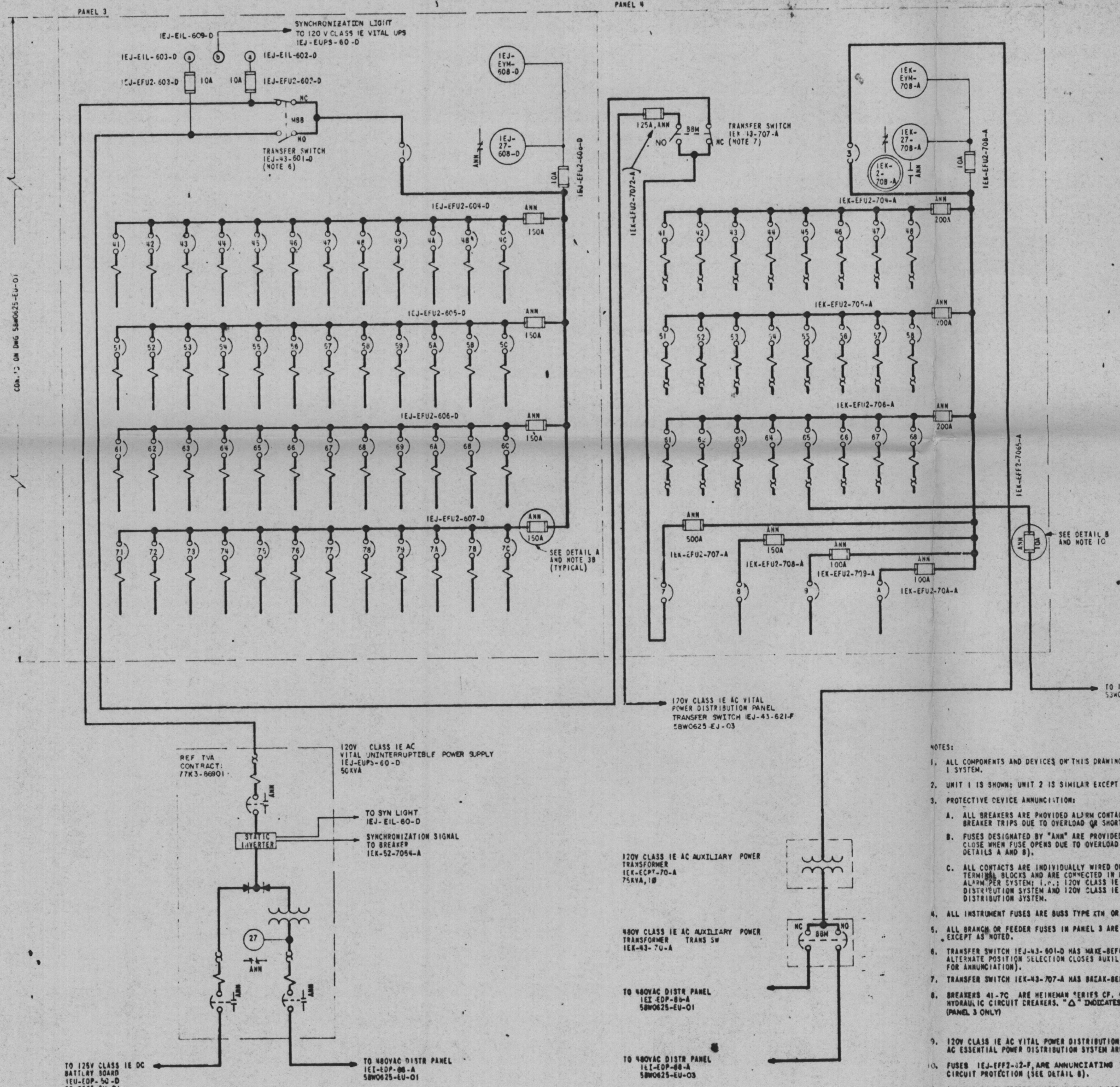
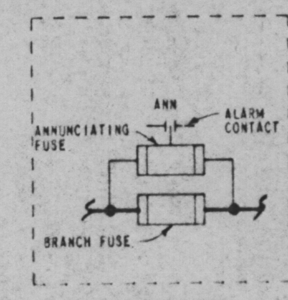
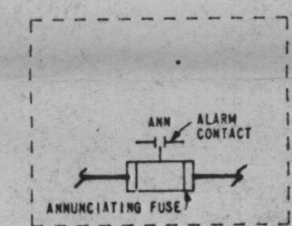


