Both banks of backup nitrogen bottle supply are isolated or both headers otherwise inoperable	B.1 Restore at least one bottle bank or associated header to OPERABLE status	3 days
C. Required Action and associated Completion Time of Conditions A or B not met.	C.1 Be in MODE 3 AND C.2 Be in MODE 4	12 hours 36 hours

(continued)

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.5.3.1	Verify Long Term Nitrogen Supply System header pressure is ≥ 135 psig.	31 days
TRS 3.5.3.2	Verify each Long Term Nitrogen Supply System manual and power operated valve in the flow path, that is not locked, sealed, or otherwise secured in position, are in the correct position.	31 days
TRS 3.5.3.3	Perform a Functional Test of the swap over to the Long Term Nitrogen Supply System	24 months
TRS 3.5.3.4	Demonstrate Long Term Nitrogen Supply ability to maintain at least 135 psig for a minimum of 3 days.	24 months

3.7 Plant Systems

3.7.9 Control Structure HVAC

TRO 3.7.9 The following Control Structure HVAC Subsystems shall be OPERABLE:

a. Control Structure Heating and Ventilating System
b. Computer Room Floor Cooling System
c. Control Structure Chilled Water
d. Battery Room Exhaust System
e. SGT Equipment Room Ventilation System (Heating)
f. SGT Equipment Room Ventilation System (Cooling)

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment.
During CORE ALTERATIONS.

----------NOTE----------

1. If Conditions and Required Actions for this TRO that direct entry into LCOs are not completed. LCO 3.0.3 should be entered not TRO 3.0.3.

2. Enter applicable Conditions and Required Actions of LCO 3.7.3 "Control Room Emergency Outside Air Supply (CREOAS) System" and LCO 3.7.4 "Control Room Floor Cooling System" for Technical Specification Functions made inoperable by the inoperable Control Structure HVAC Subsystems.

3. Control Structure and Computer Room Ventilation fans are also governed by LCO 3.7.3 "Control Room Emergency Outside Air Supply (CREOAS) System."

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. A single division of subsystems a-e inoperable for its cooling or heating mode	A.1 Restore all affected subsystems to OPERABLE status	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. A single division of subsystem f inoperable	B.1 Restore the affected cooling unit to OPERABLE status	30 days
C. Both divisions of any subsystem inoperable for the cooling or heating mode	C.1 Declare affected equipment inoperable and enter all appropriate LCOs/TROs	Immediately
D. Required Action and associated Completion Time of Condition A, or B not met	D.1 Be in MODE 3 AND D.2 Be in MODE 4	12 hours 36 hours

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.7.9.1	Administratively verify that the Control Structure HVAC Subsystems are available	24 hours

3.8 Electrical Power

3.8.3 Diesel Generator (DG) Maintenance Activities

TRO 3.8.3 The Technical Requirements Surveillances specified in this TRO shall be performed at the Frequency specified for each DG.

APPLICABILITY: When the associated DG is required to be OPERABLE

ACTIONS

---------- NOTES----------
1. Separate condition entry is allowed for each Diesel Generator.
2. TRO 3.0.4b is not applicable to DGs

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. TRO requirements not met.	A.1 Declare affected DG inoperable.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.8.3.1	Inspect diesel in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.	5 years
TRS 3.8.3.2	Verify that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 4700 kW.	48 months

(continued)

TECHNICAL REQUIREMENT SURVEILLANCE (continued)

	SURVEILLANCE	FREQUENCY
TRS 3.8.3.3	Verify that the following diesel generator lockout features do not prevent diesel generator starting and/or operation when not required: a. Engine overspeed. b. Generator differential. c. Engine low lube oil pressure.	24 months
TRS 3.8.3.4	For each fuel oil storage tank a. Drain the fuel oil; b. Remove the sediment, and c. Clean the tank	10 years
TRS 3.8.3.5	Perform a pressure test of those portions of the fuel oil system designed to Section III, Subsection ND of the ASME Code in accordance with ASME Code Section XI Article IWD-5000.	10 years

3.8 Electrical Power

3.8.6 Emergency Switchgear Room Cooling

TRO 3.8.6 Two Emergency Switchgear Room Cooling subsystems shall be OPERABLE.

