

April 25, 2000

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders

Subject: McGuire Units 1 and 2 SLC Manual Update
SLC 16.7.4 – Loose-Part Detection System
SLC 16.8.1 – Cont. Pen. Conductor Overcurrent Protect. Devices
SLC 16.8.3 – DG Supplemental Testing Requirements
SLC 16.9.7 – Standby Shutdown System
SLC 16.9.20 – Crane Travel – Spent Fuel Storage Pool Building
SLC 16.11.16 – Annual Radiological Environmental Operating Report
SLC 16.11.17 – Radioactive Effluent Release Report

Changes are marked by vertical bars on the right margin.

Please revise your copy of the manual as follows:

REMOVE

Entire LOEP, Rev. 2
Entire SLC 16.7.4, Rev. 0
Entire SLC 16.8.1, Rev. 1
Entire SLC 16.8.3, Rev. 0
Entire SLC 16.9.7, Rev. 0
Entire SLC 16.9.20, Rev. 0
Entire SLC 16.11.16, Rev. 0
Entire SLC 16.11.17, Rev. 0

INSERT

Entire LOEP, Rev. 3
Entire SLC 16.7.4, Rev. 1
Entire SLC 16.8.1, Rev. 2
Entire SLC 16.8.3, Rev. 2
Entire SLC 16.9.7, Rev. 1
Entire SLC 16.9.20, Rev. 1
Entire SLC 16.11.16, Rev. 1
Entire SLC 16.11.17, Rev. 1

Please call me if you have questions.



P.T. Vu
Regulatory Compliance, x 4302

SLC LIST OF AFFECTED SECTIONS

SECTION	REVISION NUMBER	DATE
16.1	REVISION 0	12/14/99
16.2	REVISION 0	12/14/99
16.3	REVISION 0	12/14/99
16.4	REVISION 0	12/14/99
16.5.1	REVISION 0	12/14/99
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 0	12/14/99
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 0	12/14/99
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 0	12/14/99
16.6.1	REVISION 0	12/14/99
16.6.2	REVISION 0	12/14/99
16.6.3	REVISION 0	12/14/99
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 0	12/14/99
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 1	4/11/00
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
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16.7.10	REVISION 0	12/14/99
16.8.1	REVISION 2	4/11/00
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 2	4/11/00
16.9.1	REVISION 1	3/22/00
16.9.2	REVISION 0	12/14/99
16.9.3	REVISION 0	12/14/99
16.9.4	REVISION 1	03/02/00
16.9.5	REVISION 0	12/14/99
16.9.6	REVISION 0	12/14/99
16.9.7	REVISION 1	4/11/00
16.9.8	REVISION 0	12/14/99
16.9.9	REVISION 0	12/14/99
16.9.10	REVISION 0	12/14/99
16.9.11	REVISION 0	12/14/99
16.9.12	REVISION 0	12/14/99
16.9.13	REVISION 0	12/14/99
16.9.14	REVISION 0	12/14/99
16.9.15	REVISION 0	12/14/99
16.9.16	REVISION 0	12/14/99

SLC LIST OF AFFECTED SECTIONS

SECTION	REVISION NUMBER	DATE
16.9.17	REVISION 0	12/14/99
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 0	12/14/99
16.9.20	REVISION 1	4/11/00
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 0	12/14/99
16.10.1	REVISION 0	12/14/99
16.11.1	REVISION 0	12/14/99
16.11.2	REVISION 0	12/14/99
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 0	12/14/99
16.11.7	REVISION 0	12/14/99
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 0	12/14/99
16.11.12	REVISION 0	12/14/99
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 0	12/14/99
16.11.15	REVISION 0	12/14/99
16.11.16	REVISION 1	4/11/00
16.11.17	REVISION 1	4/11/00
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 0	12/14/99
16.13.2	REVISION 0	12/14/99
16.13.3	REVISION 0	12/14/99
16.14.1	REVISION 0	12/14/99

16.7 INSTRUMENTATION

16.7.4 Loose-Part Detection System

COMMITMENT The Loose-Part Detection System shall be OPERABLE.

APPLICABILITY: MODES 1 and 2

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Loose-Part Detection System monitoring channels inoperable.	A.1 Restore inoperable channel(s) to OPERABLE status.	30 days
	<u>OR</u> A.2 Prepare and submit a Special Report outlining the cause of the malfunction and plans for restoring the channel(s) to OPERABLE status.	40 days

TESTING REQUIREMENTS

-----NOTE-----

The following Testing Requirements are only required for one of the three channels in each monitored area, i.e., reactor lower vessel, reactor upper vessel, and each steam generator.

TEST	FREQUENCY
TR 16.7.4.1 Perform CHANNEL CHECK.	24 hours
TR 16.7.4.2 Perform CHANNEL OPERATIONAL TEST, excluding setpoint verification.	31 days
TR 16.7.4.3 Perform a CHANNEL CALIBRATION.	18 months.

BASES

The OPERABILITY of the loose-part detection instrumentation ensures that sufficient capability is available to detect loose metallic parts in the reactor system and avoid or mitigate damage to reactor system components. The allowable out-of-service times and Testing Requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

The Testing Requirements on the Loose-Part Detection System are only required on one of the three channels associated with the reactor lower vessel area (channel 1, 2, or 3), one of the three channels associated with the reactor upper vessel area (channel 4, 5, or 6), and one channel associated with each steam generator (channel 8, 9, or 10 for SG-A, channel 12, 13, or 14 for SG-B, channel 16, 17, or 18 for SG-C, and channel 20, 21, or 22 for SG-D) during each required performance.

REFERENCES

1. Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

316.8 ELECTRICAL POWER SYSTEMS

16.8.1 Containment Penetration Conductor Overcurrent Protective Devices

COMMITMENT All containment penetration conductor overcurrent protective devices shown in Table 16.8.1-1 and Table 16.8.1-2 shall be OPERABLE.

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

REMEDIAL ACTIONS

-----NOTES-----

1. Separate Condition entry is allowed for each penetration circuit.
 2. Enter applicable Conditions and Required Actions for systems made inoperable by containment penetration conductor overcurrent devices.
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CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more containment penetration overcurrent protection device(s) inoperable.</p>	<p>A.1.1 Deenergize the circuit(s) by tripping the associated backup circuit breaker or removing the backup fuses.</p> <p style="text-align: center;"><u>AND</u></p>	<p>72 hours</p>
	<p>A.1.2 Verify the backup circuit breaker to be tripped or the backup fuses removed.</p> <p style="text-align: center;"><u>OR</u></p>	<p>Once per 31 days</p>
	<p>A.2.1 Rack out or remove the inoperable circuit breaker</p> <p style="text-align: center;"><u>AND</u></p>	<p>72 hours</p>
	<p>A.2.2 Verify the inoperable circuit breaker racked out or removed.</p>	<p>Once per 31 days</p>

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

TESTING REQUIREMENTS

-----NOTE-----

1. All containment penetration conductor overcurrent protective devices in Table 16.8.1-1 and Table 16.8.1-2 shall be demonstrated OPERABLE by performance of the following Testing Requirements.
2. TR 16.8.1.1, 16.8.1.2, and 16.8.1.3 are only required to be performed for 10% of the circuit breakers within each voltage level on a rotating basis during each surveillance interval.

TEST	FREQUENCY
TR 16.8.1.1 Perform a CHANNEL CALIBRATION of associated protective relays for medium voltage circuits (4 - 15 kV).	18 months
TR 16.8.1.2 -----NOTE----- For each circuit breaker found inoperable during functional tests, an additional representative sample of 10% of the defective type shall be functionally tested until no more failures are found, or all of that type have been functionally tested. ----- Perform an integrated system functional test on each medium voltage (4 -15 kV) circuit breaker which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and control circuits function as designed.	18 months

(continued)

Containment Penetration Conductor Overcurrent Protective Devices
16.8.1

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
<p>TR 16.8.1.3 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Circuit breakers selected for functional testing shall be selected on a rotating basis. 2. For each circuit breaker found inoperable during functional tests, an additional representative sample of 10% of all the defective type shall be functionally tested until no more failures are found or all of that type have been functionally tested. 3. Lower voltage circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. <p>-----</p> <p>Perform a functional test of lower voltage circuit breakers using the nominal trip setpoint and response time values in Table 16.8.1-1 and Table 16.8.1-2.</p>	18 months
TR 16.8.1.4 Perform fuse inspection and maintenance program.	18 months
TR 16.8.1.5 Perform inspection and preventive maintenance on each circuit breaker in accordance with manufacturer's recommendations.	60 months

BASES

The tables listed in this commitment were relocated from the McGuire Technical Specifications with the approval of the U.S. Nuclear Regulatory Commission. Any additions, deletions, or revisions to the table are considered a change in a commitment, can only be changed using the 10 CFR 50.59 process, and shall be performed pursuant to applicable procedure.

Containment electrical penetrations and penetration conductors are protected by either de-energizing circuits not required during reactor operation or by demonstrating the OPERABILITY of primary and backup overcurrent protection during periodic surveillance.

Electrical penetrations serve a mechanical integrity function in forming part of the containment pressure boundary. Redundant protective devices provide a means of maintaining this mechanical integrity, which ensures proper protection assuming a single random failure of one of the protective devices. In the event a Containment Penetration Conductor Overcurrent Protective device becomes inoperable, the affected electrical penetration must be de-energized. The method of de-energization must include the use of at least one protective device that cannot be adversely affected by a single active failure. Acceptable methods of de-energization the circuit(s) are tripping the associated backup circuit breaker, removing the associated backup fuses, racking out the inoperable circuit breaker, or removing the inoperable circuit breaker. Opening the inoperable circuit breaker and verifying all phases are open is not an acceptable means of de-energizing the circuit based on concerns with internal breaker integrity after interrupting a rated fault current.

The 31 day Completion Time to reverify that devices are removed or tripped in inoperable circuits is acceptable considering the fact that the devices are operated under administrative control and the probability of misalignment is low.

The Surveillance Requirements applicable to lower voltage circuit breakers provide assurance of breaker reliability by testing at least one representative sample of each manufacturer's brand of circuit breaker. Testing of these circuit breakers consists of injecting a current in excess of the breaker's nominal setpoint and measuring the response time. The measured response time is compared to the manufacturer's data to ensure that it is less than or equal to a value specified by the manufacturer. Each manufacturer's molded case and metal case circuit breakers are grouped into representative samples which are then tested on a rotating basis to ensure that all breakers are tested. If a wide variety exists within any manufacturer's brand of circuit breakers, it is necessary to divide that manufacturer's breakers into groups and treat each group as a separate type of breaker for surveillance purposes.

Fuse testing is in accordance with IEEE Standard 242-1975. This program will detect any significant degradation of the fuses or improperly sized fuses. Safety is further assured by the "fail safe" nature of fuses, that is, if the fuse fails, the circuit will deenergize.

