

- 4) A copy of a Condition Report Corrective Action that addressed the need to provide a specific procedure for the manual actions necessary to accomplish safe shutdown in Zone 98-J. For background information, our 'area-based' safe shutdown assessment was generated by a contractor (NUS) in the mid-1980's. Where redundancies were identified in a zone/area, NUS made suggestions as to how to resolve identified concern. ANO evaluated each of the items identified in the 'area' analysis and developed a final resolution strategy. In some instances, alternate methods for resolving the issues were identified by ANO and corrective actions performed accordingly. The recommendation by NUS to consider developing a procedure for Zone 98-J was made in a section of the assessment (Tab 8, which no longer exists) that was treated as historical (i.e. the analysis on a 'zone' basis). No final resolutions were provided for 'zone' redundancies, since Appendix R required compliance on an 'area' basis. When the assessment was restructured in the 1996/97 timeframe, the recommendation by NUS for 98-J was noted. As a part of the reverification effort of the safe shutdown assessment, this recommendation was addressed by the subject CR corrective action.

Note : The minimum time to perform the required actions as specified in the CR response has since been modified by revision to associated calculations. However, the intent of the response (i.e. sufficient time is available to perform the required actions) remains valid.

In regards to the SBO diesel, this device is considered a Unit 2 component. All controls (fiber optic) are located in Unit 2 as is the 2A9 switchgear. The feeder cables from 2A9 to A1 and A3/A4 are not routed through Zone 98-J. The feeder cable to A3/A4 is connected to the cross-tie between these switchgear. Obviously, the cross-tie will be routed into Zone 99-M, where it connects to the A4 switchgear. Note : For either zone, the red EDG can be manually started and aligned to the A3 switchgear.

In regards to a Loss of Off-site Power, the feeds from the Start-up Transformers to the non-safety related buses are not routed through the zone. Consequently, A1 and A2 are capable of being energized from an off-site source. Due to the complexity of the circuits, we have never verified that the control circuits for the various breakers are unaffected (i.e. the breakers associated with the off-site source could be affected). Item 1 (above) provides the list of components that are affected in 98-J as well as a separate list of components that are not affected (i.e. fire modeling determined that damage does not occur). Single line drawing E-4, shows that breaker A113 is associated with the feed from Startup transformer # 1 (the normal feed) to A1. This component is not listed as either 'failed' or 'not failed' in the calc. Consequently, it is unclear whether a fire could affect this control circuit or not. However, in the event the associated breaker was to spuriously trip, DC control power could be removed locally (at the switchgear) and the breaker manually closed. Therefore, power from off-site sources can be provided to non-safety related bus A1 (and A2) and to safety related bus A3.

Actions to restore power to the ESF buses are specified in procedures 1202.007 (degraded power) and/or 1202.008 (blackout).

Emergency Diesel Generator Access Corridor
Fire Zone 98-J

BACKGROUND

During the 2001 Fire Protection Triennial audit, the NRC inspectors expressed a concern regarding the separation of safe shutdown circuits in Fire Zone 98-J. Specifically, the inspectors noted that in lieu of providing passive fire barriers on red train conduits, ANO credits taking manual actions to control the associated safe shutdown components.

MANUAL ACTIONS

In the late 1970's, ANO made upgrades to the existing fire protection features in an attempt to meet the guidance specified by Appendix A to the Auxiliary Power Conversion Systems Branch (APCSB) Branch Technical Position 9.5-1 (BTP 9.5-1). In doing so the staff posed numerous questions concerning the capability to achieve safe shutdown. Some examples of the correspondence include :

- NRC letter dated 02-22-77, Item 48 posed a question concerning the manual operation of valves.
- ANO letter dated 04-12-78, responded to Item 48 (i.e. manual operation of valves).
- NRC letter dated 04-13-78, Items 82 and 92 requested information concerning time available to perform manual operations.
- ANO letter dated 04-26-78, responded to Items 82 and 92. Regrettably, the available paper and microfilm copies of the response did not include Item 92, which dealt specifically with Zone 98-J. ANO will be attempting to obtain a copy of this page from the Public Document room.
- ANO submittal on Appendix R compliance dated 07-01-82. The introduction of the submittal provided the methodology for compliance analysis. Step 6 took credit for manual operation of equipment. Step 7 evaluated the remaining redundancies with respect to Section III.G separation. Section 2 of the submittal discussed zones that comply with Appendix R and specify the zones where manual actions may be required. Section 4 of the submittal discusses Zone 98-J and the associated exemption request. The discussion notes that multiple red train cables are located in the corridor, primarily associated with the red DC equipment. The discussion notes that the only circuits required to achieve safe shutdown are associated with the RS panels (i.e. instrumentation power) and will be protected by a 1-hour rated barrier.
- NRC (via Brookhaven) poses questions in a meeting (08-25-82) concerning manual actions required to achieve safe shutdown.
- ANO letter dated 10-05-82 formally responded to the NRC questions of 08-25-82. The response addressed manual actions in several Unit 1 zones. Zone 98-J was not included because at the time, Zone 98-J had a pending exemption request, whereas the question was directed toward those zones in which compliance with Appendix R had been identified in the 07-01-82 submittal.

In addition to the above correspondence, the Fire Hazards Analysis (SAR section Appendix 9B) defines the criteria for utilization of manual actions, in lieu of remote control.

Also, Regulatory Guide 1.198, Section 5.3 states "One success path of equipment necessary to achieve hot standby (PWR) or hot shutdown (BWR) from either the control room or emergency control stations should be maintained free of fire damage by a single fire, including an exposure fire. Manual operation of valves, switches, and circuit breakers is allowed to operate equipment and isolate systems and is not considered a repair."

ACTIONS REQUIRED IN 98-J

Assuming that the suppression system in Zone 98-J fails to operate and that all red train cables eventually sustain damage, the following list of manual actions would be required to be performed within the 1st hour:

Manually align Service Water (SW) to the emergency diesel generator (EDG) – Remote control of the SW pump and the EDG jacket cooler isolation valve could be affected. SW flow to the EDG jacket cooler must be restored within 7 minutes to prevent overheating and mechanical damage. CV3806 is located in the EDG room and is accessible within this timeframe. The SW pump can be started at the A3 switchgear by manually closing the associated breaker. Local operation of the breaker can be performed within 5 minutes. One person would be dispatched to the EDG room, whereas another operator would proceed to the A3 switchgear room. In the event SW flow cannot be readily restored, the EDG may be shut down from the Control Room. Electrical power is not required until Emergency Feedwater (EFW) or RCS inventory make-up is required. Consequently, sufficient time, access and personnel are available to manually control SW components prior to restarting the EDG. A follow-up action would be to isolate the ACW line (via CV3643) in the event a single SW pump is providing flow to both Loop I and Loop II.

Manual start of EDG – Control cables that could cause the EDG to spuriously trip and/or fail to start. The control circuit for the EDG output breaker could also be affected. The EDG can be started in a "No DC – Override" mode. Starting the EDG in this mode will eliminate the possibility of a spurious signal causing the EDG to trip. One person would be dispatched to the EDG room, whereas another operator would proceed to the A3 switchgear room to manually control the output breaker. To ensure the breaker does not spuriously trip, isolation of DC power (locally at the switchgear) will also be required. As noted above, electrical power is not required until either EFW or RCS make-up is required. Consequently, sufficient time, access and personnel are available to perform a local manual start of the diesel.