APPLICABILITY: Whenever associated emergency switchgear is required to be OPERABLE

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required Unit 1 Emergency Switchgear Room Cooling subsystem inoperable.	A.1 ----------NOTE---------- Applicable only in MODES 1, 2, or 3 ---------- Restore subsystem to OPERABLE status	30 days
B. Two required Unit 1 Emergency Switchgear Room Cooling subsystems inoperable.	B.1 ----------NOTE---------- Applicable only in MODES 1,2, or 3 ---------- Restore at least one required subsystem to OPERABLE status AND	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 ----------NOTE---------- Applicable only in MODES 4, 5, during CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment. --- Suspend CORE ALTERATIONS, and handling irradiated fuel in the secondary containment. AND B.3 ----------NOTE---------- Applicable only in MODES 4, 5, during CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment --- Initiate action to restore one subsystem to OPERABLE status.	Immediately Immediately
C. Required Action and associated Completion Time of Condition A or B not met	C.1 Declare affected distribution system inoperable and take Actions required by LCO 3.8.7 or LCO 3.8.8.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.8.6.1	Administratively verify that the Unit 1 Emergency Switchgear Room Cooling subsystem are available.	24 hours

B 3.3.6 TRM Isolation Actuation Instrumentation

BASES

TRO

The TRM Actuation instrumentation automatically initiates closure of appropriate primary containment isolation valves (PCIVs). The function of the PCIVs, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs) (Reference 1). The TRM Isolation Actuation Instrument has been relocated from the Technical Specifications because the identified Function is not credited in the plant design basis to mitigate any plant event, but does provide a diverse means to initiate an Isolation Actuation.

The isolation instrumentation includes the sensors, relays, and instruments that are necessary to cause initiation of primary containment and Reactor Coolant Pressure Boundary (RCPB) isolation. When the setpoint is reached, the sensor actuates, which then outputs an isolation signal to the isolation logic. Monitoring a wide range of independent parameters provides functional diversity. The input parameters to the isolation logic are:

(a) Main steam line radiation,

(b) Turbine Building Main Steam Line Tunnel Temperature - High, and

(c) RHR Flow - High.

The RHR high flow isolation is only applicable to the RHR suction side piping; it will not detect smaller branch size breaks or breaks on the discharge side of the RHR pump.

The valves associated with these trip channels are identified in Table B 3.3.6-1. Each of these valves is also associated with other trip channels as identified in LCO Bases B 3.6.1.3.

The trips occur after a one second delay. See Tech Spec Basis B 3.3.6-1.

(continued)

BASES

ACTIONS

The Actions are defined to ensure proper corrective measures are taken in response to the inoperable components. The ACTIONS are modified by two Notes. Note 1 allows penetration flow path(s) to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for primary containment isolation is indicated. Note 2 is provided to modify the ACTIONS for separate Condition entry, consistent with similar Note in the TS 3.3.6.1 Actions.

Condition C applies if the channel is not restored to OPERABLE status or placed in trip, or isolation capability is not restored, within the allowed Completion Time. If inoperable channels should not be placed in trip (e.g., might result in a undesirable transient) Action C may be intentionally entered as a result of not meeting Required Action A.1 in its required Completion Time. Required Action C.1 requires appropriate compensatory measures be in place within the following 24 hours. Examples of appropriate compensatory measures may consist of verifying that diverse isolation functions remain OPERABLE. Furthermore, isolating the penetration (e.g., as may be required by TS Actions for an inoperability affecting both the TRM Function and a required TS Function) also provides adequate compensatory actions since isolating the affected penetration flow path(s) accomplishes the safety function of the inoperable channels. If it is not desired to isolate the affected penetration flow path(s) (e.g., as in the case where isolating the penetration flow path(s) could result in a reactor scram or disabling RHR-SDC), alternate compensatory measures should be pursued. The 24 hour Completion Time is acceptable due to the fact that these Functions are not assumed in any accident or transient analysis in the FSAR.

TRS

The TRSs are defined to be performed at the specified Frequency to ensure that the TRM Isolation Actuation Instrumentation Functions are maintained OPERABLE. TRM Isolation Actuation Instrumentation Surveillances are performed consistent with the Bases for LCO 3.3.6.1 "Isolation Activation Instrumentation."

(continued)

BASES

TRS 3.3.6.5

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required isolation logic for a specific channel. The system functional testing performed on PCIVs in LCO 3.6.1.3 overlaps this surveillance to provide complete testing of the assumed safety function. The 24 month Frequency is based on the need to perform portions of this surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the surveillance when performed at the 24 month Frequency.