REFERENCES

1. IEEE Standard 242-1975

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1. 6900 VAC-Swgr			
Primary Bkr-RCP1A	5.0	15.4 @ 25A	Reactor Coolant Pump 1A
Backup Brk-1TA-5	5.0	16.5 @ 20A	
Primary Bkr RCP1B	5.0	15.4 @ 25A	Reactor Coolant Pump 1B
Backup Brk-ITB-5	5.0	16.5 @ 20A	
Primary Bkr RCP1C	5.0	15.4 @ 25A	Reactor Coolant Pump 1C
Backup Brk-ITC-5	5.0	16.5 @ 20A	
Primary Bkr RCP1D	5.0	15.4 @ 25A	Reactor Coolant Pump 1D
Backup Brk-ITD-5	5.0	16.5 @ 20A	
2. 600 VAC-MCC			
1EMXA-2 1D			
Primary Bkr	20	45 @ 60A	NC Pump 1C Thermal Barrier Outlet Auto Isol Vlv 1KC345A
Backup Fuse	20	NA	
1EMXA-2 1E			
Primary Bkr	20	45 @ 60A	NC Pump 1A Thermal Barrier Outlet Auto Isol Vlv 1KC394A
Backup Fuse	20	NA	
1EMXA-2 2A			
Primary Bkr	20	45 @ 60A	Cont Air Return Fan 1A Damper 1RAF-D-2
Backup Fuse	20	NA	
1EMXA-2 2B			
Primary Bkr	20	45 @ 60A	N2 to Prt Cont Isol Inside Vlv 1NC54A
Backup Fuse	20	NA	
1EMXA-2 2C			
Primary Bkr	20	45 @ 60A	RCP Mtg Brg Oil Fill Isol Vlv 1NC196A
Backup Fuse	20	NA	
1EMXA-2 3A			
Primary Bkr	30	45 @ 90A	Accumulator 1A Disch Isol Vlv 1N154A
Backup Fuse	30	NA	
1EMXA-2 3B			
Primary Bkr	30	45 @ 90A	Accumulator 1C Disch Isol Vlv 1N176A
Backup Fuse	30	NA	
1EMXA-2 3C			
Primary Bkr	20	45 @ 60A	Test Hdr Inside Cont Isol Vlv 1NI95A

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
1EMXA-2 4B			
Primary Bkr	20	45 @ 60A	PALS Pnl Smple Ret to Cont. Isol Vlv 1WL-1302A
Backup Fuse	20	NA	
1EMXA-2 4C			
Primary Bkr	20	45 @ 60A	Accum 1A Vent to 1NC34 for Blkout Vlv 1NI430A
Backup Fuse	20	NA	
1EMXA-2 5A			
Primary Bkr	20	45 @ 60A	RN Containment Isolation Vlv 1RN253A
Backup Fuse	20	NA	
1EMXA-2 5B			
Primary Bkr	20	45 @ 60A	RN Containment Isolation Vlv 1RN276A
Backup Fuse	20	NA	
1EMXA-2 7A			
Primary Bkr	20	45 @ 60A	S/G 1A Upper Shell Sample Cont Isol Vlv 1NM187A
Backup Fuse	20	NA	
1EMXA-2 7B			
Primary Bkr	20	45 @ 60A	S/G 1A Blowdown Line Sample Cont Isol Vlv 1NM190A
Backup Fuse	20	NA	
1EMXA-2 7C			
Primary Bkr	20	45 @ 60A	SG 1C Upper Shell Sample Cont Isol Vlv 1NM207A
Backup Fuse	20	NA	
1EMXA-2 8A			
Primary Bkr	20	45 @ 60A	SG 1C Blowdown Line Line Sample Cont Isol Vlv 1NM207A
Backup Fuse	20	NA	
1EMXA-3 2C			
Primary Bkr	20	45 @ 60A	RV Containment Isolation Vlv 1RV76A
Backup Fuse	20	NA	
1EMXA-3 3A			
Primary Bkr	20	45 @ 60A	H2 Purge Exhaust Cont Vessel Isol Vlv 1VE5A
Backup Fuse	20	NA	
1EMXA-3 4A			
Primary Bkr	20	45 @ 60A	H2 Skimmer Fan 1A Suction Isol Vlv 1VX1A

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
1EMXA-3 5B			
Primary Bkr	20	45 @ 60A	RCDT Pump Disch Cont Isol Vlv 1WL2A
Backup Fuse	20	NA	
1EMXA-3 5C			
Primary Bkr	20	45 @ 60A	RCDT Vent Cont Isol Vlv 1WL39A
Backup Fuse	20	NA	
1EMXA-3 6A			
Primary Bkr	20	45 @ 60A	RB Sump Pump Disch Cont Isol Vlv 1WL64A
Backup Fuse	20	NA	
1EMXA-3 6B			
Primary Bkr	20	45 @ 60A	Cont Vent Unit Condensate Cont Isol Vlv 1WL321A
Backup Fuse	20	NA	
1EMXA-4 1B			
Primary Bkr	20	45 @ 60A	NC Pump Seal Return Cont Vlv 1NV94AC
Backup Fuse	20	NA	
1EMXA-4 3C			
Primary Bkr	30	45 @ 90A	NC Loop 1C Discharge to ND System Cont Isol Vlv 1ND2A,C
Backup Fuse	30	NA	
1EMXA-5 1B			
Primary Bkr	20	45 @ 60A	Pzr Steam Sample Line Inside Cont Isol Vlv 1NM3A
Backup Fuse	20	NA	
1EMXA-5 2C			
Primary Bkr	20	45 @ 60A	Pzr Steam Sample Line Inside Cont Isol Vlv 1NM6A
Backup Fuse	20	NA	
1EMXA-5 2D			
Primary Bkr	20	45 @ 60A	NC Hotleg 1D Sample Line Cont Isol Vlv 1NM25A
Backup Fuse	20	NA	
1EMXA-5 3B			
Primary Bkr	20	45 @ 60A	NC Hotleg 1A Sample Line Cont Isol Vlv 1NM22A
Backup Fuse	20	NA	
1EMXB-4 1B			
Primary Bkr	20	45 @ 60A	NC Pump 1B Thermal Barrier Outlet Auto Isol Vlv 1KC364B

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
1EMXB-4 1C			
Primary Bkr	20	45 @ 60A	NC Pump 1D Thermal Barrier Auto Isol Vlv 1KC413B
Backup Fuse	20	NA	
1EMXB-4 2A			
Primary Bkr	20	45 @ 60A	NC Pumps Return Hdr Pend Inside Isol Vlv 1KC424B
Backup Fuse	20	NA	
1EMXB-4 2B			
Primary Bkr	20	45 @ 60A	Reactor Bldg Drn Hdr Inside Cont Isol Vlv 1KC429B
Backup Fuse	20	NA	
1EMXB-4 2C			
Primary Bkr	30	45 @ 90A	Accumulator 1B Disch Isol Vlv 1NI65B
Backup Fuse	30	NA	
1EMXB-4 3D			
Primary Bkr	30	45 @ 90A	Accumulator 1D Disch Isol Vlv 1NI88B
Backup Fuse	30	NA	
1EMXB-4 3E			
Primary Bkr	20	45 @ 60A	Hotleg Inj Check 1NI124, 1NI128 Test Isol Vlv 1NI122B
Backup Fuse	20	NA	
1EMXB-4 4A			
Primary Bkr	20	45 @ 60A	Cont Air Return Fan 1B Damper 1RAF-D-4
Backup Fuse	20	NA	
1EMXB-4 4C			
Primary Bkr	20	45 @ 60A	NI Accum 1A Sample Line Inside Cont Isol Vlv 1NM72B
Backup Fuse	20	NA	
1EMXB-4 5A			
Primary Bkr	20	45 @ 60A	NI Accum 1B Sample Line Inside Cont Isol Vlv 1NI75B
Backup Fuse	20	NA	
1EMXB-4 5B			
Primary Bkr	20	45 @ 60A	NI Accum 1C Sample Line Inside Cont Isol Vlv 1NM78B
Backup Fuse	20	NA	
1EMXB-4 5C			
Primary Bkr	20	45 @ 60A	Accum 1B Vent to 1NC32 for Blkout Vlv 1NI431B
Backup Fuse	20	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1EMXB-4 6A			
Primary Bkr	20	45 @ 60A	NI Accum 1D Sample Line Inside Cont Isol Vlv 1NM81B
Backup Fuse	20	NA	
1EMXB-4 6B			
Primary Bkr	20	45 @ 60A	SG 1B Upper Shell Sample Cont Isol Vlv 1NM197B
Backup Fuse	20	NA	
1EMXB-4 6C			
Primary Bkr	20	45 @ 60A	SG 1B Bowdown Line Sample Cont Isol Vlv 1NM200B
Backup Fuse	20	NA	
1EMXB-4 7B			
Primary Bkr	20	45 @ 60A	SG 1D Upper Shell Sample Cont Isol Vlv 1NM217B
Backup Fuse	20	NA	
1EMXB-4 7C			
Primary Bkr	20	45 @ 60A	SG 1D Blowdown Line Smple Cont Isol Vlv 1NM220B
Backup Fuse	20	NA	
1EMXB-5 1B			
Primary Bkr	20	45 @ 60A	RV Containment Isolation Vlv 1RV33B
Backup Fuse	20	NA	
1EMXB-5 1C			
Primary Bkr	20	45 @ 60A	H2 Skimmer Fan 1B Suction Isol Vlv 1VX2B
Backup Fuse	20	NA	
1EMXC-1A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 1A
Backup Fuse	200	NA	
1EMXC-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 1C
Backup Fuse	200	NA	
1EMXC-3B			
Primary Bkr	30	45 @ 90A	Pzr Compt. Fan A Normal Source
Backup Fuse	30	NA	
1EMXC-3C			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 1A
Backup Fuse	100	NA	

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1EMXC-3D			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 1C
Backup Fuse	100	NA	
1EMXC-4C			
Primary Bkr	90	110 @ 270A	Containment Air Return Fan No. 1A
Backup Fuse	90	NA	
1EMXC-4D			
Primary Bkr	90	110 @ 270A	Hydrogen Recombiner No. 1A
Backup Fuse	90	NA	
1EMXC-6A			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel Booster Fan CPT-BF-1A
Backup Fuse	40	NA	
1EMXC-6B			
Primary Bkr	30	45 @ 90A	Upper Containment Air Handling Unit 1A
Backup Fuse	30	NA	
1EMXC-6C			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit 1C
Backup Fuse	30	NA	
1EMXC-6D			
Primary Bkr	90	110 @ 270A	Hydrogen Skimmer Fan No. 1A
Backup Fuse	90	NA	
1EMXC-7C			
Primary Bkr	30	45 @ 90A	Upper Cont Return Air Fan No. 1C
Backup Fuse	30	NA	
1EMXC-7D			
Primary Bkr	20	45 @ 60A	Pzr Pwr Oper Relief Isol Vlv 1NC33A
Backup Fuse	20	NA	
1EMXC-8C			
Primary Bkr	20	45 @ 60A	Incore Instrumentation Rm Air Hdlg Unit 1A
Backup Fuse	20	NA	
1EMXC-8D			
Primary Bkr	20	45 @ 60A	Upper Containment Return Air Fan No. 1A
Backup Fuse	20	NA	
1EMXD-1A			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 1B
Backup Fuse	200	NA	
1EMXD-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 1D
Backup Fuse	200	NA	
1EMXD-3B			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel Booster Fan CPT-BF-1B
Backup Fuse	40	NA	
1EMXD-3C			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 1B
Backup Fuse	100	NA	
1EMXD-3D			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 1D
Backup Fuse	100	NA	
1EMXD-4C			
Primary Bkr	90	110 @ 270A	Containment Air Return Fan No. 1B Fan CPT-BF-1A
Backup Fuse	90	NA	
1EMXD-4D			
Primary Bkr	90	110 @ 270A	Hydrogen Recombiner No. 1B
Backup Fuse	90	NA	
1EMXD-6C			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit No. 1B
Backup Fuse	30	NA	
1EMXD-6D			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit No. 1D
Backup Fuse	30	NA	
1EMXD-6E			
Primary Bkr	90	110 @ 270	Hydrogen Skimmer Fan No. 1B
Backup Fuse	90	NA	
1EMXD-7B			
Primary Bkr	30	45 @ 90A	Upper Cont Return Air Fan No. 1D
Backup Fuse	30	NA	
1EMXD-7C			
Primary Bkr	20	45 @ 60A	Pzr No. 1 Pwr Oper Safety Relief Isol Vlv 1NC31B
Backup Fuse	20	NA	