Manually align EFW -- Control cables for the EFW discharge and suction valves as well as for the motor driven EFW pump could be affected. Prior to starting the EFW pump, the suction valves can be deenergized in their pre-fire position by opening the associated breakers in the red electrical equipment room. Normally closed flow control valves CV2646 and CV2648 can be deenergized (i.e. failed open) by operating the disconnect switch in the Lower South Electrical penetration room. If the discharge valves (CV2626 and CV2670) spuriously close, these valves can be deenergized in the red electrical equipment room and manually throttled in the piping penetration rooms. Once the required valves are verified to be in the correct position, P7B can be manually started at the A3 switchgear. One person would deenergize the valves and close the breaker for P7B, while an additional operator locally verifies valve position in the Auxiliary building. These actions are similar to those performed during Alternate Shutdown (ASD) and are readily achievable within 20 minutes. With the RCPs running, EFW is required to be restored in approximately 30 minutes. However, if the RCPs are tripped, EFW will not be required for at least 50 minutes. Consequently, sufficient time, access and personnel are available to perform these manual actions.

Manually start make-up pump – Assuming electrical power is available, Letdown isolation is achievable from the Control Room. However, in the event that the EDG does not function, the isolation valve can be manually operated. With prompt isolation (i.e. within 4 minutes) of Letdown, inventory make-up will not be necessary for at least 40 minutes and will be related to the cooldown rate and the associated shrinkage of the RCS. In the event remote control of the make-up pump and associated auxiliary lube oil pump is affected, the pumps can be started by closing the breakers in the A3 switchgear room. In the event that the swing pump is being utilized, the disconnect switch for P64B may require operation. This switch is located on elevation 317' of the auxiliary building. Although sufficient time is available for a single operator to perform the required manual actions, conservatively, it is assumed that two operators will be utilized; one to operate the breakers and one to operate the disconnect switch. Sufficient time, access, and personnel are available to perform these manual actions.

The remaining manual actions need not be performed within the 1st hour of the event and are typically not required to maintain hot shutdown.

In summary, two operators can perform the actions required to achieve safe shutdown for Zone 98-J. One operator will be stationed in the A3 switchgear room, with a brief excursion to the red electrical equipment room/lower south electrical penetration room. Operator # 2 will be stationed in the auxiliary building to manually start the EDG, manually open the SW valve to the EDG, manually align the EFW valves and manually operate the P64B disconnect switch (as required), per the direction of the Shift Manager. The summation of these actions are much less intensive than those specified in the ASD procedure. Similar actions in the ASD are accomplished within 25 minutes. The manual actions specified for Zone 98-J are not required to be completed for at least 40 minutes.

CONCLUSION

From the official correspondence, it is clear that manual operation of safe shutdown equipment was considered a viable method for achieving safe shutdown in both the pre- and post-Appendix R eras. From the 1982 submittal, it is clear that manual operation of components was utilized as a method of compliance prior to evaluating the need for passive fire barriers. From the discussion of the manual actions, it is clear that the manual actions can be performed with personnel that are not assigned to the fire brigade and in a timely manner. Therefore, with the exception of the circuitry associated with RS1 and RS3, none of the red train cables are required to function in order to achieve safe shutdown and thus do not require the installation of a passive fire barrier.

Zone 98-J

Table of Effected Equipment

FIRE_ZONE	EQUIP_TAG	COMP CODE	COMPDESC	COMPLOC
98-J	A104	CKTBKR	AC BREAKER Z104A	TB-372-B-8
98-J	A111	CKTBRK	SU TRANS #2 SUPPLY TO A1	TB-372-B-7
98-J	A111	RELAY	ENERGIZED SYNC RELAY 125-111	TB-372-B-7
98-J	A202	CKTBRK	A-2 SUPPLY TO X-2	TB-372-B-7
98-J	A212	CKTBRK	UNIT AUXILIARY TRANSFORMER SUPPLY TO A2	TB-372-B-7
98-J	A304	CKTBRK	RB SPRAY PUMP P35A SUPPLY	RAB-372-E-5.4
98-J	A307	CKTBRK	PRIMARY MU PUMP P36B SUPPLY	RAB-372-E-5.4
98-J	A311	CKTBRK	P-7B EMERGENCY FEEDWATER	RAB-372-E-5.4
98-J	A401	CKTBRK	X-6 SUPPLY	RAB-372-D-5.5
98-J	A402	CKTBRK	SERVICE WATER PUMP P4C SUPPLY	RAB-372-D-5.5
98-J	A403	CKTBKR	4160V AC BREAKER 152-403 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
98-J	A403	CKTBRK	SERVICE WATER PUMP P4B SUPPLY	RAB-372-D-5.5
98-J	A404	CKTBKR	4160V AC BREAKER 152-404 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
98-J	A404	CKTBRK	RB SPRAY PUMP P35B SUPPLY	RAB-372-D-5.5
98-J	A405	CKTBKR	4160V AC BREAKER 152-405 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
98-J	A405	CKTBRK	DECAY HEAT PUMP P34B SUPPLY	RAB-372-D-5.5
98-J	A406	CKTBKR	4160V AC BREAKER 152-406 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
98-J	A406	CKTBRK	MU PUMP P36C SUPPLY	RAB-372-D-5.5
98-J	A407	CKTBKR	4160V AC BREAKER 152-407	RAB-372-D-5.5
98-J	A407	CKTBRK	MU PUMP P36B SUPPLY	RAB-372-D-5.5
98-J	A408	CKTBRK	DIESEL GENERATOR #2 OUTPUT BREAKER	RAB-372-D-5.5
98-J	A409	CKTBRK	A2 TO A4 SUPPLY	RAB-372-D-5.5
98-J	A601	CKTBKR	4160V AC BREAKER 152-601	INTAKE BLDG
98-J	B15	SWGEAR	MOTOR CONTROL CENTER	RAB-404-E-5.5
98-J	B31	SWGEAR	MOTOR CONTROL CENTER	RAB-374-C-3
98-J	B321	CKTBRK	MCC B-31 SUPPLY	TB-372-B-6.5
98-J	B41	SWGEAR	MOTOR CONTROL CENTER	RAB-374-C-3
98-J	B421	CKTBRK	MCC B-41 SUPPLY	TB-372-B-7
98-J	B4243	CKTBRK	INST AIR COMPRESSOR C2C	TB-354-D-8
98-J	B44	SWGEAR	MOTOR CONTROL CENTER	RB-357-325
98-J	B5123	CKTBKR	AC BREAKER 52-5123	RAB-368-G-4.5
98-J	B5141A	CKTBKR	INVERTER TRANSF. SW Y11	RAB-368-G-4.5
98-J	B5141B	CKTBKR	INVERTER Y-11	RAB-368-G-4.5
98-J	B5145A	CKTBKR	INVERTER Y13	RAB-368-G-4.5
98-J	B5145B	CKTBRK	INVERTER Y13	RAB-368-G-4.5
98-J	B612	CKTBRK	B-6 INPUT SUPPLY	RAB-372-D-5.5
98-J	B6123	CKTBKR	AC BREAKER 52-6123	RAB-386-C-2
98-J	B614	CKTBRK	MCC B-62 SUPPLY	RAB-372-D-5.5
98-J	B623	CKTBRK	RB COOLER VSF-1C	RAB-372-D-5.5
98-J	B633	CKTBRK	RB COOLER VFSM-1D	RAB-372-D-5.5
98-J	B634	CKTBRK	MCC B-65 SUPPLY	RAB-372-D-5.5
98-J	B64	SWGEAR	480V MOTOR CONTROL CENTER	RAB-386-C-4

