

TABLE 3.8-1

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
1. 6900 VAC-Swgr			
Primary Bkr-RCP1A	5.0	14 + 1.4 @ 25A	Reactor Coolant Pump 1A
Backup Brk-1TA-5	4.8	20 + 2.5 @ 14.4A	
Primary Bkr-RCP1B	5.0	14 + 1.4 @ 25A	Reactor Coolant Pump 1B
Backup Brk-1TB-5	4.8	20 + 2.5 @ 14.4A	
Primary Bkr-RCP1C	5.0	14 + 1.4 @ 25A	Reactor Coolant Pump 1C
Backup Brk-1TC-5	4.8	20 + 2.5 @ 14.4A	
Primary Bkr-RCP1D	5.0	14 + 1.4 @ 25A	Reactor Coolant Pump 1D
Backup Brk-1TD-5	4.8	20 + 2.5 @ 14.4A	
2. 600 VAC-MCC			
1EMXA-2 1D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	NC Pump 1C Thermal Barrier Otlt Auto
Backup Fuse	20	N/A	Isol Vlv 1KC345A
1EMXA-2 1E		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	NC Pump 1A Thermal Barrier Otlt Auto
Backup Fuse	20	N/A	Isol Vlv 1KC394A
1EMXA-2 2A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Cont Air Return Fan 1A Damper
Backup fuse	20	N/A	IRAF-D-2

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXA-2 2B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	N2 to Prt No. 1 Cont Isol Insi <sup>+</sup>
Backup Fuse	20	N/A	Vlv 1N154A
1EMXA-2 2C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	RCP Mtg Brg Oil Fill Isol Vlv
Backup Fuse	20	N/A	1N196A
1EMXA-2 3A		45 @ 90A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	Accumulator 1A Disch Isol Vlv
Backup Fuse	30	N/A	1N154A
1EMXA-2 3B		45 @ 90A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	Accumulator 1C Disch Isol Vlv
Backup Fuse	30	N/A	1N176A
1EMXA-2 3C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Test Hdr Inside Cont Isol Vlv
Backup Fuse	20	N/A	1N195A
1EMXA-2 4A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	UHI Check Vlv Test Line Isol Vlv
Backup Fuse	20	N/A	<del>1N1266A</del> 1N1266A

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXA-2 4B Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	UHI Check Vlv Test Line Isol Vlv INI267A
Backup Fuse	20	N/A	
1EMXA-2 4C Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	Accum 1A Vent to INC34 for Blkout Vlv INI430A
Backup Fuse	20	N/A	
1EMXA-5 1B Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	Pzr Steam Sample Line Inside Cont Isol Vlv INM3A
Backup Fuse	20	N/A	
1EMXA-5 2B Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	Pzr Steam Sample Line Inside Cont Isol Vlv INM6A
Backup Fuse	20	N/A	
1EMXA-5 3B Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	NC Hotleg 1A Sample Line Cont Isol Vlv INM22A
Backup Fuse	20	N/A	
1EMXA-5 2D Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	NC Hotleg ID Sample Line Cont Isol Vlv INM25A
Backup Fuse	20	N/A	
1EMXA-2 7A Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	SG 1A Upper Shell Sample Cont Isol Vlv INM187 A
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXA-2 7B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	SG 1A Blowdown Line Sample Cont Isol Vlv 1NM190A
1EMXA-2 7C Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	SG 1C Upper Shell Sample Cont Isol Vlv 1NM207A
1EMXA-2 8A Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	SG 1C Blowdown Line Sample Cont Isol Vlv 1NM210A
1EMXA-4 1B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	NC Pump Seal Return Cont Isol Vlv 1NV94A
1EMXA-3 3A Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	H2 Purge Exhaust Cont Vessel Isol Vlv 1VE5A
1EMXA-3 3B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Cont H2 Purge Blower Inlet Vlv 1VE8A
1EMXA-3 3C Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	H2 Purge Inlet Cont Vessel Isol Vlv 1VE10A



TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXA-3 4A			
Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	H2 Skimmer Fan 2A Suction Isol Vlv
Backup Fuse	20	N/A	1VX1A
1EMXA-3 5B			
Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	RCDT Pump Disch Cont Isol Vlv 1WL2A
Backup Fuse	20	N/A	
1EMXA-3 5C			
Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	RCDT Vent Cont Isol Vlv 1WL39A
Backup Fuse	20	N/A	
1EMXA-3 6A			
Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	RB Sump Pump Disch Cont Isol Vlv
Backup Fuse	20	N/A	1WL64A
1EMXA-3 6B			
Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	Cpmt Vent Unit Condensate Cont Isol
Backup Fuse	20	N/A	Vlv 1WL321A
1EMXB-4 1B			
Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	NC Pump 1B Thermal Barrier Otlt Auto
Backup Fuse	20	N/A	Isol Vlv 1KC364B
1EMXB-4 1C			
Primary Bkr	20	<del>48</del> <sup>45 @ 60A</sup> <del>+ 20 @ 40A</del>	NC Pump 1D Thermal Barrier
Backup Fuse	20	N/A	Auto Isol Vlv 1KC413B

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXB-4 2A Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	NC Pumps Return Hdr Pend Inside Isol Vlv 1KC424B
1EMXB-4 2B Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	Reactor Bldg Drn Hdr Inside Cont Isol Vlv 1KC429B
1EMXB-4 2C Primary Bkr Backup Fuse	30 30	<i>45 @ 90A</i> <del>48 + 20 @ 60A</del> N/A	Accumulator 1B Disch Isol Vlv 1NI65B
1EMXB-4 3D Primary Bkr Backup Fuse	30 30	<i>45 @ 90A</i> <del>48 + 20 @ 60A</del> N/A	Accumulator 1D Disch Isol Vlv 1NI88B
1EMXB-4 3E Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	Hotleg Inj Check 1NI124, 1NI128 Test Isol Vlv 1NI122B
1EMXB-4 4A Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	Cont Air Return Fan 1B Damper 1RAF-D-4
1EMXB-4 4C Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	NI Accum 1A Sample Line Inside Cont Isol Vlv 1NM72B

TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXB-4 5A Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	NI Accum 1B Sample Line Inside Cont Isol Vlv INM75B
1EMXB-4 5B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	NI Accum 1C Sample Line Inside Cont Isol Vlv INM78B
1EMXB-4 5C Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Accum 1B Vent to INC32 for Blkout Vlv INI431B
1EMXB-4 6A Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	NI Accum 1D Sample Line Inside Cont Isol Vlv INM91B
1EMXB-4 6B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	SG 1B Upper Shell Sample Cont Isol Vlv INM197B
1EMXB-4 6C Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	SG 1B Blowdown Line Sample Cont Isol Vlv INM200B
1EMXB-4 7B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	SG 1D Upper Shell Sample Cont Isol Vlv INM217B

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXB-4 7C		<i>45 @ 60A</i>	
Primary Bkr	20	<del>48 + 40 @ 40A</del>	SG 1D Blowdown Line Sample Cont
Backup Fuse	20	N/A	Isol Vlv 1NM220B
1EMXB-5 1A		<i>45 @ 60A</i>	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	H2 Purge Exhaust Cont Vessel Isol
Backup Fuse	20	N/A	Vlv 1VE6B
1EMXB-5 1C		<i>45 @ 60A</i>	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	H2 Skimmer Fan 1B Suction Isol
Backup Fuse	20	N/A	Vlv 1VX2B
1EMXC-1A		<i>250 @ 600A</i>	
Primary Bkr	200	<del>119 + 81 @ 600</del>	Lower Containment Cooling Unit
Backup Fuse	200	N/A	No. 1A
1EMXC-2A		<i>250 @ 600A</i>	
Primary Bkr	200	<del>119 + 81 @ 600A</del>	Lower Containment Cooling Unit
Backup Fuse	200	N/A	No. 1C
1EMXC-3C		<i>110 @ 300A</i>	
Primary Bkr	100	<del>170 + 90 @ 200A</del>	Control Rod Drive Vent Fan No. 1A
Backup Fuse	100	N/A	
1EMXC-3D		<i>110 @ 300A</i>	
Primary Bkr	100	<del>170 + 90 @ 200A</del>	Control Rod Drive Vent Fan No. 1C
Backup Fuse	100	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXC-4C		<i>110 @ 270A</i>	
Primary Bkr	90	<del>170 + 90 @ 180A</del>	Containment Air Return Fan No. 1A
Backup Fuse	90	N/A	
1EMXC-4D		<i>110 @ 375A</i>	
Primary Bkr	125	<del>170 + 90 @ 250A</del>	Hydrogen Recombiner No. 1A
Backup Fuse	125	N/A	
1EMXC-6A		<i>45 @ 120A</i>	
Primary Bkr	40	<del>48 + 20 @ 40A</del>	Containment Pipe Tunnel Rooster
Backup Fuse	40	N/A	Fan CPT-BF-1A
1EMXC-6B		<i>45 @ 90A</i>	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	Upper Containment Air Handling
Backup Fuse	30	N/A	Unit 1A
1EMXC-6C		<i>45 @ 90A</i>	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	Upper Containment Air Hdlg Unit 1C
Backup Fuse	30	N/A	No. 1C
1EMXC-6D		<i>110 @ 270A</i>	
Primary Bkr	90	<del>170 + 90 @ 180A</del>	Hydrogen Skimmer Fan No. 1
Backup Fuse	90	N/A	
1EMXC-7C		<i>45 @ 90A</i>	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	Upper Cont Return Air Fan No. 1C
Backup Fuse	30	N/A	



TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXC-7D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Pwr No. 1 Pwr Oper Safety Relief
Backup Fuse	20	N/A	Isol Vlv INC33A
1EMXC-8C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Incore Instrumentation Rm Air Hdlg
Backup Fuse	20	N/A	Unit 1A
1EMXC-8D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Upper Containment Return Air Fan
Backup Fuse	20	N/A	No. 1A
<del>1EMXC-8E</del> 1EMXA-4 3C		45 @ 70A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	NC Loop IC Discharge to ND System
Backup Fuse	30	N/A	Cont Isol Vlv IND 2A
1EMXD-1A		250 @ 600A	
Primary Bkr	200	<del>119 + 81 @ 600A</del>	Lower Containment Cooling Unit
Backup Fuse	200	N/A	No. 1B
1EMXD-2A		250 @ 600A	
Primary Bkr	200	<del>119 + 81 @ 600A</del>	Lower Containment Cooling Unit
Backup Fuse	200	N/A	No. 1D
1EMXD-3B		45 @ 120A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Containment Pipe Tunnel Rooster
Backup Fuse	40	N/A	Fan CPT-BF-1B