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1EMXD-7D			
Primary Bkr	20	45 @ 60A	Pzr No. 1 Pwr Oper Safety Relief Isol Vlv 1NC35B
Backup Fuse	20	NA	
1EMXD-8A			
Primary Bkr	30	45 @ 90A	PZR Compt. Fan B Normal Source
Backup Fuse	30	NA	
1EMXD-8B			
Primary Bkr	20	45 @ 60A	Incore Instrumentation Rm Air Hdlg Unit 1B
Backup Fuse	20	NA	
1EMXD-8C			
Primary Bkr	20	45 @ 60A	Upper Containment Return Air Fan 1B
Backup Fuse	20	NA	
1MXD-8D			
Primary Bkr	30	45 @ 90A	NC Loop 1C Disch to ND System Cont Isol Vlv 1ND1B
Backup Fuse	30	NA	
1MXM-F1A			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 1LR14
Backup Fuse	40	NA	
1MXM-F1B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 1LR15
Backup Fuse	40	NA	
1MXM-F1C			
Primary Bkr	30	45 @ 90A	S/G Boost Fan 1C
Backup Fuse	30	NA	
1MXM-F1D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A1 Blower A
Backup Fuse	20	NA	
1MXM-F1E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A2 Blower A
Backup Fuse	20	NA	
1MXM-F2A			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 1LR16
Backup Fuse	40	NA	

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1MXM-F2B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 1LR17
Backup Fuse	40	NA	
1MXM-F2C			
Primary Bkr	25	45 @ 75A	Reactor Bldg Equip Hdlg 5 Ton Jib Crane
Backup Fuse	25	NA	
1MXM-F2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A3 Blower A
Backup Fuse	20	NA	
1MXM-F2E			
Primary Bkr	20	45 @ 60A	Ice Cont AhU 1A4 Blower A
Backup Fuse	20	NA	
1MXM-F3A			
Primary Bkr	20	45 @ 60A	Ice Cont AhU 1A5 Blower A
Backup Fuse	20	NA	
1MXM-F3B			
Primary Bkr	20	45 @ 60A	Ice Cont AhU 1A6 Blower A
Backup Fuse	20	NA	
1MXM-F3C			
Primary Bkr	20	45 @ 60A	Incore Inst Room Sump Pump
Backup Fuse	20	NA	
1MXM-F3D			
Primary Bkr	100	110 @ 300A	Upper Cont Welding Recpt
Backup Fuse	100	NA	
1MXM-F4A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A7 Blower A
Backup Fuse	20	NA	
1MXM-F4B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A8 Blower A
Backup Fuse	20	NA	
1MXM-F4D			
Primary Bkr	100	110 @ 300A	Welding Feeder
Backup Fuse	100	NA	

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1MXM-F5C			
Primary Bkr	50	110 @ 150A	Ice Cond Floor Cooling Defrost Heater 1A
Backup Fuse	50	NA	
1MXM-F6C			
Primary Bkr	60	110 @ 180A	Reactor Coolant Drain Tank Pump 1A
Backup Fuse	60	NA	
1MXM-F7A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A9 Blower A
Backup Fuse	20	NA	
1MXM-F7B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A10 Blower A
Backup Fuse	20	NA	
1MXM-F7C			
Primary Bkr	30	45 @ 90A	Lower Cont Aux Charcoal Filter Fan 1A
Backup Fuse	30	NA	
1MXM-F8A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A11 Blower A
Backup Fuse	20	NA	
1MXM-F8B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A12 Blower A
Backup Fuse	20	NA	
1MXM-F8C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A13 Blower A
Backup Fuse	20	NA	
1MXM-R1A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B1 Blower A
Backup Fuse	20	NA	
1MXM-R1B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B2 Blower A
Backup Fuse	20	NA	
1MXM-R1C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B3 Blower A
Backup Fuse	20	NA	

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1MXM-R1D			
Primary Bkr	30	45 @ 90A	RCP 1A Oil Lift Pump
Backup Fuse	30	NA	
1MXM-R2A			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 1LR12
Backup Fuse	40	NA	
1MXM-R2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B4 Blower A
Backup Fuse	20	NA	
1MXM-R2E			
Primary Bkr	30	45 @ 90A	RCP 1B Oil Lift Pump
Backup Fuse	30	NA	
1MXM-R3D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B5 Blower A
Backup Fuse	20	NA	
1MXM-R3E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B6 Blower A
Backup Fuse	20	NA	
1MXM-R3F			
Primary Bkr	30	45 @ 90A	RCP 1C Oil Lift Pump
Backup Fuse	30	NA	
1MXM-R4D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B7 Blower A
Backup Fuse	20	NA	
1MXM-R4E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B8 Blower A
Backup Fuse	20	NA	
1MXM-R4F			
Primary Bkr	30	45 @ 90A	RCP 1D Oil Lift Pump
Backup Fuse	30	NA	
1MXM-R5B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B9 Blower A
Backup Fuse	20	NA	
1MXM-R5C			

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B10 Blower A
Backup Fuse	20	NA	
1MXM-R5D			
Primary Bkr	175	200 @ 525A	Ice Cond Equip Pwr Pnlbd 1B
Backup Fuse	175	NA	
1MXM-R6A			
Primary Bkr	20	45 @ 60A	Rod Cntrl Cluster Change Fixture Hoist Drive
Backup Fuse	20	NA	
1MXM-R6B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B11 Blower A
Backup Fuse	20	NA	
1MXM-R6E			
Primary Bkr	150	110 @ 450A	175 Ton Polar Crane
Backup Fuse	150	NA	
1MXM-R7A			
Primary Bkr	20	45 @ 60A	Stud Tensioner Hoist
Backup Fuse	20	NA	
1MXM-R7B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 1A
Backup Fuse	20	NA	
1MXM-R7D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B12
Backup Fuse	20	NA	
1MXM-R7E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B13 Blower A
Backup Fuse	20	NA	
1MXM-R8A			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 1B
Backup Fuse	20	NA	
1MXM-R8B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 1C
Backup Fuse	20	NA	
1MXM-R8D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B14 Blower A

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
1MXM-R8E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B15 Blower A
Backup Fuse	20	NA	
1MXMA-1B			
Primary Bkr	30	45 @ 90A	Vent Press Boost Fan 1B
Backup Fuse	30	NA	
1MXMA-1D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A14 Blower A
Backup Fuse	20	NA	
1MXMA-1E			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 1A Pump 1A1
Backup Fuse	20	NA	
1MXMA-2A			
Primary Bkr	25	45 @ 75A	RCPM Maintenance Crane Recpt 1A, 1B, 1C, & 1D
Backup Fuse	25	NA	
1MXMA-2B			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR6
Backup Fuse	25	NA	
1MXMA-2C			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 1LR18
Backup Fuse	40	NA	
1MXMA-2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A15 Blower A
Backup Fuse	20	NA	
1MXMA-3A			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR9
Backup Fuse	25	NA	
1MXMA-3B			
Primary Bkr	20	45 @ 60A	Ice Cond Equip Access Door 1A
Backup Fuse	20	NA	
1MXMA-3C			
Primary Bkr	50	110 @ 150	Ice Cond Floor Cooling Pump 1A

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	50	NA	
1MXMA-3D			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 1B Pump 1B1
Backup Fuse	20	NA	
1MXN-2E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A15 Blower B
Backup Fuse	20	NA	
1MXN-3A			
Primary Bkr	20	45 @ 60A	2 Ton CRDM Hdlg Jib Crane
Backup Fuse	20	NA	
1MXN-3B			
Primary Bkr	30	45 @ 90A	Cont Air Compressor
Backup Fuse	30	NA	
1MXN-F1A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A1 Blower B
Backup Fuse	20	NA	
1MXN-F1B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A2 Blower B
Backup Fuse	20	NA	
1MXN-F1C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A3 Blower B
Backup Fuse	20	NA	
1MXN-F1D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A4 Blower B
Backup Fuse	20	NA	
1MXN-F2A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A5 Blower B
Backup Fuse	20	NA	
1MXN-F2B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A6 Blower B
Backup Fuse	20	NA	
1MXN-F2C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A7 Blower B

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
1MXN-F2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A8 Blower B
Backup Fuse	20	NA	
1MXN-F3A			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR1
Backup Fuse	25	NA	
1MXN-F3B			
Primary Bkr	30	45 @ 90A	S/G Booster Fan 1B
Backup Fuse	30	NA	
1MXN-F3C			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR2
Backup Fuse	25	NA	
1MXN-F3D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A9 Blower B
Backup Fuse	20	NA	
1MXN-F3E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A10 Blower B
Backup Fuse	20	NA	
1MXN-F4A			
Primary Bkr	20	45 @ 60A	Incore Inst Drive No 1D
Backup Fuse	20	NA	
1MXN-F4B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive No. 1E
Backup Fuse	20	NA	
1MXN-F4C			
Primary Bkr	20	45 @ 60A	Incore Inst Drive No. 1F
Backup Fuse	20	NA	
1MXN-F4D			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 1A Pump 1A2
Backup Fuse	20	NA	
1MXN-F5C			
Primary Bkr	60	110 @ 180A	Reactor Coolant Drain Tank Pump 1B
Backup Fuse	60	NA	

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1MXN-F6B			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 1B Pump 1B2
Backup Fuse	20	NA	
1MXN-F6C			
Primary Bkr	50	110 @ 150A	Ice Cond Floor Cooling Defrost Htr 1B
Backup Fuse	50	NA	
1MXN-F7A			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR4
Backup Fuse	25	NA	
1MXN-F7B			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR5
Backup Fuse	25	NA	
1MXN-F7C			
Primary Bkr	20	45 @ 60A	Fuel Transfer Sys Reactor Side Fdr
Backup Fuse	20	NA	
1MXN-F7D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A11 Blower B
Backup Fuse	20	NA	
1MXN-F8B			
Primary Bkr	30	45 @ 90A	S/G Booster Fan 1A
Backup Fuse	30	NA	
1MXN-F8D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A12 Blower B
Backup Fuse	20	NA	
1MXN-F8E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A13 Blower B
Backup Fuse	20	NA	
1MXN-R1D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B1 Blower B
Backup Fuse	20	NA	
1MXN-R1E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B2 Blower B
Backup Fuse	20	NA	

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1MXN-R1F			
Primary Bkr	30	45 @ 90A	RCP 1A Oil Lift Pump No. 2
Backup Fuse	30	NA	
1MXN-R2C			
Primary Bkr	30	45 @ 90A	Reactor Cavity Manipulator Crane
Backup Fuse	30	NA	
1MXN-R2F			
Primary Bkr	30	45 @ 90A	RCP 1B Oil Lift Pump No. 2
Backup Fuse	30	NA	
1MXN-R3A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B3 Blower B
Backup Fuse	20	NA	
1MXN-R3B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B4 Blower B
Backup Fuse	20	NA	
1MXN-R3C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B5 Blower B
Backup Fuse	20	NA	
1MXN-R3D			
Primary Bkr	30	45 @ 90A	RCP 1C Oil Lift Pump No. 2
Backup Fuse	30	NA	
1MXN-R4A			
Primary Bkr	50	110 @ 150A	Ice Cond Bridge Crane
Backup Fuse	50	NA	
1MXN-R4B			
Primary Bkr	30	45 @ 90A	RB Equip Hatch Hoist No. 1
Backup Fuse	30	NA	
1MXN-R4C			
Primary Bkr	30	45 @ 90A	S/G Booster Fan 1A
Backup Fuse	30	NA	
1MXN-R4D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B6 Blower B
Backup Fuse	20	NA	
1MXN-R4E			

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	30	45 @ 90A	RCP 1D Oil Lift Pump No.2
Backup Fuse	30	NA	
1MXN-R5D			
Primary Bkr	175	200 @ 525A	Ice Cond Equip Pwr Pnlbd 1A
Backup Fuse	175	NA	
1MXN-R6A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B7 Blower B
Backup Fuse	20	NA	
1MXN-R6B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B8 Blower B
Backup Fuse	20	NA	
1MXN-R6C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B9 Blower B
Backup Fuse	20	NA	
1MXN-R6D			
Primary Bkr	100	110 @ 300A	Welding Fdr
Backup Fuse	100	NA	
1MXN-R7A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B10 Blower B
Backup Fuse	20	NA	
1MXN-R7B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B11 Blower B
Backup Fuse	20	NA	
1MXN-R7C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B12 Blower B
Backup Fuse	20	NA	
1MXN-R7D			
Primary Bkr	50	110 @ 150A	Ice Cond Floor Cooling Pump 1B
Backup Fuse	50	NA	
1MXN-R8D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B13 Blower B
Backup Fuse	20	NA	
1MXN-R8E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B14 Blower B