ANO-1 IPEEE FIRE P2 VALUES

Attachment 1

FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC.
98-J	B65	SWGEAR	MOTOR CONTROL CENTER	RAB-372-D-5.5
98-J	B7	SWGEAR	480V LOAD CENTER BUS B-7	TB-386-K-8
98-J	B71	SWGEAR	MOTOR CONTROL CENTER	RB-354-300
98-J	B712	CKTBRK	B-7 INPUT SUPPLY	TB-386-K-8
98-J	B72	SWGEAR	MOTOR CONTROL CENTER	RB-354-320
98-J	C187	BISTBL	LT-2617 BISTABLE	RAB-368-G-4.5
98-J	C2B	BLOWER	INSTRUMENT AIR COMPR	RAB-354-G-4.5
98-J	C2B	COMPRS	AIR COMPRESSOR C2B	RAB-354-G-4.5
98-J	C3B	BLOWER	SERVICE AIR COMPRESSOR	RAB-354-G-4.5
98-J	C3B	COMPRS	AIR COMPRESSOR C3B	RAB-354-G-4.5
98-J	CV1000	VALVE	PZR ERV ISOL	RB-403-330
98-J	CV1009	VALVE	PZR SPRAY BLOCK	RB-403-330
98-J	CV1206			
98-J	CV1221	VALVE	LTDW ISOL	RAB-360-C-2
98-J	CV1227	VALVE	HPI TO P32B INJ	RAB-360-C-2
98-J	CV1228	VALVE	HPI INJ VALVE TO P-32A	RAB-360-C-2
98-J	CV1234	VALVE	MU ISOL	RAB-360-C-2
98-J	CV1274	VALVE	SEAL RTN ISOL	RAB-360-C-2
98-J	CV1400	VALVE	'B' LPI CONT VLV	RAB-360-C-2
98-J	CV1404	VALVE	P-34A/B SUCT SUPP FROM RCS	RAB-360-C-2
98-J	CV1406	VALVE	P34B/P35B SUCT FROM RB SUMP	RAB-317-C-3.2
98-J	CV1408	VALVE	BWST OUT VLV	RAB-354-B-1.5
98-J	CV1415	VALVE	P34B/P35B SUCT FROM RB SUMP	RB-336-360
98-J	CV1416	VALVE	PZR AUX SPRAY CONT ISO VALVE	RAB-360-C-2
98-J	CV2235	VALVE	CRD CLNG SUPP RB ISOL	RAB-356-H-3.5
98-J	CV2400	VALVE	'B' TRAIN RB SPRAY HDR ISOL	RAB-360-C-2
98-J	CV2613	RELAY	CV-2613 TIME DELAY PREMATURE	RAB-404-H-3
98-J	CV2613	VALVE	P-7A STEAM ADMISSION VALVE	RAB-404-H-3
98-J	CV2613	VALVE	SOLENOID VALVE SV-2613	RAB-404-H-3
98-J	CV2617	VALVE	OTSG 'B' SUPPLY TO P-7A"	RAB-404-H-3
98-J	CV2618	VALVE	SO B STEAM DUMP TO ATMOS	RAB-404-H-3
98-J	CV2619			
98-J	CV2620	VALVE	P-7A TO SG-B ISOLATION	RAB-335-H-3.5
98-J	CV2624	VALVE	LO LOAD BLOCK VALVE	TB-368-J-5.2
98-J	CV2624	VALVE	MOV CV-2624	RAB-368-J-5.2
98-J	CV2625	VALVE	MAIN FW BLOCK VALVE TO 'A' OTSG"	TB-368-K-5.2
98-J	CV2625	VALVE	MOV CV-2625	TB-368-K-5.2
98-J	CV2626	VALVE	P-7B TO SG-B ISOLATION	RAB-335-H-3.5
98-J	CV2627	VALVE	P-7A TO SG-A ISOLATION	RAB-360-C-2
98-J	CV2630	VALVE	FW ISO CONTROL VALVE TO OTSG 'B'	RAB-356-H-3.5
98-J	CV2645	VALVE	P-7A TO SG-A CONTROL VALVE	RAB-335-G-4.5
98-J	CV2645	VALVE	SOLENOID VALVE 2645	RAB-335-G-4.5
98-J	CV2646	VALVE	P-7B TO SG-A CONTROL VALVE	RAB-335-C-4.2
98-J	CV2647	VALVE	P-7A TO SG-B CONTROL VALVE	RAB-335-G-4.5
98-J	CV2647	VALVE	SOLENOID VALVE 2647	RAB-335-G-3.5

Calc. #95-E-0066-02, Rev. 0 Performed By: Matt Freeman
Chkd By:

ANO-1 IPEEE FIRE P2 VALUES

Attachment 1

FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC
98-J	CV2648	VALVE	P-7B TO SG-B CONTROL VALVE	RAB-335-G-4.5
98-J	CV2648	VALVE	SOLENOID VALVE 2648	RAB-335-G-4.5
98-J	CV2663	RELAY	CV-2663 TIME DELAY PREMATURE	RAB-404-H-3
98-J	CV2663	VALVE	P-7A STM ADMISSION VALVE	RAB-404-H-3
98-J	CV2663	VALVE	SOLENOID VALVE 2663	RAB-404-H-3
98-J	CV2667	VALVE	SG A TO EMG K3 BYPASS	RAB-404-H-3
98-J	CV2668	VALVE	ATMOS. DUMP VALVE	RAB-404-H-3
98-J	CV2670	VALVE	P-7B TO SG-A ISOLATION	RAB-360-C-2
98-J	CV2674	VALVE	LO LOAD BLOCK VALVE	TB-368-J-5.8
98-J	CV2675	VALVE	MAIN FW BLOCK VALVE TO BLDG OTSG	TB-368-K-5.8
98-J	CV2680	VALVE	FW ISO CONTROL VLV TO STMGEN A	RAB-356-H-3.5
98-J	CV2802	VALVE	P-7A SUCTION FROM CST	RAB-335-G-4.5
98-J	CV2827	VALVE	FW CROSSOVER VALVE	TB-368-K-5.9
98-J	CV2870	VALVE	P-7A TEST RECIRC ISOLATION	RAB-335-G-4.5
98-J	CV3640	VALVE	BLDG DISCH TO LOOP II SW	INTAKE BLDG
98-J	CV3641	VALVE	SW LOOP II ISOL	INTAKE BLDG
98-J	CV3642	VALVE	P-4B TO P-4C DISCH CROSSOVER	INTAKE BLDG
98-J	CV3806	VALVE	#1 EDG JACKET CLR E-20A SW SUPP	RAB-369-B-2
98-J	CV3807	VALVE	#2 EDG JACKET CLR E-20B SW SUPP	RAB-369-A-2
98-J	CV3811	VALVE	LOOP II SUPP TO ICW CLRS	RAB-335-E-5.7
98-J	CV3813	VALVE	VCC-2C AND 2D INLET	RAB-354-C-2
98-J	CV3821	VALVE	MOTOR-OPERATED VALVE CV3821	RAB-335-C-3.5
98-J	CV3824	VALVE	SW RTN TO DISCH FLUME	RAB-335-E-5.7
98-J	CV3841	VALVE	AIR-OPERATED VALVE CV3841	RAB-317-C-3.5
98-J	CV5611	VALVE	FIRE WATER ISO VALVE	RAB-356-H-3.5
98-J	CV7472	DAMPER	VSF-1C BACKDRAFT DAMPER	RB-380-270
98-J	CV7473	DAMPER	VSF-1D BACKDRAFT DAMPER	RB-380-270
98-J	D0122A	CKTBKR	DC BREAKER 0122A	RAB-372-D-4.2
98-J	D0122B	CKTBKR	DC BREAKER 0122B	RAB-372-D-4.2
98-J	D02	CKTBRK	125 VDC DISTRIBUTION PNL NO.2 SUPPLY BKR	RAB-372-B-4.7
98-J	D02	SWGEAR	MOTOR CONTROL CENTER	RAB-372-B-4.7
98-J	D0222A	CKTBKR	DC BREAKER 0222A	RAB-372-B-4.7
98-J	D03			
98-J	D04	CHARGE	125 VOLT DC SYSTEM BATTERY CHARGER	RAB-372
98-J	D04	CHARGE	125 VOLT DC SYSTEM BATTERY CHARGER	RAB-372-D-4.2
98-J	D05	CHARGE	125 VOLT DC SYSTEM BATTERY CHARGER	RAB-372
98-J	D06	BATTERY	125V DC STATION BATTERY BANK TO BUS D02	RAB-372-B-4.7
98-J	D1109	CKTBRK	480 LOAD CENTER BRK B514	RAB-372-D-4.2
98-J	D1114	CKTBRK	DIESEL GENERATOR DG-1 CONTROL C-107	RAB-372-D-4.2
98-J	D1116	CKTBRK	DIESEL GENERATOR DG-1 FIELD FLASHING E-111	RAB-372-D-4.2
98-J	D15	SWGEAR	DC BUS 00D15	RAB-368-H-4.6
98-J	D21	PANEL	125 VDC DISTRIBUTION PNL NO 2 D21	RAB-372-B-4.7
98-J	D2104			
98-J	D2104	CKTBRK	TO 4160V SWITCHGEAR A-409	RAB-372-B-4.7
98-J	D2109			

FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC
98-J	D2109	CKTBRK	480 V LOAD CENTER IB-614V"	RAB-372-B-4.7
98-J	D2114			
98-J	D2114	CKTBRK	DIESEL GENERATOR VDG-21" CONTROL 1"C-108V"	RAB-372-B-4.7
98-J	D2116			
98-J	D2116	CKTBRK	DIESEL GENERATOR VDG-21" FIELD FLASHING 1"E-21V"	RAB-372-B-4.7
98-J	D25	SWGEAR	DC BUS 00D25	RAB-372-C-3.4
98-J	E/P2622	SIGCON	E/P CONVERTER -2622	TB-368-H-5
98-J	E/P2623	SIGCON	E/P CONVERTER -2623	TB-368-H-5.1
98-J	E/P2672	SIGCON	E/P CONVERTER -2672	TB-368-H-5
98-J	E/P2673	SIGCON	E/P CONVERTER -2673	TB-368-G-5
98-J	H13	CKTBKR	6900V AC BREAKER 152-13	TB-372-B-9.5
98-J	H13	RELAY	ENERGIZED SYNC RELAY 125-13	TB-372-B-9
98-J	K4B	ENGINE	EMERG. DIESEL GEN. & ACCESSORIES ASSEMBLY	RAB-369-A-2
98-J	K4B	RELAY	DEENERG DG2 LO RELAY 186-DG1	RAB-372-D-5.5
98-J	K4B	RELAY	DEENERG DG2 UV RELAY 127-DG2	RAB-369-B-2
98-J	LT2415	XIMITR	LT2415	RB-336-215
98-J	LT2416	XIMITR	LT-2416	RB-336-220
98-J	LT2418	XIMITR	LT-2418	RB-357-110
98-J	LT2419	XIMITR	LT-2419	RB-357-130
98-J	LT2613	XIMITR	LEVEL TRANSMITTER LT-2613	RB-336-85
98-J	LT2617	XIMITR	LEVEL TRANSMITTER LT2617	RB-335-250
98-J	LT2622	XIMITR	LEVEL TRANSMITTER LT2622	RB-345-35
98-J	LT2624	XIMITR	LEVEL TRANSMITTER LT2624	RB-345-35
98-J	LT2653	XIMITR	LEVEL TRANSMITTER LT-2653	RB-336-5
98-J	LT2668	XIMITR	LEVEL TRANSMITTER LT 2668	RB-335-270
98-J	LT2671	XIMITR	LEVEL TRANSMITTER LT2671	RB-335-250
98-J	LT2673	XIMITR	LEVEL TRANSMITTER LT 2673	RB-335-250
98-J	M35A	RECOMB	HYDROGEN RECOMBINER #1 (RED CHANNEL)	RB-424-75
98-J	M35B	RECOMB	HYDROGEN RECOMBINER #2 (GREEN CHANNEL)	RB-424-121
98-J	P34B	PUMP	'B' LOOP DH REMOVAL PUMP	RAB-317-C-3.2
98-J	P36B	PUMP	PRIMARY MAKEUP PUMP	RAB-335-C-3.2
98-J	P36C	PUMP	PRIMARY MAKEUP PUMP	RAB-335-C-3.8
98-J	P4B	PUMP	'B' SERVICE WATER PUMP	INTAKE BUILDING
98-J	P4C	PUMP	'C' SERVICE WATER PUMP	INTAKE BUILDING
98-J	P75			
98-J	P7A	PUMP	EMERGENCY F.W. PUMP (K-3 TURBINE DRIVEN)	RAB-335-G-4.5
98-J	P7B	PUMP	EMERGENCY F.W. PUMP	RAB-335-G-4.5
98-J	PDIS2228	SWITCH	PRESSURE SWITCH PDIS-2228	RAB-404-G-5.2
98-J	PDT2700	XIMITR	PRESSURE TRANSMITTER 02700	TB-368-H-4.5
98-J	PDT2701	XIMITR	PRESSURE TRANSMITTER 02701	TB-361-J-6.7
98-J	PS5432	SWITCH	PRESSURE SWITCH PS5432	RAB-354-G-4.5
98-J	PS5436	SWITCH	PRESSURE SWITCH PS5436	RAB-354-G-4.5
98-J	PT1020	XIMITR	PRESSURE TRANSMITTER PT1020	RB-376-315
98-J	PT1021	XIMITR	PRESSURE TRANSMITTER PT-1021	RB-376-315
98-J	PT1022	XIMITR	PRESSURE TRANSMITTER PT1022	RB-382-350