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXD-3C		110 @ 300A	
Primary Bkr	100	<del>170</del> + 90 @ 200A	Control Rod Drive Vent Fan No. 1B
Backup Fuse	100	N/A	
1EMXD-3D		110 @ 300A	
Primary Bkr	100	<del>170</del> + 90 @ 200A	Control Rod Drive Vent Fan No. 1D
Backup Fuse	100	N/A	
1EMXD-4C		110 @ 270A	
Primary Bkr	90	<del>170</del> + 90 @ 180A	Containment Air Return Fan No. 1B
Backup Fuse	90	N/A	Fan CPT-BF-1A
1EMXD-4D		110 @ 375A	
Primary Bkr	125	<del>170</del> + 90 @ 250A	Hydrogen Recombiner No. 1B
Backup Fuse	125	N/A	
1EMXD-6C		45 @ 90A	
Primary Bkr	30	<del>48</del> + 20 @ 60A	Upper Containment Air Hdlg Unit
Backup Fuse	30	N/A	No. 1B
1EMXD-6D		45 @ 90A	
Primary Bkr	30	<del>48</del> + 20 @ 60A	Upper Containment Air Hdlg Unit
Backup Fuse	30	N/A	No. 1D
1EMXD-6E		110 @ 270A	
Primary Bkr	90	<del>170</del> + 90 @ 180A	Hydrogen Skimmer Fan No. 1B
Backup Fuse	90	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1EMXD-7B		45 @ 90A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	Upper Cont Return Air Fan=No. 1D
Backup Fuse	30	N/A	
1EMXD-7C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Pzr No. 1 Pwr Oper Safety Relief
Backup Fuse	20	N/A	Isol Vlv 1NC31B
1EMXD-7D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Pzr No. 1 Pwr Oper Safety Relief
Backup Fuse	20	N/A	Isol Vlv 1NC35B
1EMXD-8B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Incore Instrumentation Rm Air Hdlg
Backup Fuse	20	N/A	Unit 1B
1EMXD-8VC		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Upper Containment Return Air Fan 1B
Backup Fuse	20	N/A	
1EMXD-8D		45 @ 90A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	NC Loop 1C Disch to ND System
Backup Fuse	30	N/A	Cont Isol Vlv 1ND1B
1MXM F1A		45 @ 120A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Lighting Pnlbd 1LR14
Backup Fuse	40	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXM F1B		45 @ 120 A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Lighting Pnlbd 1LR15
Backup Fuse	40	N/A	
IMXM F1D		45 @ 60 A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A1 Blower A
Backup Fuse	20	N/A	
IMXM F1E		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1A2 Blower A
Backup Fuse	20	N/A	
IMXM F2A		45 @ 120 A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Lighting Pnlbd 1LR16
Backup Fuse	40	N/A	
IMXM F2B		45 @ 120 A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Lighting Pnlbd 1LR17
Backup Fuse	40	N/A	
IMXM F2C		45 @ 75 A	
Primary Bkr	25	<del>48 + 20 @ 50A</del>	Reactor Bldg Equip Hdlg 5 Ton Jib
Backup Fuse	25	N/A	Crane
IMXM F2D		45 @ 60 A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A3 Blower A
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1MXM F2E		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A4 Blower A
Backup Fuse	20	N/A	
1MXM F3A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A5 Blower A
Backup Fuse	20	N/A	
1MXM F3B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A6 Blower A
Backup Fuse	20	N/A	
1MXM F3C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Incore Inst Room Sump Pump No. 1
Backup Fuse	20	N/A	
1MXM F3D		110 @ 300A	
Primary Bkr	100	<del>170 + 90 @ 200A</del>	Upper Cont Welding Recpt
Backup Fuse	100	N/A	
1MXM F4A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A7 Blower A
Backup Fuse	20	N/A	
1MXM F4B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A8 Blower A
Backup Fuse	20	N/A	



TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXM F4D Primary Bkr Backup Fuse	100 100	<i>110 @ 300A</i> <del>170 + 90 @ 200A</del> N/A	Welding Feeder
IMXM F5C Primary Bkr Backup Fuse	50 50	<i>110 @ 150A</i> <del>85 + 35 @ 100A</del> N/A	Ice Cond Floor Cooling Defrost Heater 1A
IMXM F6C Primary Bkr Backup Fuse	60 60	<i>110 @ 180A</i> <del>85 + 35 @ 120A</del> N/A	Reactor Coolant Drain Tank Pump 1A
IMXM F7A Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1A9 Blower A
IMXM F7B Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1A10 Blower A
IMXM F7C Primary Bkr Backup Fuse	30 30	<i>45 @ 90A</i> <del>48 + 20 @ 60A</del> N/A	Lower Cont Aux Charcoal Filter Fan 1A
IMXM F8A Primary Bkr Backup Fuse	20 20	<i>45 @ 60A</i> <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1A11 Blower A

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
1MXM F8B		45 @ 60A	
Primary Bkr	20	<del>40 + 20 @ 40A</del>	Ice Cond AHU 1A12 Blower A
Backup Fuse	20	N/A	
1MXM F8C		45 @ 60A	
Primary Bkr	20	<del>40 + 20 @ 40A</del>	Ice Cond AHU 1A13 Blower A
Backup Fuse	20	N/A	
1MXM R1A		45 @ 60A	
Primary Bkr	20	<del>40 + 20 @ 40A</del>	Ice Cond AHU 1B1 Blower A
Backup Fuse	20	N/A	
1MXM R1B		45 @ 60A	
Primary Bkr	20	<del>40 + 20 @ 40A</del>	Ice Cond AHU 1B2 Blower A
Backup Fuse	20	N/A	
1MXM R1C		45 @ 60A	
Primary Bkr	20	<del>40 + 20 @ 40A</del>	Ice Cond AHU 1B3 Blower A
Backup Fuse	20	N/A	
1MXM R1D		45 @ 70A	
Primary Bkr	30	<del>40 + 20 @ 60A</del>	RCP 1A Oil Lift Pump No. 1
Backup Fuse	30	N/A	
1MXM R2A		45 @ 120A	
Primary Bkr	40	<del>40 + 20 @ 80A</del>	Lighting Panel 1LR12
Backup Fuse	40	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXM R2D Primary Bkr Backup Fuse	20 20	45 @ 60 A <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1B4 Blower A
IMXM R2E Primary Bkr Backup Fuse	30 30	45 @ 90 A <del>48 + 20 @ 60A</del> N/A	RCP 1B Oil Lift Pump No. 1
IMXM R3D Primary Bkr Backup Fuse	20 20	45 @ 60 A <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1B5 Blower A
IMXM R3E Primary Bkr Backup Fuse	20 20	45 @ 60 A <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1B6 Blower A
IMXM R3F Primary Bkr Backup Fuse	30 30	45 @ 90 A <del>48 + 20 @ 60A</del> N/A	RCP 1C Oil Lift Pump No. 1
IMXM R4D Primary Bkr Backup Fuse	20 20	45 @ 60 A <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1B7 Blower A
IMXM R4E Primary Bkr Backup Fuse	20 20	45 @ 60 A <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1B8 Blower A

TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXM R4F		45 @ 90A	
Primary Bkr	30	48 + 20 @ 60A	RCP 1D Oil Lift Pump No. 1
Backup Fuse	30	N/A	
IMXM R5B		45 @ 60A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1B9 Blower A
Backup Fuse	20	N/A	
IMXM R5C		45 @ 60A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1B10 Blower A
Backup Fuse	20	N/A	
IMXM R5D		200 @ 525A	
Primary Bkr	175	97.5 + 42.5 @ 525A	Ice Cond Equip Pwr Pnlbd 1B
Backup Fuse	175	N/A	
IMXM R6A		45 @ 60A	
Primary Bkr	20	48 + 20 @ 40A	Rod Cntrl Cluster Change Fixture
Backup Fuse	20	N/A	Hoist Drive
IMXM R6B		45 @ 60A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1B11 Blower A
Backup Fuse	20	N/A	
IMXM R7A		45 @ 60A	
Primary Bkr	20	48 + 20 @ 40A	Stud Tensioner Hoist
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXM R7B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Incore Inst Drive 1A Drive 1A
Backup Fuse	20	N/A	
IMXM R7D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B12
Backup Fuse	20	N/A	
IMXM R7E		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B13 Blower A
Backup Fuse	20	N/A	
IMXM R8A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Incore Inst Drive 1B
Backup Fuse	20	N/A	
IMXM R8B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Incore Inst Drive 1C
Backup Fuse	20	N/A	
IMXM R8D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B14 Blower A
Backup Fuse	20	N/A	
IMXM R8E		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B15 Blower A
Backup Fuse	20	N/A	



TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXMA-1D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A14 Blower A
Backup Fuse	20	N/A	
IMXMA-1E		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Cont Floor & Equip Sump 1A Pump 1A1 Vlv 1VE6B
Backup Fuse	20	N/A	
IMXMA-2A		45 @ 75A	
Primary Bkr	25	<del>48 + 20 @ 50A</del>	RCPM Maintenance Crane Recpt 1A, 1B, 1C & 1D
Backup Fuse	25	N/A	
IMXMA-2B		45 @ 75A	
Primary Bkr	25	<del>48 + 20 @ 50A</del>	Lighting Pnlbd 1LR6
Backup Fuse	25	N/A	
IMXMA-2C		45 @ 120A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Lighting Pnlbd 1LR18
Backup Fuse	40	N/A	
IMXMA-2D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A15 Blower A
Backup Fuse	20	N/A	
IMXMA-3A		45 @ 75A	
Primary Bkr	25	<del>48 + 20 @ 50A</del>	Lighting Pnlbd 1LR9
Backup Fuse	25	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXMA-3B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond Equip Access Door 1A
Backup Fuse	20	N/A	
IMXMA-3C		110 @ 150A	
Primary Bkr	50	<del>85 + 35 @ 100A</del>	Ice Cond Floor Cooling Pump 1A
Backup Fuse	50	N/A	
IMXMA-3D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Cont Floor & Equip Sump 1B Pump 1B1
Backup Fuse	20	N/A	
IMXN-F1A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A1 Blower B
Backup Fuse	20	N/A	
IMXN-F1B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A2 Blower B
Backup Fuse	20	N/A	
IMXN-F1C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A3 Blower B
Backup Fuse	20	N/A	
IMXN-F1D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A4 Blower B
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXN-F2A			
Primary Bkr	20	45 @ 60A <del>48 + 20 @ 40A</del>	Ice Cond AHU 1A5 Blower B
Backup Fuse	20	N/A	
IMXN-F2B			
Primary Bkr	20	45 @ 60A <del>48 + 20 @ 40A</del>	Ice Cond AHU 1A6 Blower B
Backup Fuse	20	N/A	
IMXN-F2C			
Primary Bkr	20	45 @ 60A <del>48 + 20 @ 40A</del>	Ice Cond AHU 1A7 Blower B
Backup Fuse	20	N/A	
IMXN-F2D			
Primary Bkr	20	45 @ 60A <del>48 + 20 @ 40A</del>	Ice Cond AHU 1A8 Blower B
Backup Fuse	20	N/A	
IMXN-F3A			
Primary Bkr	25	45 @ 75A <del>48 + 20 @ 50A</del>	Lighting Pnlbd 1LR1
Backup Fuse	25	N/A	
IMXN-F3C			
Primary Bkr	25	45 @ 75A <del>48 + 20 @ 50A</del>	Lighting Pnlbd 1LR2
Backup Fuse	25	N/A	
IMXN-F3D			
Primary Bkr	20	45 @ 60A <del>48 + 20 @ 40A</del>	Ice Cond AHU 1A9 Blower B
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXN-F3E Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Ice Cond AHU 1A10 Blower B
IMXN-F4A Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Incore Inst Drive No. 1D
IMXN-F4B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Incore Inst Drive No. 1E
IMXN-F4C Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Incore Inst Drive No. 1F
IMXN-F4D Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Cont Floor & Equip Sump 1A Pump 1A2
IMXN-F5C Primary Bkr Backup Fuse	60 60	110 @ 180A <del>85 + 35 @ 120A</del> N/A	Reactor Coolant Drain Tank Pump 1B
IMXN-F6B Primary Bkr Backup Fuse	20 20	45 @ 60A <del>48 + 20 @ 40A</del> N/A	Cont Floor & Equip Sump 1B Pump 1B2

TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXN-F6C		110 @ 150A	
Primary Bkr	50	<del>85 + 55 @ 100A</del>	Ice Cond Floor Cooling Defrost Htr
Backup Fuse	50	N/A	IB
IMXN-F7A		45 @ 75A	
Primary Bkr	25	<del>48 + 20 @ 50A</del>	Lighting Pnlbd 1LR4
Backup Fuse	25	N/A	
IMXN-F7B		45 @ 75A	
Primary Bkr	25	<del>48 + 20 @ 50A</del>	Lighting Pnlbd 1LR5
Backup Fuse	25	N/A	
IMXN-F7C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Fuel Transfer Sys Reactor Side Fdr
Backup Fuse	20	N/A	
IMXN-F7D		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1A11 Blower B
Backup Fuse	20	N/A	
IMXN-F8		45 @ 120A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Lighting Pnlbd 1LR19
Backup Fuse	40	N/A	
IMXN-F8C		45 @ 120A	
Primary Bkr	40	<del>48 + 20 @ 80A</del>	Lighting Pnlbd 1LR20
Backup Fuse	40	N/A	



TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXN-F8D		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1A12 Blower B
Backup Fuse	20	N/A	
IMXN-F8E		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1A13 Blower B
Backup Fuse	20	N/A	
IMXN-R1D		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1B1 Blower B
Backup Fuse	20	N/A	
IMXN-R1E		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1B2 Blower B
Backup Fuse	20	N/A	
IMXN-R1F		45 @ 70 A	
Primary Bkr	30	48 + 20 @ 60A	RCP 1A Oil Lift Pump No. 2
Backup Fuse	30	N/A	
IMXN-R2C		45 @ 70 A	
Primary Bkr	30	48 + 20 @ 60A	Reactor Cavity Manipulator Crane
Backup Fuse	30	N/A	
IMXN-R2F		45 @ 70 A	
Primary Bkr	30	48 + 20 @ 60A	RCP 1B Oil Lift Pump No. 2
Backup Fuse	30	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXN-R3A		45 @ 60 A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B3 Blower B
Backup Fuse	20	N/A	
IMXN-R3B		45 @ 60 A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B4 Blower B
Backup Fuse	20	N/A	
IMXN-R3C		45 @ 60 A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B5 Blower B
Backup Fuse	20	N/A	
IMXN-R3D		45 @ 70 A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	RCP 1C Oil Lift Pump No. 2
Backup Fuse	30	N/A	
IMXN-R4A		110 @ 150 A	
Primary Bkr	50	<del>85 + 35 @ 100</del>	Ice Cond Bridge Crane
Backup Fuse	50	N/A	
IMXN-R4B		45 @ 70 A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	RB Equip Hatch Hoist No. 1
Backup Fuse	30	N/A	
IMXN-R4D		45 @ 60 A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B6 Blower B
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXN-R4E		45 @ 90A	
Primary Bkr	30	<del>48 + 20 @ 60A</del>	RCP 1D Oil Lift Pump No. 2
Backup Fuse	30	N/A	
IMXN-R5D		200 @ 525A	
Primary Bkr	175	<del>97.5 + 42.5 @ 525A</del>	Ice Cond Equip Pwr Pnlbd 1A
Backup Fuse	175	N/A	
IMXN-R6A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B7 Blower B
Backup Fuse	20	N/A	
IMXN-R6B		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B8 Blower B
Backup Fuse	20	N/A	
IMXN-R6C		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B9 Blower B
Backup Fuse	20	N/A	
IMXN-R6L		110 @ 300A	
Primary Bkr	100	<del>170 + 90 @ 200A</del>	Welding Fdr
Backup Fuse	100	N/A	
IMXN-R7A		45 @ 60A	
Primary Bkr	20	<del>48 + 20 @ 40A</del>	Ice Cond AHU 1B10 Blower B
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXN-R7B		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A-	Ice Cond AHU 1B11 Blower B
Backup Fuse	20	N/A	
IMXN-R7C		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A-	Ice Cond AHU 1B12 Blower B
Backup Fuse	20	N/A	
IMXN-R7D		110 @ 150 A	
Primary Bkr	50	85 + 35 @ 100A-	Ice Cond Floor Cooling Pump 1B
Backup Fuse	50	N/A	
IMXN-R8D		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A-	Ice Cond AHU 1B13 Blower B
Backup Fuse	20	N/A	
IMXN-R8E		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1B14 Blower B
Backup Fuse	20	N/A	
IMXN-R8F		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A-	Ice Cond AHU 1B15 Blower B
Backup Fuse	20	N/A	
IMXNA-1B		45 @ 120 A	
Primary Bkr	40	48 + 20 @ 80A	Lighting Pnlbd 1LR10
Backup Fuse	40	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXNA-1C		45 @ 120 A	
Primary Bkr	40	48 + 20 @ 80A	Lighting Pnlbd 1LR11
Backup Fuse	40	N/A	
IMXNA-1E		45 @ 90 A	
Primary Bkr	30	48 + 20 @ 60A	Lower Cont Aux Charcoal Filter Fan
Backup Fuse	30	N/A	1B
IMXNA-2B		45 @ 75 A	
Primary Bkr	25	48 + 20 @ 50A	Lighting Pnlbd 1LR7
Backup Fuse	25	N/A	
IMXNA--2C		45 @ 75 A	
Primary Bkr	25	48 + 20 @ 50A	Lighting Pnlbd 1LR8
Backup Fuse	25	N/A	
IMXNA-2D		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1A14 Blower B
Backup Fuse	20	N/A	
IMXNA-2E		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	Ice Cond AHU 1A15 Blower B
Backup Fuse	20	N/A	
IMXNA-3A		45 @ 60 A	
Primary Bkr	20	48 + 20 @ 40A	2 Ton CRDM Hdlg Jib Crane
Backup Fuse	20	N/A	



TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
2. 600 VAC-MCC (Continued)			
IMXNA-3C		45 @ 60 A	
Primary Bkr	20	<del>48</del> + 20 @ 40A	NC Pump Motor Drain Tank Pump No. 1
Backup Fuse	20	N/A	
IMXNA-3D		45 @ 60 A	
Primary Bkr	20	<del>48</del> + 20 @ 40A	Ice Cond Equip Access Door 1B
Backup Fuse	20	N/A	
SMXC-7D		45 @ 45 A	
Primary Bkr	15	<del>48</del> + 20 @ 30A	Unit 1 Personnel Lock
Backup Fuse	15	N/A	
SMXA-F4A		45 @ 45 A	
Primary Bkr	15	<del>48</del> + 20 @ 30A	Unit 1 Emergency Personnel Lock
Backup Fuse	15	N/A	
3. 600 VAC-Press Htr Pwr Pnl			
Backup Press Htr Pwr Pnl 1A-1A		110 @ 270 A	
Primary Bkr	90	<del>170</del> + 90 @ 180A	Pressurizer Heaters 1, 2 & 22
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1A-1B		110 @ 270 A	
Primary Bkr	90	<del>170</del> + 90 @ 180A	Pressurizer Heaters 5, 6 & 27
Backup Fuse	90	N/A	

TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
3. 600 VAC-Press Htr Pwr Pnl's (cont'd)			
Backup Press Htr Pwr Pnl 1A-1C		110 @ 270 A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 9, 10 & 32
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1A-2C		110 @ 270 A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 11, 12 & 35
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1A-2D		110 @ 270 A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 13, 14 & 37
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1A-2E		110 @ 270 A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 17, 18 & 42
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1B-1A		110 @ 270 A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 21, 47 & 48
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1B-1B		110 @ 270 A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 26, 53 & 54
Backup Fuse	90	N/A	

TABLE 3.8-1 (Continued)  
CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
3. 600 VAC-Press Htr Pwr Pnl's (cont'd)			
Backup Press Htr Pwr Pnl 1B-1C		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 31, 59 & 60
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1B-2C		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 36, 65 & 66
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1B-2D		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 41, 71 & 72
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1B-2E		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 46, 77 & 78
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1C-1A		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 7, 8 & 30
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1C-1B		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 19, 20 & 45
Backup Fuse	90	N/A	

TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
3. 600 VAC-Press Htr Pwr Pnl (cont'd)			
Press Htr Pwr Pnl 1C-1C		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 24, 51 & 52
Backup Fuse	90	N/A	
Press Htr Pwr Pnl 1C-1D		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 29, 57 & 58
Backup Fuse	90	N/A	
Press Htr Pwr Pnl 1C-2C		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 34, 63 & 64
Backup Fuse	90	N/A	
Press Htr Pwr Pnl 1C-2D		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 37, 69 & 70
Backup Fuse	90	N/A	
Press Htr Pwr Pnl 1C-2E		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 44, 75 & 76
Backup Fuse	90	N/A	
Press Htr Pwr Pnl 1D-1A		110 @ 270A	
Primary Bkr	90	170 ± 90 @ 180A	Pressurizer Heaters 3, 4 & 25
Backup Fuse	90	N/A	

TABLE 3.8-1 (Continued)

## CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
3. 600 VAC-Press Htr Pwr Pnls (cont'd)			
Backup Press Htr Pwr Pnl 1D-1B		110 @ 270A	
Primary Bkr	90	<del>170 ± 90 @ 180A</del>	Pressurizer Heaters 15, 16 & 40
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1D-1C		110 @ 270A	
Primary Bkr	90	<del>170 ± 90 @ 180A</del>	Pressurizer Heaters 23, 49 & 50
Backup Fuse	90	N/A	
MCC 5MX4-F5A <del>Backup Press Htr Pwr Pnl 1D-1D</del>		110 @ 270A	
Primary Bkr	90	<del>170 ± 90 @ 180A</del>	Pressurizer Heaters 28, 55 & 56
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1D-2C		110 @ 270A	
Primary Bkr	90	<del>170 ± 90 @ 180A</del>	Pressurizer Heaters 33, 61 & 62
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1D-2D		110 @ 270A	
Primary Bkr	90	<del>170 ± 90 @ 180A</del>	Pressurizer Heaters 38, 67 & 68
Backup Fuse	90	N/A	
Backup Press Htr Pwr Pnl 1D-2E		110 @ 270A	
Primary Bkr	90	<del>170 ± 90 @ 180A</del>	Pressurizer Heaters 43, 73 & 74
Backup Fuse	90	N/A	



TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
4. 120 VAC-Panelboards			
1EKVD-12			
Primary Bkr	20	29 ± 16 @ 40A	Rad Mon Sys Sample Solenoid Vlvs
Backup Fuse	6	N/A	IMISV 5581 & 5583
KRA-22			
Primary Bkr	20	29 ± 16 @ 40A	Rad Mons IEMF9 & IEMF16
Backup Fuse	1	N/A	



TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
4. 120 VAC-Panelboards (cont'd)			
KXA-13		<b>40 @ 60A</b>	
Primary Bkr	20	<del>20 ± 16 @ 40A</del>	Rad Mon Sys Sample Solenoid Vlvs
Backup Fuse	4	N/A	IMISV 5584, 5585 & 5586
IKM-1		<b>45 @ 90A</b>	
Primary Bkr	30	<del>48 ± 20 @ 60A</del>	RCP 1A Space Htr
Backup Fuse	30	N/A	
IKM-2		<b>45 @ 90A</b>	
Primary Bkr	30	<del>48 ± 20 @ 60A</del>	RCP 1C Space Htr
Backup Fuse	30	N/A	
IKM-28		<b>36 @ 60A</b>	
Primary Bkr	20	<del>48 ± 20 @ 40A</del>	Cont Spray Sys Rh Trans INSMT 5400
Backup Fuse	20	N/A	
IKM-30		<b>36 @ 60A</b>	
Primary Bkr	<del>20</del> 30	<del>48 ± 20 @ 40A</del>	Cont Spray Sys Rh Trans INSMT 5410
Backup Fuse	<del>20</del> 30	N/A	
IKN-1		<b>45 @ 90A</b>	
Primary Bkr	30	<del>48 ± 20 @ 60A</del>	RCP 1B Space Htr
Backup Fuse	30	N/A	
IKN-2		<b>45 @ 90A</b>	
Primary Bkr	30	<del>48 ± 20 @ 60A</del>	RCP 1D Space Htr
Backup Fuse	30	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
4. 120 VAC-Panelboards (cont'd)			
1KN-25		36 @ 60A	
Primary Bkr	30 20	48 ± 20 @ 60A-	Incore Inst Dillum 1
Backup Fuse	30 20	N/A	
1KN-27		36 @ 60A	
Primary Bkr	20	48 ± 20 @ 40A	Fuel Handling Control console
Backup Fuse	20	N/A	
1KN-29		36 @ 60A	
Primary Bkr	30 20	48 ± 20 @ 60A-	Incore Inst Dillum 2
Backup Fuse	30 20	N/A	
5. 250 VDC-Lighting			
RB Deadlight Pnlbd 1DL1 #1		40 @ 60A	
Primary Bkr	20	87.5 ± 62.5 @ 40A	Ltg Pnl Nos. 1LR1 & 1LR3
Backup Fuse	20	N/A	
RB Deadlight Pnlbd 1DL1 #3		40 @ 60A	
Primary Bkr	20	87.5 ± 62.5 @ 40A-	Ltg Pnl Nos. 1LR5 & 1LR6
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
5. 250 VDC-Lighting (cont'd)			
RB Deadlight Pnlbd IDLD #4		40 @ 60A	
Primary Bkr	20	87.5 ± 62.5 @ 40A	Ltg Pnl Nos. 1LR7, 1LR8 & 1LR9
Backup Fuse	20	N/A	
RB Deadlight Pnlbd IDLD #6		40 @ 60A	
Primary Bkr	20	87.5 ± 62.5 @ 40A	Ltg Pnl Nos. 1LR10 & 1LR13
Backup Fuse	20	N/A	
RB Deadlight Pnlbd IDLD #7		40 @ 60A	
Primary Bkr	20	87.5 ± 62.5 @ 40A	Ltg Pnl No. 1LR16
Backup Fuse	20	N/A	

TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

Device Number & Location	Trip Setpoint or Cont. Rating (Amperes)	Response Time (Seconds)	System Powered
5. 250 VDC-Lighting (cont'd)			
RB Deadlight Pnlbd IDLD #9		40 @ 60 A	
Primary Bkr	20	<del>87.5 - 62.5 @ 40A</del>	Ltg Pnl Nos. 1LR18, 1LR17
Backup Fuse	20	N/A	
MCC SMX6-F3G			
Primary Bkr	20	45 @ 60 A	Standby Makeup P. to Cont.
Backup Fuse	20	N/A	Sump Isol. Vlv. 1NV1012C
MCC SMX6-F4G			
Primary Bkr	20	45 @ 60 A	Standby Makeup P. to Cont.
Backup Fuse	20	N/A	Sump Isol. Vlv. 1NV1013C

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SURVEILLANCE REQUIREMENTS (Continued)

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- (c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.
- 2. By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. The nominal continuous rating and the maximum response time at 300% of the continuous rating are listed in Table 3.8-1. The functional test shall consist of injecting a current input above the trip setpoint to each selected circuit breaker and verifying that each circuit breaker functions as designed. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operating. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.
- 3. By selecting and functionally testing a representative sample of each type of fuse on a rotating basis. Each representative sample of fuses shall include at least 10% of all fuses of that type. The functional test shall consist of a non-destructive resistance measurement test which demonstrates that the fuse meets its manufacturer's design criteria. Fuses found inoperable during these functional tests shall be replaced with OPERABLE fuses prior to resuming operation. For each fuse found inoperable during these functional tests, an additional representative sample of at least 10% of all fuses of that type shall be functionally tested until no more failures are found or all fuses of that type have been functionally tested.
- 4. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.



## ATTACHMENT 2

### Technical Specification 3/4.6.1

#### Proposed Change

Delete valves 1KC 307 and 1KC 309 from Table 3.6-2.

#### Justification and Safety Analysis (Ref. FSAR Figure 9.2.4-3 (2 of 2))

The subject valves are currently listed under Part C Table 3.6-2 which lists manual containment isolation valves. Specification 4.6.1.1 requires that valves 1KC 307 and 1KC 309 be closed except that intermittent opening of these valves is permitted under administrative control. Both of these valves are located inside containment and are not readily accessible.

The subject valves are part of that portion of the Component Cooling System which supplies cooling water to the excess letdown heat exchanges. In the event excess letdown flow is needed, the control room operator should be able to place this function in operation without having to send a second operator into the containment to initiate cooling water flow to the excess letdown heat exchange.

Valves 1KC 307 and 1KC 309 are not considered containment isolation valves since they are not relied on to assure containment integrity. With both of these valves open, containment integrity is assured by:

- 1) Automatic motor-operated containment isolation valves located outside containment
- 2) "Closed system" concept for the excess letdown cooling water piping inside containment (i.e., piping is ASME Class 2, protected from the effects of pipe whip and from the effects of missiles under postulated accident conditions.)