TRS 3.3.6.6

The response time testing of Function 2.a is per FSAR Table 7.3-29.

REFERENCES

1. FSAR Section 7.3.1

2. NRC Inspection and Enforcement Manual, Part 9900: Technical Guidance, Standard Technical Specification Section 1.0 Definitions, Issue dated 12/8/96.

Table B 3.3.6-1
Primary Containment Isolation Valves
(Page 1 of 1)

Plant systems	Valve Number	Valve Description	Isolation Signal Function No. (Table 3.3.6-1)
Nuclear Boiler	HV-141F022A	MSIV	1.a
	HV-141F022B	MSIV	1.a
	HV-141F022C	MSIV	1.a
	HV-141F022D	MSIV	1.a
	HV-141F028A	MSIV	1.a
	HV-141F028B	MSIV	1.a
	HV-141F028C	MSIV	1.a
	HV-141F028D	MSIV	1.a
	HV-141F016	MSL Drain Isolation Valve	1.a
	HV-141F019	MSL Drain Isolation Valve	1.a
Reactor Recirculation	HV-143F019	Reactor Coolant Sample Valve	2.a
	HV-143F020	Reactor Coolant Sample Valve	2.a
RHR	HV-151F022	RHR - Reactor Vessel Head Spray Valve	3.a
	HV-151F023	RHR - Reactor Vessel Head Spray Valve	3.a
	HV-151F008	RHR Shutdown Cooling Valve	3.a
	HV-151F009	RHR Shutdown Cooling Valve	3.a

B 3.5 Emergency Core Cooling Systems (ECCS), Reactor Pressure Vessel (RPV) Water Inventory Control, and Reactor Core Isolation Cooling (RCIC) System

B 3.5.1 Automatic Depressurization System (ADS) Manual Inhibit

BASES

TRO

The ADS Manual Inhibit function is provided to permit overriding ADS actuation in the event that the actuation signals are due to an Anticipated Transient Without a Scram (ATWS). The function supports operation of the SLCS Function (LCO 3.1.7) (ADS Inhibit) and ADS Function (LCO 3.5.1) (ADS Permissive), and is required to be OPERABLE when those functions are required.

The purpose of the ADS Manual Inhibit Function is to disable the ADS system to prevent a blowdown in the event of an Anticipated Transient Without a Reactor Scram (ATWS), when boron injection is required. ADS Manual Inhibit is required by procedure any time SLCS injection is initiated.

The ADS Manual Inhibit function supports SLCS operation for mitigation of an ATWS event, which ties its Operability requirement to that of SLCS. If the ATWS transient results in a sustained reactor water level below the Level 1 ADS initiation setpoint (-129"), the SLCS Function can be defeated by failure of one ADS Manual Inhibit channel in either the ADS A or B logic control systems. Because its actuation could result in the injection of a large amount of unborated water into the core under ATWS conditions, preventing ADS is appropriate whenever boron injection is required.

The ADS Manual Inhibit "passive" function must be Operable to support actuation of the ADS initiation function, which ties its Operability requirement to that of ADS.

One ADS Manual Inhibit Switch is provided for each Division. (Reference 1)

(continued)

BASES

ACTIONS

The Actions are defined to ensure proper corrective measures are taken in response to the inoperable components.

The REQUIRED ACTIONS are based on the ATWS mitigation Function and on the need to preserve the ADS ECCS function. The allowed out of service time for the Inhibit function is commensurate with the Function's importance to safety, relative to ATWS functional requirements.

While the ADS Manual Inhibit is a desirable function for the ATWS mitigation scenarios, it is not a necessary function for plant shutdown with Standby Liquid Control injection under the ATWS emergency operating procedures when high pressure injection systems are available. High pressure injection systems are used to control RPV water level above -129" in an ATWS. SSES plant specific analyses do not show RPV level falling below -129" in an MSIV closure ATWS (the limiting water level event) if HPCI and RCIC are available.

Failure of the ADS Manual Inhibit Function to reset to the "permissive" mode when returned to "normal" can affect the ADS system's ability to perform its ECCS safety function. The ADS Manual Inhibit "permissive" function assures there is appropriate switch contact continuity such that the automatic and manual ADS initiation trip channels can function in accordance with the ECCS design basis. Failure of the switch to support the ADS ECCS Function causes the ADS trip channel to become inoperable.