ANO-1 IPEEE FIRE P2 VALUES

Attachment 1

FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC -
98-J	PT1040	XIMITR	PRESSURE TRANSMITTER PT1040	RB-376-225
98-J	PT2415	XIMITR	PT-2415	RB-336-215
98-J	PT2416	XIMITR	PT-2416	RB-336-220
98-J	PT2418	XIMITR	PT-2418	RB-357-110
98-J	PT2419	XIMITR	PT-2419	RB-357-110
98-J	PT2617A	XIMITR	PRESSURE TRANSMITTER PT 2617A	RAB-386-H-3.5
98-J	PT2618B	XIMITR	PRESSURE TRANSMITTER PT 2618B	RAB-386-D-3
98-J	PT2667B	XIMITR	PRESSURE TRANSMITTER PT 2667B	RAB-386-D-3
98-J	PT2668A	XIMITR	PRESSURE TRANSMITTER PT 2668A	RAB-386-H-3.5
98-J	RA1	PANEL	125 VDC DISTRIBUTION PNL RA1	RAB-372-D-4.2
98-J	RA2	PANEL	125 VDC DISTRIBUTION PNL RA2	RAB-372-C-4.7
98-J	RS2	PANEL	120 VAC DISTRIBUTION PNL RS2	RAB-386-B-5
98-J	RS3	PANEL	120 VAC DISTRIBUTION PNL RS3	RAB-386-B-5
98-J	RS3	PANEL	ICS DC BUS	RAB-386-B-5
98-J	RS3	PWRS	ICS POWER SUPPLY MONITOR SUPPLY MONITOR	RAB-386-B-5
98-J	RS4	DCPWRS	NNIY -24V DC POWER SUPPLY	RAB-386-B-5
98-J	RS4	DCPWRS	NNIY -24V DC POWER SUPPLY	RAB-386-B-5
98-J	RS4	PANEL	120 VAC DISTRIBUTION PNL RS4	RAB-386-B-5
98-J	RS4	PANEL	NNIY DC BUS	RAB-386-B-5
98-J	RS4	PWRS	NNIY POWER SUPPLY MONITOR	RAB-386-B-5
98-J	SV2229	VALVE	SOLENOID VALVE SV-2229	TB-335-C-6.5
98-J	SV2230	VALVE	E19B AFTER CLR ICW INLET	RAB-354-O-4.5
98-J	SV2232	VALVE	C-2B CLNG WTR INLET	RAB-354-H-4
98-J	SV2234	VALVE	E-18B AFTER CLR ICW INLET	RAB-354-G-4.5
98-J	SV3805	VALVE	SOLENOID VALVE SV-3805	RAB-317-C-3.5
98-J	SV3815			
98-J	SV3841	VALVE	SOLENOID VALVE SV3841	RAB-317-C-3.2
98-J	SV5237	VALVE	SOL VALVE 5237	RAB-369-A-2
98-J	SV5239	VALVE	SOL VALVE SV-5239	RAB-369-A-2
98-J	SV7401	VALVE	SOLENOID VALVE SV-7401	AUX BLDG ROOF
98-J	SV7402	VALVE	SOLENOID VALVE SV-7402	AUX BLDG ROOF
98-J	SV7412	DAMPER	VSF-1C BYPASS DAMPER HOIST	RB-380-270
98-J	SV7413	DAMPER	VSF-1D BYPASS DAMPER HOIST	RB-380-270
98-J	SV7439	VALVE	H2 SAMPLER C179 INLET ISOL	RAB-360-C-2
98-J	SV7469	VALVE	SOLENOID VALVE SV 7469	RAB-360-C-2
98-J	TBWE6608	XIMITR	FWP TURB B BEAR WEAR XMTR N	TB-386-G-6
98-J	TBWE6620	XIMITR	FWP TURB BEAR WEAR XMTR N	TB-386-G-6
98-J	TS5403	SWITCH	TEMPERATURE SWITCH I5403	RAB-354-G-4.5
98-J	TS5407	SWITCH	TEMPERATURE SWITCH S5407	RAB-354-G-4.5
98-J	TS7903	SWITCH	DG2 ROOM TEMPERATURE SWITCH TS7903	RAB-369-A-2
98-J	TS7904	SWITCH	DG2 ROOM TEMPERATURE SWITCH TS7904	RAB-369-A-2
98-J	VEFM24C			
98-J	VEFM24D			
98-J	VSF1C	ACUNIT	AIR COOLING UNIT 0001C	RAB-354-300
98-J	VSF1D	ACUNIT	AIR COOLING UNIT 0001D	RAB-354-320

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FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC
98-J	VUC1C	ACUNIT	AIR COOLING UNIT VUC1C	RAB-317-C-3.2
98-J	VUC1D	ACUNIT	AIR COOLING UNIT VUC1D	RAB-317-C-3.2
98-J	Y13	CKTBKR	AC BREAKER INV. Y13CB2	RAB-372-D-4.2
98-J	Y13	CKTBKR	DC BREAKER INV Y13 CB1	RAB-372-D-4.2
98-J	Y13	FUSE	FUSE INV Y13 F1	RAB-372-D-4.2
98-J	Y13	INVERT	POWER SUPPLY INVERTER	RAB-372-D-4.2
98-J	Y13	PANEL	DC BUS 00Y13	RAB-372-D-4.2
98-J	Y13	RECTIF	RECTIFIER Y13	RAB-372-D-4.2
98-J	Y13	SWITCH	INV. Y13 STATIC SW	RAB-372-D-4.2
98-J	Y13	XFORMR	480V - 120V TRANSFORMER Y13T2	RAB-372-D-4.2
98-J	Y13	XFORMR	480V - 120V TRANSFORMER Y13T3	FAB-372-D-4.2
98-J	Y22	CKTBKR	AC BREAKER INV. Y22CB2	RAB-372-D-5.5
98-J	Y22	CKTBKR	DC BREAKER INV Y22 CB1	RAB-372-D-5.5
98-J	Y22	INVERT	POWER SUPPLY INVERTER	RAB-372-D-5.5
98-J	Y22	PANEL	DC BUS 00Y22	RAB-372-D-5.5
98-J	Y22	RECTIF	RECTIFIER Y22	RAB-372-D-5.5
98-J	Y22	SWITCH	INV. Y22 STATIC SW	RAB-372-D-5.5
98-J	Y22	XFORMR	480V - 120V TRANSFORMER Y22T2	RAB-372-D-5.5
98-J	Y22	XFORMR	480V - 120V TRANSFORMER Y22T3	RAB-372-D-5.5
98-J	Y24	CKTBKR	AC BREAKER INV. Y24CB2	RAB-372-D-5.5
98-J	Y24	CKTBKR	DC BREAKER INV Y24 CB1	RAB-372-D-5.5
98-J	Y24	INVERT	POWER SUPPLY INVERTER	RAB-372-D-5.5
98-J	Y24	PANEL	DC BUS 00Y24	RAB-372-D-5.5
98-J	Y24	RECTIF	RECTIFIER Y24	RAB-372-D-5.5
98-J	Y24	SWITCH	INV. Y24 STATIC SW	RAB-372-D-5.5
98-J	Y24	XFORMR	480V - 120V TRANSFORMER Y24T2	RAB-372-D-5.5
98-J	Y24	XFORMR	480V - 120V TRANSFORMER Y24T3	RAB-372-D-5.5