FUSE ANNUNCIATION UNID		
FUSE	ANN FUSE	FUSE SET
1EJ-EFU2-604-D	1EJ-EFF2-604-D	4
1EJ-EFU2-605-D	1EJ-EFF2-605-D	5
1EJ-EFU2-606-D	1EJ-EFF2-606-D	6
1EJ-EFU2-607-D	1EJ-EFF2-607-D	7
1EK-EFU2-704-A	1EK-EFF2-704-A	4
1EK-EFU2-705-A	1EK-EFF2-705-A	5
1EK-EFU2-706-A	1EK-EFF2-706-A	6
1EK-EFU2-707-A	1EK-EFF2-707-A	7
1EK-EFU2-708-A	1EK-EFF2-708-A	8
1EK-EFU2-709-A	1EK-EFF2-709-A	9
1EK-EFU2-70A-A	1EK-EFF2-70A-A	A
1EK-EFU2-7072-A	1EK-EFF2-7072-A	72
(NOTE 10)	1EK-EFF2-7065-A	65



120VAC DISTRIBUTION FUSE ANNUNCIATION

DETAIL A



120VAC DISTRIBUTION FUSE ANNUNCIATION FOR CHANNELS F & G UPS SYNCHRONIZATION SIGNAL FEEDERS.

DETAIL B

CIRCUIT SCHEDULE

PNL	BKR	UNID	FRAME	TRIP	CABLE	CIRCUIT	
3		1EJ-43-601-D	600	-	1EU-ECA4-7-D	120V CLASS 1E AC VITAL UNINTERRUPTIBLE POWER SUPPLY 1EJ-EUPS-60-D	
3		1EJ-43-601-D	600	-		120V CLASS 1E AC AUXILIARY POWER DISTR PNL 1EK-EDP-70-A	
3	1	1EJ-52-601-D	600	-		120V CLASS 1E AC VITAL POWER DISCONNECT SWITCH	(NOTE 12)
3	41	1EJ-52-6041-D	100	15			
3	42	1EJ-52-6042-D	100	15			
3	43	1EJ-52-6043-D	100	15		MAIN FEEDWATER SOL VALVES 1CF-IFSV-068-A, 070-A, FDR 1	
3	44	1EJ-52-6044-D	100	15		BOP INSTR 1IX-IR-016C-A	
3	45	1EJ-52-6045-D	100	15		BOP INSTR 1IX-IR-016B-A	
3	46	1EJ-52-6046-D	100	15		BOP INSTR 1IX-IR-016A-A	
3	47	1EJ-52-6047-D	100	15△		(NIRPS) CHANNEL D 1IX-IM-017A-D	
3	48	1EJ-52-6048-D	100	15△			
3	49	1EJ-52-6049-D	100	30			
3	4A	1EJ-52-604A-D	100	30			
3	4B	1EJ-52-604B-D	100	50△		ESFAS DIGITAL SUBSYSTEM A FDR 1, 1IX-IM-016F-A	
3	4C	1EJ-52-604C-D	100	50△		SSCS 1IX-IR-013-A	
3	51	1EJ-52-6051-D	100	15			
3	52	1EJ-52-6052-D	100	15			
3	53	1EJ-52-6053-D	100	15		BOP ISOLATOR 1IX-ISOL-148-A (2IX-ISOL-248-A)	
3	54	1EJ-52-6054-D	100	15		BOP ISOLATOR 1IX-ISOL-150-A (2IX-ISOL-250-A)	
3	55	1EJ-52-6055-D	100	15		SYS VK PWR DISTR 1IX-IR-002-A (UNIT 1 ONLY)	
3	56	1EJ-52-6056-D	100	15	1EU-ECA3-90-D	125V CLASS 1E DC PWR DISTR PNL 1EU-EDP-50A-D INSTRUMENTS	
3	57	1EJ-52-6057-D	100	15△			
3	58	1EJ-52-6058-D	100	15△			
3	59	1EJ-52-6059-D	100	30			
3	5A	1EJ-52-605A-D	100	30			
3	5B	1EJ-52-605B-D	100	50△		ESFAS DIGITAL SUBSYSTEM A FDR 2, 1IX-IM-013F-A	
3	5C	1EJ-52-605C-D	100	50△		SSCS 1IX-IR-003-A	
3	61	1EJ-52-6061-D	100	15			
3	62	1EJ-52-6062-D	100	15			
3	63	1EJ-52-6063-D	100	15		BOP INSTR 1IX-IR-016I-A (UNIT 1 ONLY)	
3	64	1EJ-52-6064-D	100	15		BOP INSTR 1IX-IR-016H-A	
3	65	1EJ-52-6065-D	100	15		BOP INSTR 1IX-IR-016G-A	
3	66	1EJ-52-6066-D	100	15		(ECI-X) 1IX-IR-009-A	
3	67	1EJ-52-6067-D	100	15△			
3	68	1EJ-52-6068-D	100	15△			
3	69	1EJ-52-6069-D	100	30			
3	6A	1EJ-52-606A-D	100	30△			
3	6B	1EJ-52-606B-D	100	50△		SSCS 1IX-IR-017-A	