TRS

The TRSs are defined to be performed at the specified Frequency to ensure that the ADS Manual Inhibit Switch is maintained OPERABLE.

REFERENCES

1. FSAR Section 7.3.1.1a

B 3.5 Emergency Core Cooling Systems (ECCS), Reactor Pressure Vessel (RPV) Water Inventory Control, and Reactor Core Isolation Cooling (RCIC) System

B 3.5.2 ECCS, RPV Water Inventory Control, and RCIC System Monitoring Instrumentation

BASES

TRO

The ECCS, RPV Water Inventory Control, and RCIC System Monitoring Instrumentation TRO establishes the requirements for Instrumentation, which is required to monitor various parameters that can impact the capability of the supporting systems. The monitored parameters and a description of their function is provided as follows:

Core Spray Header Differential Pressure, is monitored to provide indication of a break in the core spray injection line, which would result in Core Spray Injection flow bypassing the Core Spray Loop.

The Automatic Depressurization System (ADS) Accumulator Backup Compressed Gas Low Pressure Alarm, provides an indication that the ADS Accumulator Backup Gas supply is below the level, which ensures long term decay heat removal through the ADS valves. (Reference 1)

Condensate Transfer Pump Discharge Low Pressure Instrumentation provides an alarm which indicates that the High Pressure Coolant Injection (HPCI), Residual Heat Removal (RHR), Core Spray (CS) and Reactor Core Isolation Cooling (RCIC) systems injection lines are no longer maintained at sufficient pressure to ensure no voids are created which would introduce the possibility of water hammer in the event of a system initiation and injection. (Reference 2)

ACTIONS

The Actions are defined to ensure proper corrective measures are taken in response to the inoperable components.

TRS

The Technical Requirement Surveillances (TRS) are modified by two Notes.

Note 1 states that the TRSs for each ECCS and RCIC system monitoring instrumentation Function are located in the SR column of Table 3.5.2-1.

Note 2 modifies the Surveillances to indicate that when a channel (except for the Core Spray System header ΔP instrumentation) 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 an alternate means of monitoring the parameter is

(continued)

BASES

TRS (continued)

available. 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. The Core Spray header ΔP function does not have an alternate means of monitoring the pressure. Therefore, the 6 hour APT can not be applied to this function.

The alternate means for monitoring the ADS Accumulator Backup Compressed Gas low pressure function is to use the local pressure indicator. The alternate means of monitoring the Condensate Transfer Pump Discharge low pressure function is described on SO-100-007.

The TRSs are defined to be performed at the specified Frequency to ensure that the ECCS and RCIC Monitoring Instrumentation is maintained OPERABLE.

REFERENCES

1. FSAR Section 9.3.1.5
2. FSAR Section 6.3.2.2

B 3.5 Emergency Core Cooling Systems (ECCS), Reactor Pressure Vessel (RPV) Water Inventory Control, and Reactor Core Isolation Cooling (RCIC) System

B 3.5.3 Long Term Nitrogen Supply to Automatic Depressurization System (ADS)

BASES

TRO

The safety related nitrogen storage system contains adequate gas in storage for long term operation of the ADS after a postulated Design Basis Accident. The ADS system performs two functions related to safety. The first is the short term blowdown function, LCO 3.5.1, ECCS Operating, and the second is the longer term core cooling function. The design basis identifies the normal RHR shutdown cooling suction path as a viable means of post accident heat removal. Recognizing that the solitary suction flowpath between the vessel and all four RHR pumps for shutdown cooling is not single failure proof, GE Design Specifications identify an alternate mode of shutdown cooling using ADS valves to provide a return flowpath to the suppression pool. There are three flowpaths available for post accident long term core cooling. First, there is RHR shutdown cooling, addressed in Technical Specifications. The second and third paths are through either of the two sets of ADS valves supplied by the two, independent nitrogen bottle trains.

Two redundant sets of high pressure nitrogen storage bottles are designed as an ESF auxiliary supporting system to provide the necessary compressed gas for the operation of the main steam relief valves for long term depressurization and decay heat removal.

ACTIONS

The Actions are defined to ensure proper corrective measures are taken in response to the inoperable components.

TRS

The TRSs are defined to be performed at the specified Frequency to ensure that the Long Term Nitrogen Supply to ADS is maintained OPERABLE.