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
1MXN-R8F			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B15 Blower B
Backup Fuse	20	NA	
1MXNA-1E			
Primary Bkr	30	45 @ 90A	Lower Cont Aux Charcoal Filter Fan 1B
Backup Fuse	30	NA	
1MXNA-2A			
Primary Bkr	30	45 @ 90A	Vent Press Boost Fan 1A
Backup Fuse	30	NA	
1MXNA-2B			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR7
Backup Fuse	25	NA	
1MXNA-2C			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 1LR8
Backup Fuse	25	NA	
1MXNA-2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A14 Blower B
Backup Fuse	20	NA	
1MXNA-3C			
Primary Bkr	20	45 @ 60A	NC Pump Motor Drain Tank Pump No. 1
Backup Fuse	20	NA	
1MXNA-3D			
Primary Bkr	20	45 @ 60A	Ice Cond Equip Access Door 1B
Backup Fuse	20	NA	
SMXA-F4A			
Primary Bkr	15	45 @ 45A	Unit 1 Emergency Personnel Lock
Backup Fuse	15	NA	
SMXC-7D			
Primary Bkr	15	45 @ 45	Unit 1 Personnel Lock
Backup Fuse	15	NA	
SMXG-F3G			

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	20	45 @ 60A	Standby Makeup Pump to Cont Sump Isol Vlv 1INV1012C
Backup Fuse	20	NA	
SMXG-F4G			
Primary Bkr	20	45 @ 60A	Standby Makeup Pump to NC Pump Seals Isol Vlv 1INV1013C
Backup Fuse	20	NA	
3. 600 VAC-Press Htr Pwr Pnl			
Backup Press Htr Pwr Pnl 1A-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 1, 2, & 22
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1A-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 5, 6, & 27
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1A-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 9, 10, & 32
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1A-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 11, 12, & 35
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1A-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 13, 14, & 37
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1A-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 17, 18, & 42
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1B-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 21, 47, & 48
Backup Fuse	90	NA	

Containment Penetration Overcurrent Protective Devices
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TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Press Htr Pwr Pnl 1B-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 26, 53, & 54
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1B-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 31, 59, & 60
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1B-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 36, 65, & 66
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1B-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 41, 71, & 72
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1B-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 46, 77, & 78
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1C-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 7, 8, & 30
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1C-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 19, 20, & 45
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1C-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 24, 51, & 52
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1C-1D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 29, 57, & 58
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1C-2C			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 34, 63, & 64
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1C-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 39, 69, & 70
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1C-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 44, 75, & 76
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1D-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 3, 4, & 25
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1D-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 15, 16, & 40
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1D-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 23, 49, & 50
Backup Fuse	90	NA	
MCC SMXG-F5A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 28, 55, & 56
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1D-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 33, 61, & 62
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1D-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 38, 67, & 68
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 1D-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 43, 73, & 74
Backup Fuse	90	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
4. 120 VAC-Panelboards			
1KM-1			
Primary Bkr	30	45 @ 90	RCP 1B Space Htr
Backup Fuse	30	NA	
1KM-2			
Primary Bkr	30	45 @ 90	RCP 1C Space Htr
Backup Fuse	30	NA	
1KN-1			
Primary Bkr	30	45 @ 90	RCP 1B Space Htr
Backup Fuse	30	NA	
1KN-2			
Primary Bkr	30	45 @ 90	RCP 1D Space Htr
Backup Fuse	30	NA	
1KN-27			
Primary Bkr	20	36 @ 60	Fuel Handling Control Console
Backup Fuse	20	NA	
1KN-31			
Primary Bkr	20	36 @ 60	Incore Inst. 120 VAC Outlet Receptacles
Backup Fuse	20	NA	
5. 250 VDC-Lighting			
RB Deadlight Pnlbd 1DLD # 1			
Primary Bkr	20	40 @ 60	Ltg Pnl Nos. 1LR1 & 1LR2
Backup Fuse	20	NA	
RB Deadlight Pnlbd 1DLD # 3			
Primary Bkr	20	40 @ 60	Ltg Pnl Nos. 1LR4, 1LR5, & 1LR6
Backup Fuse	20	NA	
RB Deadlight Pnlbd 1DLD # 4			
Primary Bkr	20	40 @ 60	Ltg Pnl Nos. 1LR7, 1LR8, & 1LR9
Backup Fuse	20	NA	
RB Deadlight Pnlbd 1DLD # 6			
Primary Bkr	20	40 @ 60	Ltg Pnl Nos. 1LR12
Backup Fuse	20	NA	
RB Deadlight Pnlbd 1DLD # 7			
Primary Bkr	20	40 @ 60	Ltg Pnl Nos. 1LR16

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-1
UNIT 1 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
RB Deadlight Pnlbd 1DLD # 9			
Primary Bkr	20	40 @ 60	Ltg Pnl Nos. 1LR18 & 1LR17
Backup Fuse	20	NA	
6. VAC - LC			
Outage Power Fuse Box 1A			
Primary Bkr	150	NA	Upper Containment Safety Switch 1A
Backup Fuse	150		
Primary Bkr	150	NA	Upper Containment Safety Switch 1B
Backup Fuse	150	NA	
Primary Bkr	150	NA	Outage Power Distr. Pnl 1A
Backup Fuse	150	NA	
Primary Bkr	150	NA	Outage Power Distr, Pnl 1B
Backup Fuse	150	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1. 6900 VAC-Swgr			
Primary Bkr-RCP2A	5.0	15.4 @ 25A	Reactor Coolant Pump 2A
Backup Brk-2TA-5	5.0	16.5 @ 20A	
Primary Bkr RCP2B	5.0	15.4 @ 25A	Reactor Coolant Pump 2B
Backup Brk-2TB-5	5.0	16.5 @ 20A	
Primary Bkr RCP2C	5.0	15.4 @ 25A	Reactor Coolant Pump 2C
Backup Brk-2TC-5	5.0	16.5 @ 20A	
Primary Bkr RCP2D	5.0	15.4 @ 25A	Reactor Coolant Pump 2D
Backup Brk-2TD-5	5.0	16.5 @ 20A	
2. 600 VAC-MCC			
2EMXA-2 1D			
Primary Bkr	20	4.5 @ 60A	NC Pump 2C Thermal Barrier Outlet Auto Isol Vlv 2KC345A
Backup Fuse	20	NA	
2EMXA-2 1E			
Primary Bkr	20	4.5 @ 60A	NC Pump 2A Thermal Barrier Outlet Auto Isol Vlv 2KC394A
Backup Fuse	20	NA	
2EMXA-2 2A			
Primary Bkr	20	4.5 @ 60A	Cont Air Return Fan2A Damper 2RAF-D-2
Backup Fuse	20	NA	
2EMXA-2 2B			
Primary Bkr	20	45 @ 60A	N2 to Prt Cont Isol Inside Vlv 2NC54A
Backup Fuse	20	NA	
2EMXA-2 2C			
Primary Bkr	20	45 @ 60A	RCP Mtg Brg Oil Fill Isol Vlv 2NC196A
Backup Fuse	20	NA	
2EMXA-2 3A			
Primary Bkr	30	45 @ 90A	Accumulator 2A Disch Isol Vlv 2N154A
Backup Fuse	30	NA	
2EMXA-2 3B			
Primary Bkr	30	45 @ 90A	Accumulator 2C Disch Isol Vlv 2NI76A
Backup Fuse	30	NA	
2EMXA-2 3C			
Primary Bkr	20	45 @ 60A	Test Hdr Inside Cont Isol Vlv 2NI95A
Backup Fuse	20	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2EMXA-2 4B			
Primary Bkr	20	45 @ 60A	PALS Pnl Smple Ret to Cont. Isol Vlv 2WL-1302A
Backup Fuse	20	NA	
2EMXA-2 4C			
Primary Bkr	20	45 @ 60A	Accum 2A Vent to 2NC34 for Blkout Vlv 2NI430A
Backup Fuse	20	NA	
2EMXA-2 5A			
Primary Bkr	20	45 @ 60A	RN Containment Isolation Vlv 2RN253A
Backup Fuse	20	NA	
2EMXA-2 5B			
Primary Bkr	20	45 @ 60A	RN Containment Isolation Vlv 2RN276A
Backup Fuse	20	NA	
2EMXA-2 7A			
Primary Bkr	20	45 @ 60A	S/G 2A Upper Shell Sample Cont Isol Vlv 2NM187A
Backup Fuse	20	NA	
2EMXA-2 7B			
Primary Bkr	20	45 @ 60A	S/G 2A Blowdown Line Sample Cont Isol Vlv 2NM190A
Backup Fuse	20	NA	
2EMXA-2 7C			
Primary Bkr	20	45 @ 60A	SG 2C Upper Shell Sample Cont Isol Vlv 2NM207A
Backup Fuse	20	NA	
2EMXA-2 8A			
Primary Bkr	20	45 @ 60A	SG 2C Blowdown Line Line Sample Cont Isol Vlv 2NM210A
Backup Fuse	20	NA	
2EMXA-3 1A			
Primary Bkr	20	45 @ 60A	Lower Cont Vent Unit discharge cont isol vlv 2RN76A
Backup Fuse	20	NA	
2EMXA-3 3A			
Primary Bkr	20	45 @ 60A	H2 Purge Exhaust Cont Vessel Isol Vlv 2VE5A
Backup Fuse	20	NA	
2EMXA-3 3B			
Primary Bkr	20	45 @ 60A	Cont H2 Purge Blower Inlet Valve 2VE8A
Backup Fuse	20	NA	
2EMXA-3 3C			
Primary Bkr	20	45 @ 60A	H2 Purge Inlet Cont Vessel Isol Vlv 2VE10A