Equipment removed from database after fire modeling:

98-J	A102	CKTBRK	A-1 SUPPLY TO X-1 4.16 KV SWGR A1	
98-J	A112	CKTBRK	UNIT AUXILIARY TRANSFORMER SUPPLY TO A1	
98-J	A302	CKTBRK	SERVICE WATER PUMP P4A SUPPLY	
98-J	A305	CKTBRK	DECAY HEAT PUMP P34A SUPPLY	
98-J	A306	CKTBRK	PRIMARY MU PUMP P36A SUPPLY	
98-J	A308	CKTBRK	DIESEL GENERATOR #1 OUTPUT BREAKER	RAB-372-E-5.4
98-J	B512	CKTBRK	B-5 SUPPLY	
98-J	B512	CKTBRK	B-5 SUPPLY	
98-J	CV2800	VALVE	P-7B SUCTION FROM CST	
98-J	CV2869	VALVE	P-7B TEST RECIRC ISOLATION	
98-J	D01	CKTBRK	125 VDC DISTRIBUTION PNL NO.1 SUPPLY BKR	RAB-372-D-4.2
98-J	D01	SWGEAR	MOTOR CONTROL CENTER	RAB-372-D-4.2
98-J	D07	BATTERY	125V DC STATION BATTERY BANK TO BUS D01	RAB-372-D-4.2
98-J	D11	PANEL	125 VDC DISTRIBUTION PNL NO 1 D11	
98-J	D1104			
98-J	D1104	CKTBRK	TO 4160 V SWITCHGEAR "A-3"	
98-J	K4A	ENGINE	EMERG. DIESEL GEN. & ACCESSORIES ASSEMBLY	
98-J	K4A	RELAY	DEENERG DG1 LO RELAY 186-DG1	
98-J	K4A	RELAY	DEENERG DG1 UV RELAY 127-DG1	

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ANO-1 IPEEE FIRE P2 VALUES

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98-J	P16A	PUMP	MOTOR DRIVEN PUMP P-16A	
98-J	P36A	MOTOR	PRIMARY MAKEUP PUMP MOTOR	
98-J	P36A	PUMP	PRIMARY MAKEUP PUMP	
98-J	P4A			
98-J	P4A	PUMP	'A' SERVICE WATER PUMP	
98-J	PT2405	XMITR	PRESSURE TRANSMITTER N2405	RB-373-130
98-J	PT2406	XMITR	PRESSURE TRANSMITTER N2406	RB-373-355
98-J	PT2407	XMITR	PRESSURE TRANSMITTER PT2407	RB-373-130
98-J	PT2633	XIMITR	PRESSURE TRANSMITTER A2633	
98-J	PT2683	XIMITR	PRESSURE TRANSMITTER A2683	
98-J	RS1	PANEL	120 VAC DISTRIBUTION PNL RS1	RAB-386-B-5
98-J	RS1	PANEL	NNIX DC BUS	RAB-386-B-5
98-J	RS1	PWRS	NNIX POWER SUPPLY MONITOR	RAB-386-B-5
98-J	TS7901	SWITCH	DG1 ROOM TEMPERATURE SWITCH TS7901	
98-J	TS7902	SWITCH	DG1 ROOM TEMPERATURE SWITCH TS7902	
98-J	X03	RELAY	DEENERG SUT1 LO RELAY 186-ST1-2	
98-J	X03	RELAY	DEENERG SUT1-1	
98-J	X03	TRANSF	STARTUP TRANSF NO. 1	
98-J	X04	RELAY	DEENERG SUT2 LO FELAY 186-ST2-1	
98-J	X04	RELAY	DEENERG SUT2 LO RELAY 186-ST2-2	
98-J	X04	TRANSF	STARTUP TRANSF NO. 2	
98-J	Y11	CKTBKR	AC BREAKER INV. Y11 CB2	RAB-372-D-4.2
98-J	Y11	CKTBKR	DC BREAKER INV Y11 CB1	RAB-372-D-4.2
98-J	Y11	FUSE	FUSE 1MV Y11 F1	RAB-372-D-4.2
98-J	Y11	INVERT	POWER SUPPLY INVERTER	RAB-372-D-4.2
98-J	Y11	PANEL	DC BUS 00Y11	RAB-372-D-4.2
98-J	Y11	RECTIF	RECTIFIER Y11	RAB-372-D-4.2
98-J	Y11	SWITCH	INV. Y11 STATIC SW	RAB-372-D-4.2
98-J	Y11	XFORMR	480V - 120V TRANSFORMER Y11T2	RAB-372-D-4.2

Zone 99-M

Table of Effected Equipment

FIRE_ZONE	EQUIP_TAG	COMP CODE	COMPDESC	COMPLOC
99-M	A104	CKTBKR	AC BREAKER Z104A	TB-372-B-8
99-M	A304	CKTBRK	RB SPRAY PUMP P35A SUPPLY	RAB-372-E-5.4
99-M	A307	CKTBRK	PRIMARY MU PUMP P36B SUPPLY	RAB-372-E-5.4
99-M	A308	CKTBRK	DIESEL GENERATOR #1 OUTPUT BREAKER	RAB-372-E-5.4
99-M	A311	CKTBRK	P-7B EMERGENCY FEEDWATER	RAB-372-E-5.4
99-M	A4			
99-M	A4	SWGEAR	4160 VOLT FOR BUS A-4	RAB-372-D-5.5
99-M	A4	SWGEAR	DEENERG A4 LO RELAY A86-A4 SPUR	RAB-372-D-5.5
99-M	A401	CKTBRK	X-6 SUPPLY	RAB-372-D-5.5
99-M	A402	CKTBRK	SERVICE WATER PUMP P4C SUPPLY	RAB-372-D-5.5
99-M	A403	CKTBKR	4160V AC BREAKER 152-403 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
99-M	A403	CKTBRK	SERVICE WATER PUMP P4B SUPPLY	RAB-372-D-5.5
99-M	A404	CKTBKR	4160V AC BREAKER 152-404 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
99-M	A404	CKTBRK	RB SPRAY PUMP P35B SUPPLY	RAB-372-D-5.5
99-M	A405	CKTBKR	4160V AC BREAKER 152-405 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
99-M	A405	CKTBRK	DECAY HEAT PUMP P34B SUPPLY	RAB-372-D-5.5
99-M	A406	CKTBKR	4160V AC BREAKER 152-406 TIME DELAY LOGIC DRIFTS O	RAB-372-D-5.5
99-M	A406	CKTBRK	MU PUMP P36C SUPPLY	RAB-372-D-5.5
99-M	A407	CKTBKR	4160V AC BREAKER 152-407	RAB-372-D-5.5
99-M	A407	CKTBRK	MU PUMP P36B SUPPLY	RAB-372-D-5.5
99-M	A408	CKTBRK	DIESEL GENERATOR #2 OUTPUT BREAKER	RAB-372-D-5.5
99-M	A409	CKTBRK	A2 TO A4 SUPPLY	RAB-372-D-5.5
99-M	A601	CKTBKR	4160V AC BREAKER 152-601	INTAKE BLDG
99-M	B15	SWGEAR	MOTOR CONTROL CENTER	RAB-404-E-5.5
99-M	B31	SWGEAR	MOTOR CONTROL CENTER	RAB-374-C-3
99-M	B41	SWGEAR	MOTOR CONTROL CENTER	RAB-374-C-3
99-M	B43	SWGEAR	MOTOR CONTROL CENTER	TB-386-B-9
99-M	B44	SWGEAR	MOTOR CONTROL CENTER	RB-357-325
99-M	B55	SWGEAR	MOTOR CONTROL CENTER	RAB-372-D-5.5
99-M	B56	SWGEAR	MOTOR CONTROL CENTER	RAB-372-D-5.5
99-M	B5622B	CKTBRK	BATTERY CHARGER D05	RAB-372-D-5.5
99-M	B5653	CKTBRK	SERV. WATER PUMPS, DISCH. TO ACW LOOP CV-3643	RAB-372-D-5.5
99-M	B57	SWGEAR	MOTOR CONTROL CENTER	RAB-372-E-5
99-M	B6	SWGEAR	480V LOAD CENTER BUS B-6	RAB-372-D-5.5
99-M	B6	SWGEAR	DEENERG B6 UV RELAY 127-B6 SPUR	RAB-372-D-5.5
99-M	B61	SWGEAR	MOTOR CONTROL CENTER	RAB-386-C-2
99-M	B612	CKTBRK	B-6 INPUT SUPPLY	RAB-372-D-5.5
99-M	B6123	CKTBKR	AC BREAKER 52-6123	RAB-386-C-2
99-M	B614	CKTBRK	MCC B-62 SUPPLY	RAB-372-D-5.5
99-M	B6145A	CKTBRK	INVERTER Y-24	RAB-386-C-2
99-M	B6145B	CKTBRK	INVERTER Y24	RAB-386-C-2
99-M	B62	SWGEAR	MOTOR CONTROL CENTER	RAB-386-C-2