TRS 3.5.3.1 requires verification that the Long Term Nitrogen Supply System header pressure is ≥ 135 psig. Verification provides assurance that the integrity of the header pressure boundary has been maintained and that the distribution piping is capable of delivering the gas necessary for long term operation of the ADS following a postulated design basis accident.

(continued)

BASES

TRS (continued)

TRS 3.5.3.2 requires verification that each manual and power operated valve in the Long Term Nitrogen Supply System flow path is correctly aligned. Verification provides assurance that the proper flow path will exist for Long Term Nitrogen Supply System operation. This TRS does not apply to valves that are locked, sealed, or otherwise secured in position since these were verified to be in the correct position prior to locking, sealing, or securing. This TRS does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position. This TRS does not apply to valves that cannot be inadvertently misaligned, such as check valves.

TRS 3.5.3.3 requires the performance of a Functional test of the capability to swap to the long term nitrogen supply.

TRS 3.5.3.4 requires demonstration that the long term nitrogen supply is sufficient to maintain system pressure above 135 psig for 3 days (i.e. system leakage is bounded by the system design leakage rate).

REFERENCES

1. FSAR Section 9.3.1.5

B 3.7 Plant Systems

B 3.7.9 Control Structure HVAC

BASES

TRO

Control structure HVAC systems have safety related functions to maintain the required air pressure control in the building and maintain the heating and cooling of support equipment required to mitigate a Loss of Coolant Accident. The Control Structure and Computer Room ventilation fans are required to maintain the habitability envelope at a positive pressure (i.e., >0" wc) and also to perform a heating and/or cooling function. The operation and surveillance requirements of the ventilation fans to maintain the habitability envelope at a positive pressure during CREOAS operation are discussed in TS 3.7.3. The heating and/or cooling function is addressed in this TRO. At least one train of each system is required for these purposes

Technical Specification LCOs 3.7.3 and 3.7.4 address operating and surveillance requirements for the Control Room Emergency Outside Air Supply System and the Control Room Floor Cooling System. The Unit 1 Technical Requirement Manual TRO 3.8.6 addresses operating requirements for the Unit 1 Emergency Switchgear Room Cooling System.

The SGTS Room Cooling and Heating systems are essential to maintain the normal and post accident environment of the Control Structure Elevation 806 within acceptable design temperature limits. CREOASS, SGTS, and Control Structure Chilled Water equipment is located on Control Structure Elevation 806.

The Computer Room Floor Cooling System's function is to maintain the computer room environment within acceptable design temperature limits. The system also maintains the habitability envelope pressure within limits. The Computer Room Floor Cooling System consists of two independent, redundant subsystems that provide cooling of recirculated computer room air. Each subsystem consists of cooling coils, fans, chillers, compressors, ductwork, dampers and instrumentation and controls to provide computer room temperature control.

The Control Structure Heating and Ventilation System serves all elevations of the control structure except the control room, TSC, and elevation 697'. The system's function is to maintain temperature and habitability envelope pressure within acceptable limits. The Control Structure Heating and Ventilation System consists of two independent, redundant subsystems that provide

(continued)

BASES

TRO (continued)

cooling of recirculated control structure air. Each subsystem consists of cooling coils, fans, chillers, compressors, ductwork, dampers and instrumentation and controls to provide temperature control.

The Control Structure Chilled Water System functions to transfer heat from the Control Room Floor Cooling System, Computer Room Floor Cooling System, Control Structure Heating and Ventilation System, and the Unit 1 ESGRC units to the ESW system. The Control Structure Chilled Water System consists of two independent, redundant subsystems consisting of a centrifugal compressor, a chilled water pump, one emergency condenser water pump, cooling coils, closed expansion tank, air separator, interconnecting piping, valves and instrumentation and controls.

The Battery Room Exhaust System functions to maintain the battery room design temperature, design pressure, and hydrogen concentration within limits. The Battery Room Exhaust System consists of two independent, redundant subsystems consisting of fans, ductwork, dampers and instrumentation and controls.

ACTIONS

The Actions are defined to ensure proper corrective measures are taken in response to the inoperable components. With one of the HVAC subsystems inoperable, the inoperable HVAC subsystem must be restored to OPERABLE status within 30 days. With the unit in this condition, the remaining OPERABLE HVAC subsystem is adequate to perform the cooling and/or heating function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem results in the loss of the HVAC function. The 30 day Completion Time is based on the consideration that the remaining subsystem can provide the required protection, and the availability of alternate nonsafety cooling methods.