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
2EMXA-3 4A			
Primary Bkr	20	45 @ 60A	H2 Skimmer Fan 2A Suction Isol Vlv 2VX1A
Backup Fuse	20	NA	
2EMXA-3 5B			
Primary Bkr	20	45 @ 60A	RCDT Vent Cont Isol Vlv 2WL2A
Backup Fuse	20	NA	
2EMXA-3 5C			
Primary Bkr	20	45 @ 60A	RCDT Vent Cont Isol Vlv 2WL39A
Backup Fuse	20	NA	
2EMXA-3 6A			
Primary Bkr	20	45 @ 60A	RB Sump Pump Disch Cont Isol Vlv 2WL64A
Backup Fuse	20	NA	
2EMXA-3 6B			
Primary Bkr	20	45 @ 60A	Cont Vent Unit Condensate Cont Isol Vlv 2WL321A
Backup Fuse	20	NA	
2EMXA-4 1B			
Primary Bkr	20	45 @ 60A	NC Pump Seal Return Cont Vlv 2NV94AC
Backup Fuse	20	NA	
2EMXA-4 2C			
Primary Bkr	20	45 @ 60A	Standby Makeup Pump Inlet Isol Valve 2NV842AC
Backup Fuse	20	NA	
2EMXA-4 3C			
Primary Bkr	30	45 @ 90A	NC Loop 2C Discharge to ND System Cont Isol Vlv 2ND2A,C
Backup Fuse	30	NA	
2EMXA-5 1B			
Primary Bkr	20	45 @ 60A	Pzr Steam Sample Line Inside Cont Isol Vlv 2NM3A
Backup Fuse	20	NA	
2EMXA-5-2C			
Primary Bkr	20	45 @ 60A	Pzr Steam Sample Line Inside Cont Isol Vlv 2NM6A
Backup Fuse	20	NA	
2EMXA-5 2D			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	20	45 @ 60A	NC Hotleg 2D Sample Line Cont Isol Vlv 2NM25A
Backup Fuse	20	NA	
2EMXA-5 3B			
Primary Bkr	20	45 @ 60A	NC Hotleg 2A Sample Line Cont Isol Vlv 2NM22A
Backup Fuse	20	NA	
2EMXB-4 1B			
Primary Bkr	20	45 @ 60A	NC Pump 2B Thermal Barrier Outlet Auto Isol Vlv 2KC364B
Backup Fuse	20	NA	
2EMXB-4 1C			
Primary Bkr	20	45 @ 60A	NC Pump 2D Thermal Barrier Auto Isol Vlv 2KC413B
Backup Fuse	20	NA	
2EMXB-4 2A			
Primary Bkr	20	45 @ 60A	NC Pumps Return Hdr Pend Inside Isol Vlv 2KC424B
Backup Fuse	20	NA	
2EMXB-4 2B			
Primary Bkr	20	45 @ 60A	Reactor Bldg Drn Hdr Inside Cont Isol Vlv 2KC429B
Backup Fuse	20	NA	
2EMXB-4 2C			
Primary Bkr	30	45 @ 90A	Accumulator 2B Disch Isol Vlv 2NI65B
Backup Fuse	30	NA	
2EMXB-4 3D			
Primary Bkr	30	45 @ 90A	Accumulator 2D Disch Isol Vlv 2NI88B
Backup Fuse	30	NA	
2EMXB-4 3E			
Primary Bkr	20	45 @ 60A	Hotleg Inj Check 2NI124, 2NI128 Test Isol Vlv 2NI122B
Backup Fuse	20	NA	
2EMXB-4 4A			
Primary Bkr	20	45 @ 60A	Cont Air Return Fan 2B Damper 2RAF-D-4
Backup Fuse	20	NA	
2EMXB-4 4C			
Primary Bkr	20	45 @ 60A	NI Accum 2A Sample Line Inside Cont Isol Vlv 2NM72B
Backup Fuse	20	NA	
2EMXB-4 5A			
Primary Bkr	20	45 @ 60A	NI Accum 2B Sample Line Inside Cont Isol Vlv 2NI75B
Backup Fuse	20	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2EMXB-4 5B			
Primary Bkr	20	45 @ 60A	NI Accum 2C Sample Line Inside Cont Isol Vlv 2NM78B
Backup Fuse	20	NA	
2EMXB-4 5C			
Primary Bkr	20	45 @ 60A	Accum 2B Vent to 1NC32 for Blkout Vlv 2NI431B
Backup Fuse	20	NA	
2EMXB-4 6A			
Primary Bkr	20	45 @ 60A	NI Accum 2D Sample Line Inside Cont Isol Vlv 2NM81B
Backup Fuse	20	NA	
2EMXB-4 6B			
Primary Bkr	20	45 @ 60A	SG 2B Upper Shell Sample Cont Isol Vlv 2NM197B
Backup Fuse	20	NA	
2EMXB-4 6C			
Primary Bkr	20	45 @ 60A	SG 2B Bowdown Line Sample Cont Isol Vlv 2NM200B
Backup Fuse	20	NA	
2EMXB-4 7B			
Primary Bkr	20	45 @ 60A	SG 2D Upper Shell Sample Cont Isol Vlv 2NM217B
Backup Fuse	20	NA	
2EMXB-4 7C			
Primary Bkr	20	45 @ 60A	SG 2D Blowdown Line Sample Cont Isol Vlv 2NM220B
Backup Fuse	20	NA	
2EMXB-5 1A			
Primary Bkr	20	45 @ 60A	H2 Purge Exhaust cont vessel isol. Vlv 2VE6B
Backup Fuse	20	NA	
2EMXB-5 1B			
Primary Bkr	20	45 @ 60A	Lower cont vent unit supply cont isol vlv 2RV33B
Backup Fuse	20	NA	
2EMXB-5 1C			
Primary Bkr	20	45 @ 60A	H2 Skimmer Fan 2B Suction Isol Vlv 2VX2B
Backup Fuse	20	NA	
2EMXC-1A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 2A
Backup Fuse	200	NA	
2EMXC-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 2C

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	200	NA	
2EMXC-3C			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 2A
Backup Fuse	100	NA	
2EMXC-3D			
Primary Bkr	90	110 @ 300A	Control Rod Drive Vent Fan No. 2C
Backup Fuse	90	NA	
2EMXC-4C			
Primary Bkr	90	110 @ 270A	Containment Air Return Fan No. 2A
Backup Fuse	90	NA	
2EMXC-4D			
Primary Bkr	90	110 @ 270A	Hydrogen Recombiner No. 2 A
Backup Fuse	90	NA	
2EMXC-6A			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel Booster Fan CPT-BF-2A
Backup Fuse	40	NA	
2EMXC-6B			
Primary Bkr	30	45 @ 90A	Upper Containment Air Handling Unit 2A
Backup Fuse	30	NA	
2EMXC-6C			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit 2C No 2C
Backup Fuse	30	NA	
2EMXC-6D			
Primary Bkr	90	110 @ 270A	Hydrogen Skimmer Fan No. 2A
Backup Fuse	90	NA	
2EMXC-7A			
Primary Bkr	30	45 @ 90A	PZR Compt Fan A Normal Source
Backup Fuse	30	NA	
2EMXC-7B			
Primary Bkr	20	45 @ 60A	Upper Containment Return Air Fan No. 2A
Backup Fuse	20	NA	
2EMXC-7C			
Primary Bkr	20	45 @ 60A	Upper Cont Return Air Fan No. 2C
Backup Fuse	20	NA	
2EMXC-7D			
Primary Bkr McGuire Units 1 and 2	20	45 @ 60A	PZR Pwr Oper Relief Isol Vlv 2NC33A

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
2EMXC-8C			
Primary Bkr	20	45 @ 60A	Incore Instrumentation Rm Air Hdlg Unit 2A
Backup Fuse	20	NA	
2EMXD-1A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 2B
Backup Fuse	200	NA	
2EMXD-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit No. 2D
Backup Fuse	200	NA	
2EMXD-3B			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel Booster Fan CPT-BF-2B
Backup Fuse	40	NA	
2EMXD-3C			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 2B
Backup Fuse	100	NA	
2EMXD-3D			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 2D
Backup Fuse	100	NA	
2EMXD-4C			
Primary Bkr	90	110 @ 270A	Containment Air Return Fan No. 2B Fan CPT-BF-2B
Backup Fuse	90	NA	
2EMXD-4D			
Primary Bkr	90	110 @ 270A	Hydrogen Recombiner No.2B
Backup Fuse	90	NA	
2EMXD-5C			
Primary Bkr	20	45 @ 60A	Upper Containment Return Air Fan 2B
Backup Fuse	20	NA	
2EMXD-6C			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit No. 2B
Backup Fuse	30	NA	
2EMXD-6D			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit No. 2D
Backup Fuse	30	NA	
2EMXD-6E			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	90	110 @ 270	Hydrogen Skimmer Fan No. 2B
Backup Fuse	90	NA	
2EMXD-7B			
Primary Bkr	20	45 @ 60A	Upper Cont Return Air Fan No. 2D
Backup Fuse	20	NA	
2EMXD-7C			
Primary Bkr	20	45 @ 60A	Pzr Pwr Oper Safety Relief Isol Vlv 2NC31B
Backup Fuse	20	NA	
2EMXD-7D			
Primary Bkr	20	45 @ 60A	Pzr Pwr Oper Safety Relief Isol Vlv 2NC35B
Backup Fuse	20	NA	
2EMXD-8A			
Primary Bkr	30	45 @ 90A	PZR Compt Fan B Normal Source to transfer switch
Backup Fuse	30	NA	
2EMXD-8B			
Primary Bkr	20	45 @ 60A	Incore Instrumentation Rm Air Hdlg Unit 2B
Backup Fuse	20	NA	
2EMXM-F2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A1 Blower A
Backup Fuse	20	NA	
2MXD-8D			
Primary Bkr	30	45 @ 90A	NC Loop 2C Disch to ND System Cont Isol Vlv 2ND1B
Backup Fuse	30	NA	
2MXM-F1C			
Primary Bkr	50	110 @ 150A	Ice Cond Floor Cooling Defrost Heater 2A
Backup Fuse	50	NA	
2MXM-F2A			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR14
Backup Fuse	40	NA	
2MXM-F2B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR15
Backup Fuse	40	NA	
2MXM-F2C			
Primary Bkr	30	45 @ 90A	Pzr Cmpt Fan B
Backup Fuse	30	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2MXM-F2E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A2 Blower A
Backup Fuse	20	NA	
2MXM-F3A			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR16
Backup Fuse	40	NA	
2MXM-F3B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR17
Backup Fuse	40	NA	
2MXM-F3C			
Primary Bkr	25	45 @ 75A	Reactor Bldg Equip Hdlg 5 Ton Jib Crane
Backup Fuse	25	NA	
2MXM-F3D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A3 Blower A
Backup Fuse	20	NA	
2MXM-F3E			
Primary Bkr	20	45 @ 60A	Ice Cont AHU 2A4 Blower A
Backup Fuse	20	NA	
2MXM-F4A			
Primary Bkr	20	45 @ 60A	Ice Cont AHU 2A5 Blower A
Backup Fuse	20	NA	
2MXM-F4B			
Primary Bkr	20	45 @ 60A	Ice Cont AHU 2A6 Blower A
Backup Fuse	20	NA	
2MXM-F4C			
Primary Bkr	20	45 @ 60A	Incore Inst Room Sump Pump
Backup Fuse	20	NA	
2MXM-F4D			
Primary Bkr	100	110 @ 300A	Upper Cont Welding Recpt
Backup Fuse	100	NA	
2MXM-F5A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A7 Blower A
Backup Fuse	20	NA	
2MXM-F5B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A8 Blower A

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
2MXM-F5D			
Primary Bkr	100	110 @ 300A	Welding Feeder
Backup Fuse	100	NA	
2MXM-F6A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A9 Blower A
Backup Fuse	20	NA	
2MXM-F6B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 12A10 Blower A
Backup Fuse	20	NA	
2MXM-F6C			
Primary Bkr	30	45 @ 90A	Lower Cont Aux Charcoal Filter Fan 2A
Backup Fuse	30	NA	
2MXM-F7A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A11 Blower A
Backup Fuse	20	NA	
2MXM-F7B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A12 Blower A
Backup Fuse	20	NA	
2MXM-F7C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A13 Blower A
Backup Fuse	20	NA	
2MXM-F8C			
Primary Bkr	60	110 @ 180A	Reactor Coolant Drain Tank Pump 2A
Backup Fuse	60	NA	
2MXM-R1A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B1 Blower A
Backup Fuse	20	NA	
2MXM-R1B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B2 Blower A
Backup Fuse	20	NA	
2MXM-R1C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B3 Blower A
Backup Fuse	20	NA	
2MXM-R1D			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	30	45 @ 90A	RCP 2A Oil Lift Pump
Backup Fuse	30	NA	
2MXM-R2A			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR12
Backup Fuse	40	NA	
2MXM-R2C			
Primary Bkr	20	45 @ 160A	RCPM Maintenance Crane Recpt 2A, 2B, 2C, & 2D
Backup Fuse	20	NA	
2MXM-R2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B4 Blower A
Backup Fuse	20	NA	
2MXM-R2E			
Primary Bkr	30	45 @ 90A	RCP 2B Oil Lift Pump
Backup Fuse	30	NA	
2MXM-R3D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B5 Blower A
Backup Fuse	20	NA	
2MXM-R3E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B6 Blower A
Backup Fuse	20	NA	
2MXM-R3F			
Primary Bkr	30	45 @ 90A	RCP 2C Oil Lift Pump
Backup Fuse	30	NA	
2MXM-R4D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B7 Blower A
Backup Fuse	20	NA	
2MXM-R4E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B8 Blower A
Backup Fuse	20	NA	
2MXM-R4F			
Primary Bkr	30	45 @ 90A	RCP 2D Oil Lift Pump
Backup Fuse	30	NA	
2MXM-R5B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B9 Blower A
Backup Fuse	20	NA	
2MXM-R5C			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	20	45 @ 60A	Ice Cond AHU2B10 Blower A
Backup Fuse	20	NA	
2MXM-R5D			
Primary Bkr	175	200 @ 525A	Ice Cond Equip Pwr Pnlbd 2B
Backup Fuse	175	NA	
1MXM-R6A			
Primary Bkr	20	45 @ 60A	Rod Cntrl Cluster Change Fixture Hoist Drive
Backup Fuse	20	NA	
2MXM-R6B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B11 Blower A
Backup Fuse	20	NA	
2MXM-R6D			
Primary Bkr	150	110 @ 450A	175 Ton Polar Crane
Backup Fuse	150	NA	
2MXM-R7A			
Primary Bkr	20	45 @ 60A	Stud Tensioner Hoist
Backup Fuse	20	NA	
2MXM-R7B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 2A
Backup Fuse	20	NA	
2MXM-R7C			
Primary Bkr	30	45 @ 90A	S/G Comp 2D Fan
Backup Fuse	30	NA	
2MXM-R7D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B12
Backup Fuse	20	NA	
2MXM-R7E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B13 Blower A
Backup Fuse	20	NA	
2MXM-R8A			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 2B
Backup Fuse	20	NA	
2MXM-R8B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 2C
Backup Fuse	20	NA	
2MXM-R8C			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	30	45 @ 90A	S/G Comp 2A Fan
Backup Fuse	30	NA	
2MXM-R8D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B14 Blower A
Backup Fuse	20	NA	
2MXM-R8E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B15 Blower A
Backup Fuse	20	NA	
2MXMA-1D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A14 Blower A
Backup Fuse	20	NA	
2MXMA-1E			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 2A Pump 2A1
Backup Fuse	20	NA	
2MXMA-2B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR6
Backup Fuse	40	NA	
2MXMA-2C			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2R18
Backup Fuse	40	NA	
2MXMA-2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A15 Blower A
Backup Fuse	20	NA	
2MXMA-3A			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 2LR9
Backup Fuse	25	NA	
2MXMA-3B			
Primary Bkr	20	45 @ 60A	Ice Cond Equip Access Door 2A
Backup Fuse	20	NA	
2MXMA-3C			
Primary Bkr	50	110 @ 150	Ice Cond Floor Cooling Pump 2A
Backup Fuse	50	NA	
2MXMA-3D			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 2B Pump 2B1
Backup Fuse	20	NA	