Thus the requirement of General Design Criterion 57 are satisfied with valves 1KC 307 and 1KC 309 open.



### ATTACHMENT 3

#### Technical Specification 3/4.7.8 - Snubbers

##### Proposed Change

Exempt the following hydraulic snubbers in Table 3.7-4a from the functional testing requirements of the specification.

<u>Support No.</u>	<u>Location</u>	<u>Inside/Outside Containment</u>
1 - MCA-BB-H420	FF52 El. 738-09	O
1 - MCA-CA-H175	EE53 El. 724-00	O
1 - MCA-NB-2391	PP56 El. 742-06	O
1 - MCA-NI-H355	FF53 El. 716-00	O
1 - MCA-NV-H441	JJ52 El. 744-06	O
1 - MCR-NC-SG-A	S/G A Enclosure	I
1 - MCR-NC-SG-B	S/G B Enclosure	I
1 - MCR-NC-SG-C	S/G C Enclosure	I
1 - MCR-NC-SG-D	S/G D Enclosure	I

##### Justification and Safety Analysis

Five of the subject snubbers are located outside containment while the remaining four are located inside containment. All of the snubbers are located in Zone VI radiation areas (see FSAR Figures 12.1.1-1 through 12.1.1-6). Thus the general area dose rate exceeds 15 mem/hr. This general area dose rate combined with potential "hot spots" in each of the areas where these snubbers are located could result in exposures to each worker involved in removing a snubber for functional testing of 200-300 mem. It is concluded that this exposure is unnecessary and is not in keeping with the Duke Power Company ALARA program. NRC Region II personnel have examined the circumstances involved with each of these snubbers and are in agreement with the proposed change.

Each of the snubbers will be visually examined in accordance with the frequency requirements of the specification. These snubbers will be included in the representative sample which is selected randomly; however, if selected, a visual examination in lieu of a functional test will be performed. This visual examination will verify that there are no obvious defects that could hinder operability of these snubbers, i.e., movable parts not damaged, no excessive debris on rods, proper oil level.

These snubbers will still be subject to periodic replacement of their seal material approximately every 5 years, thus providing an opportunity to verify the operability of these snubbers. Also, if a generic problem is discovered with one type of snubber, all snubbers of that type would be tested as required by Technical Specifications, whether exempted from periodic functional testing or not.

#### ATTACHMENT 4

Technical Specification 3/4.1.2 - Boration Systems

Technical Specification 3/4.5.3 - ECCS Subsystems - T avg less tr : 350°F

##### Proposed Change

Add the following statement to both Specification 4.1.2.3.2 and 4.5.3.2.  
"... or by isolating the discharge of each pump from the Reactor Coolant system with at least two isolation valves."

##### Justification and Safety Analysis

The purpose of this change is to permit limited use of the Safety Injection pumps during shutdown conditions. With the current Technical Specifications, surveillance testing of these pumps cannot be performed in Modes 5 and 6 nor in Mode 4 below 300°F. However, these pumps must be OPERABLE in Mode 3; thus the only "window" for testing is between 300°F and 350°F. This requires that surveillance testing be performed during plant heatup. If a problem were discovered as a result of the testing, a substantial delay in plant startup could occur while corrective action is taken. Also the Safety Injection pumps are used for filling various ECCS accumulators. This operation could not be performed readily without the ability to run these pumps while shutdown.

This proposed change would have no adverse impact on the safety of the plant. The current requirement to have a maximum and minimum of one Centrifugal Charging pump OPERABLE in Mode 4 while below 300°F would not change. As long as a Safety Injection pump is isolated from the Reactor Coolant System, it is not considered OPERABLE; thus there is no increase or decrease in the number of OPERABLE pumps required by the specifications.

Double verification of the double isolation and the restoration of a Safety Injection pump provides adequate assurance that the proposed change can be implemented safely.

## ATTACHMENT 5

Technical Specification 3/4.5.2 - ECCS Subsystem - T avg greater than 350°F

### Proposed Change

Revise Specification 4.5.2.d.1 to read:

"Verifying automatic isolation and interlock action of the RHR system from the Reactor Coolant System when the Reactor Coolant System pressure is above 560 psig."

### Justification and Safety Analysis

The interlock between the RHR isolation valves and the Reactor Coolant System pressure serves as a means of protecting the low pressure RHR system from gross overpressure. The first line of defense in this protection is the operator. During normal plant startup, the operator manually isolates the RHR system prior to increasing Reactor Coolant System pressure above 450 psig. A second level of protection for the RHR system is provided by the RHR relief valve, with a set pressure of 450 psig.

The current limit of 475 psig does not provide sufficient margin between the interlock setpoint (which is less than the Technical Specification limit due to instrument error) and expected operating conditions. Minor pressure variations, such as those from starting and stopping Reactor Coolant Pumps, can cause unnecessary isolation of the RHR system due to actuation of the interlock.

The proposed limit of 560 psig will provide sufficient margin to preclude unnecessary isolation of the RHR system. This limit would also keep the RHR system relief valve available to mitigate overpressure transients in the Reactor Coolant System. No credit was taken for this relief valve in the overpressure protection analysis; however, it would provide an additional level of protection to the Reactor Coolant System.

Raising the interlock limit does not have an adverse safety impact since the interlock is not the primary or secondary means of overpressure protection for the RHR system. The proposed value for this interlock is consistent with the values in both the Farley and Sequoyah Technical Specifications, i.e., interlock is set at approximately 125% of design pressure of RHR system. The Farley and Sequoyah limit is 750 psig; however, the design pressure of their systems is 600 psig. The design pressure of the McGuire RHR system is 450 psig, hence the proposed limit of 560 psig.