3	6C	1EJ-52-606C-D	100	50△		SSCS 1IX-IR-005-A	
3	71	1EJ-52-6071-D	100	15			
3	72	1EJ-52-6072-D	100	15			
3	73	1EJ-52-6073-D	100	15		BOP ISOLATOR 1IX-ISOL-153-A (2IX-ISOL-253-A)	
3	74	1EJ-52-6074-D	100	15		BOP ISOLATOR 1IX-ISOL-154-A (2IX-ISOL-254-A)	
3	75	1EJ-52-6075-D	100	15		BOP ISOLATOR 1IX-ISOL-157-A (2IX-ISOL-257-A)	
3	76	1EJ-52-6076-D	100	15		BOP ISOLATOR 1IX-ISOL-158-A (2IX-ISOL-258-A)	
3	77	1EJ-52-6077-D	100	15△			
3	78	1EJ-52-6078-D	100	15△			
3	79	1EJ-52-6079-D	100	30		(ESFAS) ANALOG SUBSYSTEM A 1IX-IM-016G-D	
3	7A	1EJ-52-607A-D	100	30	1EU-ECA3-101-D	120VAC CLASS 1E VITAL DISTR PNL 1EJ-EDP-64-D, 1IX-IR-001-A	
3	7B	1EJ-52-607B-D	100	30△			
3	7C	1EJ-52-607C-D	100	50△		SSCS 1IX-IR-007-A	
4		1EK-43-707-A	600	-		120V CLASS 1E AC VITAL POWER DISTRIBUTION PANEL 1EJ-EDP-60-D	
4		1EK-43-707-A	600	-	1EU-ECA4-21-A	120V CLASS 1E AC VITAL POWER DISTRIBUTION PANEL 1EJ-EDP-62-F	
4	3	1EK-52-703-A	800	-	1EU-ECA4-4-A	120V CLASS 1E AC AUXILIARY POWER TRANSFORMER 1EK-ECPT-70-A	(NOTE 12)
4	41	1EK-52-7041-A	100	15			
4	42	1EK-52-7042-A	100	15			
4	43	1EK-52-7043-A	100	15		MAIN STEAM SOL VALVES 1SM-IFSV-059-A, 060-A	
4	44	1EK-52-7044-A	100	15		1IX-IM-007 MCR METER ILLUMINATION	
4	45	1EK-52-7045-A	100	15		ESSENTIAL AIR DRYER 1RJ-ICRY-317-A	
4	46	1EK-52-7046-A	100	30		RAD MON INSTR 1IX-IM-020	
4	47	1EK-52-7047-A	100	50		SSCS 1IX-IR-013-A	
4	48	1EK-52-7048-A	100	50		SSCS 1IX-IR-003-A	
4	51	1EK-52-7051-A	100	15			
4	52	1EK-52-7052-A	100	15			
4	53	1EK-52-7053-A	100	15			
4	54	1EK-52-7054-A	100	15	1EU-ECA3-1-D	120V CLASS 1E AC VITAL UPS 1EJ-EUPS-60-D SYNC SIGNAL	
4	55	1EK-52-7055-A	100	15		ECI-X 1IX-IR-009-A	
4	56	1EK-52-7056-A	100	30		SYS VK PWR DISTR 1IX-IR-002-A (UNIT 1 ONLY)	
4	57	1EK-52-7057-A	100	30		SYS VK PWR DISTR 1IX-IR-002-A (UNIT 1 ONLY)	
4	58	1EK-52-7058-A	100	50		SSCS 1IX-IR-005-A	
4	61	1EK-52-7061-A	100	15			
4	62	1EK-52-7062-A	100	15			
4	63	1EK-52-7063-A	100	50		SSCS 1IX-IR-017-A	
4	64	1EK-52-7064-A	100	15	1EU-ECA3-105-A	MAIN FEED WATER SOL VALVES 1CF-IFSV-068-A, 070-A FDR 2	
4	65	1EK-52-7065-A	100	15	1EU-ECA3-16-A	120V CLASS 1E AC VITAL UPS 1EJ-EUPS-62-F SYNC SIGNAL	
4	66	1EK-52-7066-A	100	30			
4	67	1EK-52-7067-A	100	30	1EU-ECA3-103-A	120VAC CLASS 1E AUX PWR DISTR PNL 1EK-EDP-72-A, 1IX-IR-001-A	
4	68	1EK-52-7068-A	100	50		SSCS 1IX-IR-007-A	
4	7	1EK-52-707-A	600	-		120V CLASS 1E AC VITAL POWER DISTRIBUTION PNL TRANS SW	(NOTE 12)
4	8	1EK-52-708-A	225	-	1EU-ECA4-97-A	120V CLASS 1E AUX PWR DISTR PNL 1EK-EDP-76-A	(NOTE 12)
4	9	1EK-52-709-A	225	-			(NOTE 12)
4	A	1EK-52-70A-A	225	-			(NOTE 12)