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2MXN-2E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A15 Blower B
Backup Fuse	20	NA	
2MXN-3A			
Primary Bkr	20	45 @ 60A	2 Ton CRDM Hdlg Jib Crane
Backup Fuse	20	NA	
2MXN-3B			
Primary Bkr	30	45 @ 90A	Cont Air Compressor
Backup Fuse	30	NA	
2MXN-F1C			
Primary Bkr	60	110 @ 180A	Reactor Coolant Drain Tank Pump 2B
Backup Fuse	60	NA	
2MXN-F2A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A1 Blower B
Backup Fuse	20	NA	
2MXN-F2B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A2 Blower B
Backup Fuse	20	NA	
2MXN-F2C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A3 Blower B
Backup Fuse	20	NA	
2MXN-F2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A4 Blower B
Backup Fuse	20	NA	
2MXN-F3A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A5 Blower B
Backup Fuse	20	NA	
2MXN-F3B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A6 Blower B
Backup Fuse	20	NA	
2MXN-F3C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A7 Blower B
Backup Fuse	20	NA	
2MXN-F3D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A8 Blower B
Backup Fuse	20	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2MXN-F4A			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 2LR1
Backup Fuse	25	NA	
2MXN-F4B			
Primary Bkr	30	45 @ 90A	S/G Comp 2C Fan
Backup Fuse	30	NA	
2MXN-F4C			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 2LR2
Backup Fuse	25	NA	
2MXN-F4D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A9 Blower B
Backup Fuse	20	NA	
2MXN-F4E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A10 Blower B
Backup Fuse	20	NA	
2MXN-F5A			
Primary Bkr	20	45 @ 60A	Incore Inst Drive No 2D
Backup Fuse	20	NA	
2MXN-F5B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive No. 2E
Backup Fuse	20	NA	
2MXN-F5C			
Primary Bkr	20	45 @ 60A	Incore Inst Drive No. 2F
Backup Fuse	20	NA	
2MXN-F5D			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 2A Pump 2A2
Backup Fuse	20	NA	
2MXN-F6A			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 2LR4
Backup Fuse	25	NA	
2MXN-F6B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR5
Backup Fuse	40	NA	
2MXN-F6C			
Primary Bkr	20	45 @ 60A	Fuel Transfer Sys Reactor Side Fdr
Backup Fuse	20	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2MXN-F6D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A11 Blower B
Backup Fuse	20	NA	
2MXN-F7B			
Primary Bkr	30	45 @ 90A	S/G Booster Fan 2A
Backup Fuse	30	NA	
2MXN-F7D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A12 Blower B
Backup Fuse	20	NA	
2MXN-F7E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A13 Blower B
Backup Fuse	20	NA	
2MXN-F8B			
Primary Bkr	20	45 @ 60A	Cont Floor & Equip Sump 2B Pump 2B2
Backup Fuse	20	NA	
2MXN-F8C			
Primary Bkr	50	110 @ 150A	Ice Cond Floor Cooling Defrost Htr 2B
Backup Fuse	50	NA	
2MXN-R1D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B1 Blower B
Backup Fuse	20	NA	
2MXN-R1E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B2 Blower B
Backup Fuse	20	NA	
2MXN-R1F			
Primary Bkr	30	45 @ 90A	RCP 2A Oil Lift Pump No. 2
Backup Fuse	30	NA	
2MXN-R2C			
Primary Bkr	30	45 @ 90A	Reactor Cavity Manipulator Crane
Backup Fuse	30	NA	
2MXN-R2F			
Primary Bkr	30	45 @ 90A	RCP 2B Oil Lift Pump No. 2
Backup Fuse	30	NA	
2MXN-R3A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B3 Blower B

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	20	NA	
2MXN-R3B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B4 Blower B
Backup Fuse	20	NA	
2MXN-R3C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B5 Blower B
Backup Fuse	20	NA	
2MXN-R3D			
Primary Bkr	30	45 @ 90A	RCP 2C Oil Lift Pump No. 2
Backup Fuse	30	NA	
2MXN-R4A			
Primary Bkr	50	110 @ 150A	Ice Cond Bridge Crane
Backup Fuse	50	NA	
2MXN-R4B			
Primary Bkr	30	45 @ 90A	RB Equip Hatch Hoist
Backup Fuse	30	NA	
2MXN-R4C			
Primary Bkr	25	45 @ 75A	S/G Comp 2B Fan
Backup Fuse	25	NA	
2MXN-R4D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B6 Blower B
Backup Fuse	20	NA	
2MXN-R4E			
Primary Bkr	30	45 @ 90A	RCP 2D Oil Lift Pump No.2
Backup Fuse	30	NA	
2MXN-R5D			
Primary Bkr	175	200 @ 525A	Ice Cond Equip Pwr Pnlbd 2A
Backup Fuse	175	NA	
2MXN-R6A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B7 Blower B
Backup Fuse	20	NA	
2MXN-R6B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B8 Blower B
Backup Fuse	20	NA	
2MXN-R6C			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B9 Blower B
Backup Fuse	20	NA	
2MXN-R6D			
Primary Bkr	100	110 @ 300A	Welding Fdr
Backup Fuse	100	NA	
2MXN-R7A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B10 Blower B
Backup Fuse	20	NA	
2MXN-R7B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B11 Blower B
Backup Fuse	20	NA	
2MXN-R7C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B12 Blower B
Backup Fuse	20	NA	
2MXN-R7D			
Primary Bkr	50	110 @ 150A	Ice Cond Floor Cooling Pump 2B
Backup Fuse	50	NA	
2MXN-R8D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B13 Blower B
Backup Fuse	20	NA	
2MXN-R8E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B14 Blower B
Backup Fuse	20	NA	
2MXN-R8F			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2B15 Blower B
Backup Fuse	20	NA	
2MXNA-1E			
Primary Bkr	30	45 @ 90A	Lower Cont Aux Charcoal Filter Fan 2B
Backup Fuse	30	NA	
2MXNA-2B			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 2LR7
Backup Fuse	25	NA	
2MXNA-2C			
Primary Bkr	25	45 @ 75A	Lighting Pnlbd 2LR8
Backup Fuse	25	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2MXNA-2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A14 Blower B
Backup Fuse	20	NA	
2MXNA-3C			
Primary Bkr	20	45 @ 60A	NC Pump Motor Drain Tank Pump No. 1
Backup Fuse	20	NA	
2MXNA-3D			
Primary Bkr	20	45 @ 60A	Ice Cond Equip Access Door 2B
Backup Fuse	20	NA	
SMXD-3E			
Primary Bkr	15	45 @ 45	Unit 2 Personnel Lock
Backup Fuse	15	NA	
SMXG-R3G			
Primary Bkr	20	45 @ 60A	Standby Makeup Pump to Cont Sump Isol Vlv 2NV1012C
Backup Fuse	20	NA	
SMXG-R4G			
Primary Bkr	20	45 @ 60A	Standby Makeup Pump to NC Pump Seals Isol Vlv 2NV1013C
Backup Fuse	20	NA	
SMXV-2F			
Primary Bkr	15	45 @ 45A	Unit 2 Emergency Personnel Lock
Backup Fuse	15	NA	
3. 600 VAC-Press Htr Pwr Pnl's			
Backup Press Htr Pwr Pnl 2A-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 1, 2, & 22
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2A-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 5, 6, & 27
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2A-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 9, 10, & 32
Backup Fuse	90	NA	

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Press Htr Pwr Pnl 2A-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 11, 12, & 35
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2A-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 13, 14, & 37
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2A-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 17, 18, & 42
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2B-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 21, 47, & 48
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2B-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 26, 53, & 54
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2B-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 31, 59, & 60
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2B-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 36, 65, & 66
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2B-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 41, 71, & 72
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2B-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 46, 77, & 78
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2C-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 7, 8, & 30

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2C-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 19, 20, & 45
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2C-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 24, 51, & 52
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2C-1D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 29, 57, & 58
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2C-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 34, 63, & 64
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2C-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 39, 69, & 70
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2C-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 44, 75, & 76
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2D-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 3, 4, & 25
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2D-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 15, 16, & 40
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2D-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 23, 49, & 50
Backup Fuse	90	NA	
SMXG-R5A			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 28, 55, & 56
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2D-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 33, 61, & 62
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2D-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 38, 67, & 68
Backup Fuse	90	NA	
Backup Press Htr Pwr Pnl 2D-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 43, 73, & 74
Backup Fuse	90	NA	
4. 120 VAC-Panelboards			
2KM-19			
Primary Bkr	20	45 @ 60A	RCP 2A Space Htr
Backup Fuse	20	NA	
2KM-20			
Primary Bkr	20	45 @ 60A	RCP 2C Space Htr
Backup Fuse	20	NA	
2KN-19			
Primary Bkr	20	45 @ 60A	RCP 2B Space Htr
Backup Fuse	20	NA	
2KN-20			
Primary Bkr	20	45 @ 60A	RCP 2D Space Htr
Backup Fuse	20	NA	
2KN-27			
Primary Bkr	20	36 @ 60A	Fuel Handling Control Console
Backup Fuse	20	NA	
5. 250 VDC-Lighting			
RB Deadlight Pnlbd 2DLD # 1			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 2LR1 & 2LR2
Backup Fuse	20	NA	
RB Deadlight Pnlbd 2DLD # 3			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 2LR4, 2LR5, & 2LR6
Backup Fuse	20	NA	
RB Deadlight Pnlbd 2DLD # 4			

Containment Penetration Overcurrent Protective Devices
16.8.1

TABLE 16.8.1-2
UNIT 2 Containment Penetration Conductor Overcurrent Protective Devices

DEVICE NO. & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 2LR7, 2LR8, & 2LR9
Backup Fuse	20	NA	
RB Deadlight Pnlbd 2DLD # 6			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 2LR12
Backup Fuse	20	NA	
RB Deadlight Pnlbd 2DLD # 7			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 2LR16
Backup Fuse	20	NA	
RB Deadlight Pnlbd 2DLD # 9			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 2LR18 & 2LR17
Backup Fuse	20	NA	
6. VAC - LC			
Outage Power Fuse Box2A			
Primary Bkr	150	NA	Upper Containment Safety Switch 2A
Backup Fuse	150	NA	
Primary Bkr	150	NA	Upper Containment Safety Switch 2B
Backup Fuse	150	NA	
Primary Bkr	200	NA	Lower Cont Outage Power Distr Pnl 2A
Backup Fuse	200	NA	
Primary Bkr	225	NA	Lower Cont Outage Power Distr Pnl 2B
Backup Fuse	225	NA	

16.8 ELECTRICAL POWER SYSTEMS

16.8.3 Diesel Generator (DG) Supplemental Testing Requirements

COMMITMENT The DG supplemental testing requirements specified below shall be met.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6.