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ANO-1 IPEEE FIRE P2 VALUES

Attachment 1

FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC
99-M	B621	CKTBRK	MCC B-61 SUPPLY	RAB-372-D-5.5
99-M	B622	CKTBRK	B-6 SUPPLY TO B-36	RAB-372-D-5.5
99-M	B623	CKTBRK	RB COOLER VSF-1C	RAB-372-D-5.5
99-M	B633	CKTBRK	RB COOLER VSFM-1D	RAB-372-D-5.5
99-M	B634	CKTBRK	MCC B-65 SUPPLY	RAB-372-D-5.5
99-M	B64	SWGEAR	480V MOTOR CONTROL CENTER	RAB-386-C-4
99-M	B65	SWGEAR	MOTOR CONTROL CENTER	RAB-372-D-5.5
99-M	B7	SWGEAR	480V LOAD CENTER BUS B-7	TB-386-K-8
99-M	B712	CKTBRK	B-7 INPUT SUPPLY	TB-386-K-8
99-M	B72	SWGEAR	MOTOR CONTROL CENTER	RB-354-320
99-M	C187	BISTBL	LT-2617 BISTABLE	RAB-368-G-4.5
99-M	CV1009	VALVE	PZR SPRAY BLOCK	RB-405-330
99-M	CV1206			
99-M	CV1404	VALVE	P-34A/B SUCT SUPP FROM RCS	RAB-360-C-2
99-M	CV1416	VALVE	PZR AUX SPRAY CONT ISO VALVE	RAB-360-C-2
99-M	CV2235	VALVE	CRD CLNG SUPP RB ISOL	RAB-356-H-3.5
99-M	CV2617	VALVE	OTSG 'B' SUPPLY TO P-7A"	RAB-404-H-3
99-M	CV2618	VALVE	SG B STEAM DUMP TO ATMOS	RAB-404-H-3
99-M	CV2625	VALVE	MAIN FW BLOCK VALVE TO 'A' OTSG"	TB-368-K-5.2
99-M	CV2625	VALVE	MOV CV-2625	TB-368-K-5.2
99-M	CV2627	VALVE	P-7A TO SG-A ISOLATION	RAB-360-C-2
99-M	CV2630	VALVE	FW ISO CONTROL VALVE TO OTSG 'B'	RAB-356-H-3.5
99-M	CV2646	VALVE	P-7B TO SG-A CONTROL VALVE	RAB-335-C-4.2
99-M	CV2663	RELAY	CV-2663 TIME DELAY PREMATURE	RAB-404-H-3
99-M	CV2663	VALVE	P-7A STM ADMISSION VALVE	RAB-404-H-3
99-M	CV2663	VALVE	SOLENOID VALVE 2663	RAB-404-H-3
99-M	CV2667	VALVE	SG A TO EMG K3 BYPASS	RAB-404-H-3
99-M	CV2668	VALVE	ATMOS. DUMP 'A'""	RAB-404-H-3
99-M	CV2674	VALVE	LO LOAD BLOCK VALVE	TB-368-J-5.8
99-M	CV2680	VALVE	FW ISO CONTROL VLV TO STMGEN A	RAB-356-H-3.5
99-M	CV2802	VALVE	P-7A SUCTION FROM CST	RAB-335-G-4.5
99-M	CV3640	VALVE	'B' DISCH TO LOOP II SW"	INTAKE BLDG
99-M	CV3641	VALVE	SW LOOP II ISOL	INTAKE BLDG
99-M	CV3642	VALVE	P-4B TO P-4C DISCH CROSSOVER	INTAKE BLDG
99-M	CV3643	VALVE	ACW LOOP ISOL	INTAKE BLDG
99-M	CV3821	VALVE	MOTOR-OPERATED VALVE CV3821	RAB-335-C-3.5
99-M	CV3841	VALVE	AIR-OPERATED VALVE CV3841	RAB-317-C-3.5
99-M	CV5611	VALVE	FIRE WATER ISO VALVE	RAB-356-H-3.5
99-M	CV7472	DAMPER	VSF-1C BACKDRAFT DAMPER	RB-380-270
99-M	CV7473	DAMPER	VSF-1D BACKDRAFT DAMPER	RB-380-270
99-M	D05	CHARGE	125 VOLT DC SYSTEM BATTERY CHARGER	RAB-372
99-M	D1109	CKTBRK	480 LOAD CENTER BRK B514	RAB-372-D-4.2
99-M	D15	SWGEAR	DC BUS 00D15	RAB-368-H-4.6
99-M	D2104	CKTBRK	TO 4160V SWITCHGEAR 'A-409'""	RAB-372-B-4.7
99-M	D2109	CKTBRK	480 V LOAD CENTER 'B-614'""	RAB-372-B-4.7