TRS

The TRS assures sufficient system functionality to ensure operation when called upon to perform its safety related function.

REFERENCES

1. FSAR Section 9.4.1
2. FSAR Section 9.2.12.1

B 3.8 Electrical Power

B 3.8.6 Emergency Switchgear Room Cooling

BASES

TRO The Emergency Switchgear Room Cooling (ESRC) system provides heat removal capability for the Unit 1 emergency switchgear (Room designation I-406 and I-407) and load center rooms (Room designation I-507 and I-510 which contain equipment that is required to operate during the mitigation of a design basis event. The room cooling system provides the primary means to remove heat from the equipment located in these rooms. (Reference 1)

Two 100% capacity cooling subsystems provide the normal and emergency ventilation for the emergency switchgear and load center rooms.

This requirement does not include equipment used in the normal cooling mode, which serves no post accident function. The equipment required for the 'A' subsystem of the ESRC system is:

'A' Emergency Switchgear Fan – 1V222A
'A' Cooling Coil – 1E257A
'A' Control Structure Chilled Water (defined in TRM Bases 3.7.9)

The equipment required for the 'B' subsystem of the ESRC system is:

'B' Emergency Switchgear Fan – 1V222B
'B' Cooling Coil – 1E257B
'B' Control Structure Chilled Water (defined in TRM Bases 3.7.9)

Additionally, the associated ductwork, dampers and associated instrumentation and controls are also required.

Each Unit 1 ESRC subsystem provides cooling for the Unit 1 emergency switchgear and load center rooms which contain equipment from different electrical divisions (e.g., the 'A' ESRC subsystem cools both division I and II electrical equipment). Note that the Unit 1 emergency switchgear and load center rooms also contain common equipment.

ACTIONS The Actions are defined to ensure proper corrective measures are taken in response to the inoperable components.

These actions are based on the relative impact of ESRC operability on the ability of the equipment in the Unit 1 Emergency Switchgear and Load Center Rooms to perform their safety function.

(continued)

BASES

ACTIONS (continued)

With one required Emergency Switchgear Room Cooling subsystem inoperable (Condition A) in MODES 4 or 5, during CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment, no action is provided or need be taken in response to the condition. With one ESRC subsystem inoperable in Modes 1, 2 or 3, the inoperable ESRC subsystem must be restored to OPERABLE status within 30 days. With the unit in this condition, the remaining OPERABLE ESRC subsystem is adequate to perform the cooling function. However, the overall reliability is reduced since a single failure in the OPERABLE subsystem results in a loss of the cooling function. The 30 day completion time is based on the consideration that the remaining subsystem can provide the required protection, and the availability of alternate non safety cooling methods.

With two required Unit 1 Emergency Switchgear Room Cooling subsystems inoperable (Condition B), one subsystem must be restored to OPERABLE status within 12 hours in Modes 1, 2 or 3. This 12 hour completion time is based on temperature rise calculations which show that switchgear functionality will not be impacted by a loss of switchgear room cooling during this timeframe. In Modes 4 or 5, CORE ALTERATIONS, and handling irradiated fuel within secondary containment should be suspended immediately. This will reduce challenges to systems supported by the ESRC systems needed to mitigate the consequences of a fuel handling event. Additionally, action should be taken to restore one ESRC subsystem to OPERABLE status to eliminate the potential loss of electrical equipment due to sustained high temperatures.

LCO 3.8.7 is entered in the event that the Required Action and associated Completion Time of Condition A or B are not met in MODES 1, 2 or 3. LCO 3.8.8 is entered in the event that the Required Action and associated Completion Time of Condition B are not met in MODES 4 or 5, or during CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment. Note that some common equipment is located in the Unit 1 switchgear and load center rooms. If Unit 1 LCO 3.8.7 or LCO 3.8.8 is entered, Unit 2 operation will be impacted due to common systems being inoperable. Therefore, loss of one or both Unit 1 ESRC subsystems requires entry into Unit 2 TRM 3.8.6 "Emergency Switchgear Room Cooling."

(continued)

BASES

TRS	The TRSs are defined to be performed at the specified Frequency to ensure that the systems are maintained OPERABLE.
REFERENCE	1. FSAR Section 9.4.2.2