-----NOTE-----
The testing requirements for the DG batteries are not required in MODES 5 and 6.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Commitment not met.	A.1 Declare DG inoperable.	Immediately

TESTING REQUIREMENTS

TEST	FREQUENCY
TR 16.8.3.1 Verify the electrolyte level of each DG battery is above the plates.	7 days
TR 16.8.3.2 Verify overall DG battery voltage is \geq 125 volts under a float charge.	7 days
TR 16.8.3.3 Verify DG batteries and battery racks show no visual indication of physical damage or abnormal deterioration.	18 months

(continued)

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
TR 16.8.3.4 Verify DG battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.	18 months
TR 16.8.3.5 Perform DG battery service test	18 months
TR 16.8.3.6 Remove accumulated water from DG day tank.	After each run of >1 hour
TR 16.8.3.7 Perform DG inspection, during shutdown, in accordance with manufacturer's recommendations for this class of standby service.	18 months
TR 16.8.3.8 Verify that the fuel oil transfer pump transfers fuel from each fuel storage tank to the day tank of each DG via the installed cross-connection lines.	18 months
<p>TR 16.8.3.9 -----NOTE----- This Testing Requirement may be performed in conjunction with periodic pre-planned preventative maintenance activity that causes the DG to be inoperable provided that performance of the Testing Requirement does not increase the time the DG would be inoperable for the maintenance activity alone.</p> <p>----- Verify, during shutdown, that the turning gear engaged or emergency stop features prevent DG starting only when required.</p>	18 months
TR 16.8.3.10 Perform a pressure test of those portions of the diesel fuel oil system designed to ASME Section III, subsection ND in accordance with applicable NRC-approved ASME code requirements.	10 years

BASES

The Testing Requirements 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, 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977, and 1.137, "Fuel-Oil Systems for Standby Diesel Generators," Revision 1, October 1979; Generic Letter 84-15, which modified the testing frequencies specified in Regulatory Guide 1.108; Generic Letter 93-05, which reduced the surveillance requirements for testing of Diesel Generators during power operation; also, Generic Letter 94-01, which removed the accelerated testing and special reporting requirements for Emergency Diesel Generators.

Some of the Testing Requirements for demonstrating the operability of the diesel generators are modified by a footnote. The Specifications state the Testing Requirements are to be performed during shutdown, with the unit in mode 3 or higher. The footnote allows the particular test to be performed during preplanned Preventative Maintenance (PM) activities that would result in the diesel generator being inoperable. The surveillance can be performed at that time as long as it does not increase the time the diesel generator is inoperable for the PM activity that is being performed. The footnote is only applicable at that time. The provision of the footnote shall not be utilized for operational convenience.

Since the McGuire emergency diesel generator manufacturer (Nordberg) is no longer in business, McGuire engineering is the designer of record. Therefore, in the absence of manufacturer recommendations, McGuire engineering will determine the appropriate actions required for nuclear class diesel service taking into account McGuire diesel generator maintenance and operating history and industry experience where applicable.

REFERENCES

1. Regulatory Guide 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971.
2. Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977.
3. Regulatory Guide 1.137, "Fuel-Oil Systems for Standby Diesel Generators," Revision 1, October 1979.
4. Generic Letter 84-15, which modified the testing frequencies specified in Regulatory Guide 1.108.
5. Generic Letter 93-05, which reduced the surveillance requirements for testing of Diesel Generators during power operation.
6. Generic Letter 94-01, which removed the accelerated testing and special reporting requirements for Emergency Diesel Generators.

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued).	B.2 Verify offsite power and one emergency diesel generator OPERABLE. <u>AND</u> B.3 Restore the component to OPERABLE status.	1 hour 60 days
C. Total Unidentified LEAKAGE, Identified LEAKAGE, and reactor coolant pump seal leakoff > 20 gpm.	C.1 Declare the standby makeup pump and SSS inoperable.	Immediately
D. Required Action and associated Completion Time of Condition A or C not met.	D.1 Prepare and submit a Special Report to the NRC outlining the cause of the inoperability, corrective actions taken, and plans for restoring the SSS to OPERABLE status.	30 days
E. Required Action and associated Completion Time of Condition B not met.	E.1 Prepare and submit a Special Report to the NRC outlining the extent of repairs required, schedule for completing repairs, and basis for continued operation.	14 days

TESTING REQUIREMENTS

TEST	FREQUENCY
TR 16.9.7.1 Verify total Identified LEAKAGE, Unidentified LEAKAGE, and reactor coolant pump seal leakoff are ≤ 20 gpm.	72 hours
TR 16.9.7.2 Verify the requirements for spent fuel water level in Surveillance Requirement 3.7.13.1 are met and the boron concentration in the spent fuel storage pool is within the limits specified in the COLR. <u>OR</u> Verify the refueling water storage tank is capable of being aligned to the SSS standby makeup pump.	7 days
TR 16.9.7.3 Verify fuel oil level in the SSS diesel generator fuel storage tank is ≥ 4.0 ft.	31 days
TR 16.9.7.4 Verify the SSS diesel generator starts from ambient conditions and operates for ≥ 30 minutes at ≥ 700 kW.	31 days
TR 16.9.7.5 Verify fuel oil properties of new fuel oil for the SSS diesel generator are tested in accordance with the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
TR 16.9.7.6 Verify the SSS diesel generator 24 V battery voltage is ≥ 24 volts.	31 days
TR 16.9.7.7 Perform a CHANNEL CHECK of the SSS Instrumentation shown in Table 16.9.7-1.	31 days
TR 16.9.7.8 Verify the electrolyte level of each SSS 250/125 V battery bank is above the plates.	31 days

(continued)

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
TR 16.9.7.9 Verify the total battery terminal voltage of each SSS 250/125 V battery bank is \geq 258/129 V on float charge.	31 days
TR 16.9.7.10 Verify the average specific gravity of each SSS 250/125 V battery bank is \geq 1.200.	92 days
TR 16.9.7.11 Verify the standby makeup pump's developed head and capacity is greater than or equal to that required by the Inservice Testing Program.	92 days
TR 16.9.7.12 Verify the SSS diesel generator 24 V batteries and battery racks show no visual indication of physical damage or abnormal deterioration.	18 months
TR 16.9.7.13 Verify SSS diesel generator 24 V battery to battery and terminal connections are clean, tight, and free of corrosion.	18 months
TR 16.9.7.14 Perform a CHANNEL CALIBRATION of the SSS Instrumentation shown in Table 16.9.7-1.	18 months
TR 16.9.7.15 Perform a CHANNEL CALIBRATION of the SSS standby makeup pump flow.	18 months
TR 16.9.7.16 Perform inspection of SSS diesel generator in accordance with procedures prepared in conjunction with manufacturer's recommendations for class of service.	18 months
TR 16.9.7.17 Verify the SSS 250/125 V batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration.	18 months

(continued)

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
TR 16.9.7.18 Verify the SSS 250/125 V battery to battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.	18 months
TR 16.9.7.19 Verify the "C" solenoid to valve SA48ABC can be deenergized to provide steam supply to the turbine driven auxiliary feedwater pump.	18 months

TABLE 16.9.7-1

STANDBY SHUTDOWN SYSTEM
FIRE DETECTION & SUPPRESSION SYSTEMS VERIFICATION⁽¹⁾

INOPERABLE SSS COMPONENT	FIRE DETECTION & SUPPRESSION SYSTEMS LOCATION								
	EL 716 EE-KK	EL 733 EE-KK	EL 750 EE-KK	Control Room	Battery Room	Cable Rooms	Turbine Driven AFW Pump	Motor Driven AFW Pump	Containment
SSS Diesel Generator ⁽³⁾	X	X	X	X	X	X	X	X	Note 2
SSS DG Starting 24 V Battery Bank and Charger ⁽³⁾	X	X	X	X	X	X	X	X	Note 2
Standby Makeup Pump and Water Supply	X	X	X						
SSS 250/125V Battery and Charger ⁽³⁾				X	X	X			Note 2
Turbine Driven AFW Pump Solenoid "C"								X	
INSTRUMENTATION:									
1. RCS Pressure				X	X	X			Note 2
2. Pressurizer Level				X	X	X			Note 2
3. SG Level				X	X	X			Note 2
4. Incore Temperature				X	X	X			Note 2

NOTES:

1. If fire detection and/or suppression systems are inoperable, then the ACTION statement(s) of the applicable fire detection and/or suppression SLC shall be complied with.
2. Monitor containment air temperature at least once per hour at the location the locations specified in Technical Specification Surveillance Requirement 3.6.5.1 or 3.6.5.2, in lieu of verification of operability of systems inside containment.
3. With this component inoperable, then denoted areas of both units are affected.

BASES

The Standby Shutdown System (SSS) is designed to mitigate the consequences of certain postulated fire incidents by providing capability to maintain HOT STANDBY conditions and by controlling and monitoring vital systems from locations external to the main control room. This capability is consistent with the requirements of 10 CFR Part 50, Appendix R.

By design, the SSS is intended to respond to those low-probability fire and/or sabotage events which render both the control room and automatic safety systems inoperable. Because of the low probability of occurrence of these events, the remedial actions rely on compensatory action, timely repair or return to operability and, if necessary, a justification for continued operation.

Because the SSS performs a redundant fire protection function, compensatory action relies largely on assurance of the operability of fire detection and suppression systems. Table 16.9.7-1 establishes requirements for operability of fire detection and suppression systems.

The Testing Requirements ensure that the SSS systems and components are capable of performing their intended functions. The testing requirements were based largely on SSS Technical Specifications for the Catawba Nuclear Station, which was approved prior to the issuance of the fuel load license for Unit 1 of that plant. Also considered in the formulation of the testing requirements were existing McGuire Technical Specifications, such as those for the 1E Diesel Generators, Refueling Water Storage Tank, Fire Protection & Detection Systems, and other Tech Specs which are related to the safe operation and/or shutdown of the plant.

The required level in the SSS diesel generator fuel storage tank ensures sufficient fuel for 48 hours of uninterrupted operation. It is assumed that, within 48 hours, either off-site power can be restored or additional fuel can be added to the storage tank.

New fuel oil is sampled in accordance with ASTM D4057-81 prior to addition to the storage tanks. In accordance with the tests specified in ASTM D975-81, the sample is verified to have:

1. an API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate, or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89, or an API gravity at 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees,
2. a kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes but less than or equal to 4.1 centistokes (or a Saybolt Universal Viscosity at 100°F of greater than or equal to 32.6 SUS but less than or equal to 40.1 SUS),
3. a flash point equal to or greater than 125°F, and
4. a clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.

BASES (continued)

Within 31 days of obtaining the new fuel sample, the other properties specified in Table 1 of ASTM D975-81 are verified to be met when tested in accordance with ASTM D975-81, except that the analysis for sulfur may be performed in accordance with ASTM D1552-90 or ASTM D2622-82.