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ANO-1 IPEEE FIRE P2 VALUES

Attachment 1

FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC
99-M	K4B	ENGINE	EMERG. DIESEL GEN. & ACCESSORIES ASSEMBLY	RAB-369-A-2
99-M	K4B	RELAY	DEENERG DG2 LO RELAY 186-DG1	RAB-372-D-5.5
99-M	K4B	RELAY	DEENERG DG2 UV RELAY 127-DG2	RAB-369-B-2
99-M	LT2617	XIMITR	LEVEL TRANSMITTER LT2617	RB-335-250
99-M	LT2668	XIMITR	LEVEL TRANSMITTER LT 2668	RB-335-270
99-M	M55A	RECOMB	HYDROGEN RECOMBINER #1 (RED CHANNEL)	RB-424-75
99-M	P34B	PUMP	'B' LOOP DH REMOVAL PUMP	RAB-317-C-3.2
99-M	P36B	PUMP	PRIMARY MAKEUP PUMP	RAB-335-C-3.2
99-M	P36C	PUMP	PRIMARY MAKEUP PUMP	RAB-335-C-3.8
99-M	P4B	PUMP	'B' SERVICE WATER PUMP	INTAKE BUILDING
99-M	P4C	PUMP	'C' SERVICE WATER PUMP	INTAKE BUILDING
99-M	P7A	PUMP	EMERGENCY F.W. PUMP (K-3 TURBINE DRIVEN)	RAB-335-G-4.5
99-M	PT2617A	XIMITR	PRESSURE TRANSMITTER PT 2617A	RAB-386-H-3.5
99-M	PT2668A	XIMITR	PRESSURE TRANSMITTER PT 2668A	RAB-386-H-3.5
99-M	RS2	PANEL	120 VAC DISTRIBUTION PNL RS2	RAB-386-B-5
99-M	RS4	DCPWRS	NNIY -24V DC POWER SUPPLY	RAB-386-B-5
99-M	RS4	DCPWRS	NNIY -24V DC POWER SUPPLY	RAB-386-B-5
99-M	RS4	PANEL	120 VAC DISTRIBUTION PNL RS4	RAB-386-B-5
99-M	RS4	PANEL	NNIY DC BUS	RAB-386-B-5
99-M	RS4	PWRS	NNIY POWER SUPPLY MONITOR	RAB-386-B-5
99-M	SG2	VALVE	SLUICE GATE	INTAKE STRUCTURE
99-M	SG4	VALVE	SLUICE GATE	INTAKE STRUCTURE
99-M	SV3805	VALVE	SOLENOID VALVE SV-3805	RAB-317-C-3.5
99-M	SV3841	VALVE	SOLENOID VALVE SV3841	RAB-317-C-3.2
99-M	SV5237	VALVE	SOL VALVE 5237	RAB-369-A-2
99-M	SV5239	VALVE	SOL VALVE SV-5239	RAB-369-A-2
99-M	VSF1C	ACUNIT	AIR COOLING UNIT 0001C	RAB-354-300
99-M	VSF1D	ACUNIT	AIR COOLING UNIT 0001D	RAB-354-320
99-M	VUC1D	ACUNIT	AIR COOLING UNIT VUC1D	RAB-317-C-3.2
99-M	VUC7B	BLOWER	MOTOR OPERATED FAN VCF7B	RAB-335-C-3.2
99-M	X6	XFORMR	4160/480V TRANSFORMER X6	RAB-372-D-5.5
99-M	Y22	CKTBKR	AC BREAKER INV. Y22CB2	RAB-372-D-5.5
99-M	Y22	CKTBKR	DC BREAKER INV Y22 CB1	RAB-372-D-5.5
99-M	Y22	INVERT	POWER SUPPLY INVERTER	RAB-372-D-5.5
99-M	Y22	PANEL	DC BUS 00Y22	RAB-372-D-5.5
99-M	Y22	RECTIF	RECTIFIER Y22	RAB-372-D-5.5
99-M	Y22	SWITCH	INV. Y22 STATIC SW	RAB-372-D-5.5
99-M	Y22	XFORMR	480V - 120V TRANSFORMER Y22T2	RAB-372-D-5.5
99-M	Y22	XFORMR	480V - 120V TRANSFORMER Y22T3	RAB-372-D-5.5
99-M	Y24	CKTBKR	AC BREAKER INV. Y24CB2	RAB-372-D-5.5
99-M	Y24	CKTBKR	DC BREAKER INV Y24 CB1	RAB-372-D-5.5
99-M	Y24	INVERT	POWER SUPPLY INVERTER	RAB-372-D-5.5
99-M	Y24	PANEL	DC BUS 00Y24	RAB-372-D-5.5
99-M	Y24	RECTIF	RECTIFIER Y24	RAB-372-D-5.5
99-M	Y24	SWITCH	INV.Y24 STATIC SW	RAB-372-D-5.5

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FIRE_ZONE	EQUIP_TAG	COMPCODE	COMPDESC	COMPLOC
99-M	Y24	XFORMR	480V - 120V TRANSFORMER Y24T2	RAB-372-D-5.5
99-M	Y24	XFORMR	480V - 120V TRANSFORMER Y24T3	RAB-372-D-5.5

Equipment removed from database after fire modeling:

99-M	A111	CKTBRK	SU TRANS #2 SUPPLY TO A1	
99-M	A111	RELAY	ENERGIZED SYNC RELAY 125-111	
99-M	A112	CKTBRK	UNIT AUXILIARY TRANSFORMER SUPPLY TO A1	
99-M	B24	SWGEAR	MOTOR CONTROL CENTER	RB-357-315
99-M	B25	SWGEAR	MOTOR CONTROL CENTER	TB-386-K-6
99-M	A302	CKTBRK	SERVICE WATER PUMP P4A SUPPLY	RAB-372-E-5.4
99-M	A305	CKTBRK	DECAY HEAT PUMP P34A SUPPLY	
99-M	A306	CKTBRK	PRIMARY MU PUMP P36A SUPPLY	
99-M	B512	CKTBRK	B-5 SUPPLY	
99-M	B512	CKTBRK	B-5 SUPPLY	
99-M	B5122	CKTBKR	AC BREAKER 52-5122	
99-M	CV2620	VALVE	P-7A TO SG-B ISOLATION	RAB-335-H-3.5
99-M	CV2648	VALVE	P-7B TO SG-B CONTROL VALVE	RAB-335-G-4.5
99-M	CV2648	VALVE	SOLENOID VALVE 2648	RAB-335-G-4.5
99-M	CV2800	VALVE	P-7B SUCTION FROM CST	
99-M	CV2869	VALVE	P-7B TEST RECIRC ISOLATION	
99-M	D1104			
99-M	D1104	CKTBRK	TO 4160 V SWITCHGEAR "A-3"	
99-M	K4A	ENGINE	EMERG. DIESEL GEN. & ACCESSORIES ASSEMBLY	
99-M	K4A	RELAY	DEENERG DG1 LO RELAY 186-DG1	
99-M	K4A	RELAY	DEENERG DG1 UV RELAY 127-DG1	
99-M	P36A	MOTOR	PRIMARY MAKEUP PUMP MOTOR	
99-M	P36A	PUMP	PRIMARY MAKEUP PUMP	
99-M	P4A	PUMP	'A' SERVICE WATER PUMP	INTAKE BUILDING
99-M	P7B	PUMP	EMERGENCY F.W. PUMP	