Although the Standby Makeup Pump is not nuclear safety-related and was not designed according to ASME code requirements, it is tested quarterly to ensure its OPERABILITY. The Standby Makeup Pump (SMP) functions as part of the SSF to provide makeup capacity to the reactor coolant system and cooling flow to the reactor coolant pump seals. The reactor coolant pump seal leak-off flow is temperature dependent (i.e., the higher the temperature the higher the leak-off flow). During normal operation the NCP seals are supplied from the Centrifugal Charging Pump (CCP) drawing from the Volume Control Tank (VCT). During the SSF event, the SMP draws from the Spent Fuel Pool (SFP). During the SSF event there is no SFP cooling, so water injected into the NCP seals will have a higher temperature than during normal operation. The SMP is capable of providing a makeup capacity of at 26 gpm. The revised SLC limit of 20 gpm total accumulative leakage is based on a calculation that was performed by Westinghouse, indicating increased seal leak-off at higher seal water temperatures, to relate the SSF event leakage of 26 gpm at elevated NCP seal temperatures. This more conservative limit will ensure that the SMP will be capable of providing makeup and seal cooling flow equal to or greater than total leakage during the SSF event, increased seal leak-off flow due to heat-up of the SFP, and still provide a margin of safety. As a conservative measure, during normal power operation the total accumulative system leakage (unidentified + identified + seal leak-off flows) shall be limited to 20 gpm. The Testing Requirement concerning the Standby Makeup Pump water supply ensures that an adequate water volume is available to supply the pump continuously for 72 hours.

While the SSS 24 VDC battery charger is isolated for battery surveillance testing, the SSS Diesel Generator remains operable as long as the battery voltage is ≥ 24 volts.

This selected licensee commitment is part of the McGuire Fire Protection Program and therefore subject to the provisions of McGuire Facility Operating License Conditions C.4 (Unit 1) and C.7 (Unit 2).

REFERENCES

1. McGuire Nuclear Station UFSAR, Chapter 9.5.1
2. McGuire Nuclear Station SER Supplement 2, Chapter 9.5.1 and Appendix D
3. McGuire Nuclear Station SER Supplement 5, Chapter 9.5.1 and Appendix B
4. McGuire Nuclear Station SER Supplement 6, Chapter 9.5.1 and Appendix C
5. McGuire Fire Protection Review, as revised
6. McGuire Fire Protection Safe Shutdown Review
7. IEEE 308-1974, Class 1E Power Systems

8. IEEE 450-1975, Maintenance Testing & Replacement of Large Lead Storage Batteries
9. OP/O/B/6350/04, Standby Shutdown Facility Diesel Operation
10. McGuire Nuclear Station Facility Operating Licenses, Unit 1 License Condition C.(4)
and Unit 2 License Condition C.(7)
11. PIP 0-M-99-03926

16.9 AUXILIARY SYSTEMS

16.9.20 Crane Travel – Spent Fuel Storage Pool Building

COMMITMENT The following requirements shall be met:

- a. Loads in excess of 3000 pounds shall be prohibited from travel over fuel assemblies in the storage pool,
- b. Spent fuel casks shall be carried along the path outlined in Figure 16.9.20-1 in the fuel pit and fuel pool area, and
- c. The requirements of LCO 3.8.2 shall be met whenever loads are moved over the spent fuel storage pool.

-----NOTE-----

Spent fuel pool weir gates may be moved over the stored fuel provided the decay time is \geq 17.5 days since last being part of a core at power.

APPLICABILITY With fuel assemblies in the storage pool.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Commitment not met.	A.1 Place the crane load in a safe condition and suspend movement of loads over the spent fuel pool.	Immediately

TESTING REQUIREMENTS

TEST	FREQUENCY
TR 16.9.20.1 Verify weight of each load, other than a fuel assembly and control rod, is < 3000 pounds.	Prior to moving the load over fuel assemblies

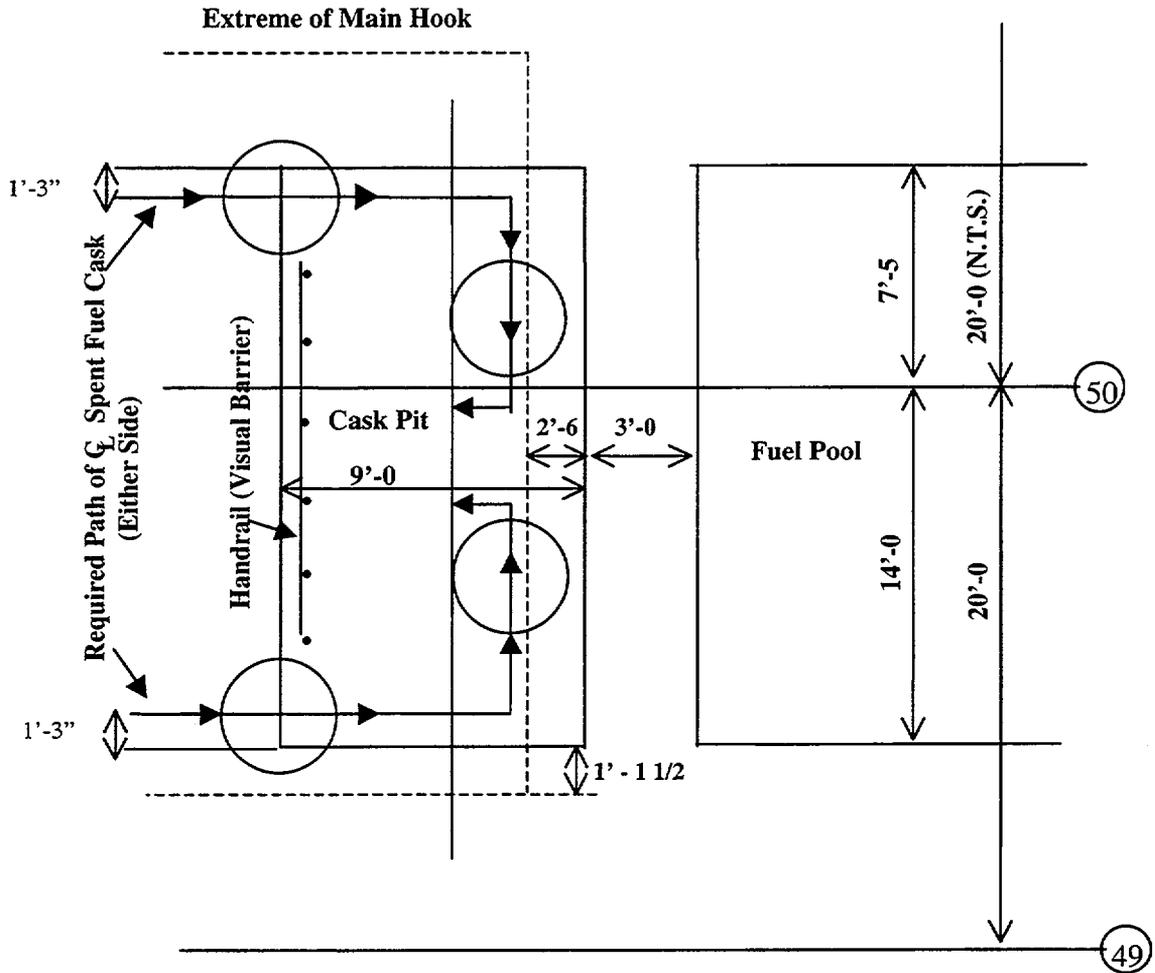


Figure 16.9.20-1

REQUIRED PATH FOR MOVEMENT OF SPENT FUEL CASKS

BASES

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 analysis. The requirement for following the load path shown in Figure 16.9.20-1 assumes that the cask can not fall into the spent fuel pool.

REFERENCES

None

16.11 RADIOLOGICAL EFFLUENT CONTROLS

16.11.16 Annual Radiological Environmental Operating Report

COMMITMENT Routine Annual Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 15 of each year.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with pre-operational studies, with operational controls as appropriate, and with previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by SLC 16.11.14.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the Table and Figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following:

- a summary description of the Radiological Environmental Monitoring Program;
- at least two legible maps covering all sampling locations keyed to a table giving distances and directions from the centerline of one reactor (one map shall cover stations near the site boundary; a second shall include the more distant stations);
- the results of licensee participation in the Interlaboratory Comparison Program, required by SLC 16.11.15;
- a discussion of all deviations from the sampling schedule of Table 16.11.13-1; and

COMMITMENT (continued)

- a discussion of all analyses in which the LLD required by Table 16.11.13-3 was not achievable.

A single submittal may be made for a multiple unit station..

APPLICABILITY

At all times.

REMEDIAL ACTIONS

None

TESTING REQUIREMENTS

None

BASES

None

REFERENCES

1. Technical Specification 5.6.2

16.11 RADIOLOGICAL EFFLUENT CONTROLS

16.11.17 Radioactive Effluent Release Reports

COMMITMENT Routine Radioactive Effluent Release Reports covering the operation of the unit during the previous calendar year of operation shall be submitted before May 1 of each year.

The Radioactive Effluent Release Reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

The Radioactive Effluent Release Report shall include an annual summary of hourly meteorological data collected over the previous calendar year. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability. This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. This same report shall also include an assessment of the radiation doses from radioactive liquid and gaseous effluents to MEMBERS OF THE PUBLIC due to their activities inside the SITE BOUNDARY during the report period. All assumptions used in making these assessments, i.e., specific activity, exposure time and location, shall be included in these reports. A five year average of representative onsite meteorological data shall be used in the gaseous effluent dose pathway calculations. Dispersion factors (X/Qs) and deposition factors (D/Qs) shall be generated using the computer code XOQDOQ (NUREG/CR-2919) which implements NRC Regulatory Guide 1.111. The meteorological conditions concurrent with the time of release shall be reviewed annually to determine if the five-year average values should be revised. The assessment of radiation doses shall be performed in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

COMMITMENT (continued)

The Radioactive Effluent Release Report shall also include an assessment of radiation doses to the likely most exposed MEMBER OF THE PUBLIC from reactor releases and other nearby uranium fuel cycle sources, including doses from primary effluent pathways and direct radiation, for the previous calendar year to show conformance with 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operation." Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Rev. 1, October 1977.

The Radioactive Effluent Release Reports shall include the following information for each type of solid waste shipped offsite during the report period:

- a. Total container volume, in cubic meters,
- b. Total Curie quantity (determined by measurement or estimate),
- c. Principal radionuclides (determined by measurement or estimate),
- d. Type of waste (e.g., dewatered spent resin, compacted dry waste, evaporator bottoms),
- e. Number of shipments, and
- f. Solidification agent or absorbent (e.g., cement, or other approved agents (media)).

The Radioactive Effluent Release Reports shall include a list and description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) and to the OFFSITE DOSE CALCULATION MANUAL (ODCM), as well as a listing of new locations for dose calculations and/or environmental monitoring identified by the land use census pursuant to SLC 16.11.14.

The Radioactive Effluent Release Reports shall also identify any licensee initiated major changes to the Radioactive Waste Systems (liquid, gaseous, and solid). Otherwise, this information may be included in the annual UFSAR update. The discussion of each change shall contain:

COMMITMENT (continued)

- a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR Part 50.59;
- b. Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
- c. A detailed description of the equipment, components, and processes involved and the interfaces with other plant systems;
- d. An evaluation of the change, which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the License application and amendments thereto;
- e. An evaluation of the change, which shows expected maximum exposures to individual in the UNRESTRICTED AREA and to the general population that differ from those previously estimated in the License application and amendments thereto;
- f. A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;
- g. An estimate of the exposure to plant operating personnel as a result of the change; and
- h. Documentation of the fact that the change was reviewed and found acceptable by the Station Manager or the Chemistry Manager.

A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate Radwaste Systems, the submittal shall specify the releases of radioactive material from each unit.

APPLICABILITY

At all times

REMEDIAL ACTIONS

None

TESTING REQUIREMENTS

None

BASES

None

REFERENCES

1. Technical Specification 5.6.3