△-SEE NOTE 8

NOTES:

1. ALL COMPONENTS AND DEVICES ON THIS DRAWING WILL BE USED ON A CLASS 1 SYSTEM.
2. UNIT 1 IS SHOWN; UNIT 2 IS SIMILAR EXCEPT AS NOTED.
3. PROTECTIVE DEVICE ANNUNCIATION:
   A. ALL BREAKERS ARE PROVIDED ALARM CONTACTS WHICH CLOSE WHEN BREAKER TRIPS DUE TO OVERLOAD OR SHORT CIRCUIT.
   B. FUSES DESIGNATED BY "ANN" ARE PROVIDED ALARM CONTACTS WHICH CLOSE WHEN FUSE OPENS DUE TO OVERLOAD OR SHORT CIRCUIT (SEE DETAILS A AND B).
   C. ALL CONTACTS ARE INDIVIDUALLY WIRED OUT TO MANUFACTURER'S TERMINAL BLOCKS AND ARE CONNECTED IN PARALLEL FOR COMMON ALARM PER SYSTEM; i.e.; 120V CLASS 1E AC VITAL POWER DISTRIBUTION SYSTEM AND 120V CLASS 1E AC AUXILIARY POWER DISTRIBUTION SYSTEM.
4. ALL INSTRUMENT FUSES ARE BUSS TYPE KTN OR EQUAL.
5. ALL BRANCH OR FEEDER FUSES IN PANEL 3 ARE BUSS TYPE KTN OR EQUAL, EXCEPT AS NOTED.
6. TRANSFER SWITCH 1EJ-43-601-D HAS MAKE-BEFORE-BREAK OPERATION, ALTERNATE POSITION SELECTION CLOSES AUXILIARY CONTACT (WIRED OUT FOR ANNUNCIATION).
7. TRANSFER SWITCH 1EK-43-707-A HAS BREAK-BEFORE-MAKE OPERATION.
8. BREAKERS 41-7C ARE HEINEMAN SERIES CF, CURVE 3, MAGNETIC-HYDRAULIC CIRCUIT BREAKERS. "△" INDICATES HIGH INRUSH MODEL CURVE 30 (PANEL 3 ONLY)
9. 120V CLASS 1E AC VITAL POWER DISTRIBUTION SYSTEM AND 120V CLASS 1E AC ESSENTIAL POWER DISTRIBUTION SYSTEM ARE SINGLE-POINT GROUNDED SYSTEMS.
10. FUSES 1EJ-EFF2-62-F, ARE ANNUNCIATING TYPE USED FOR CIRCUIT PROTECTION (SEE DETAIL B).
11. ALL BRANCH OR FEEDER FUSES IN PANEL 4 ARE BUSS TYPE FRN OR EQUAL, EXCEPT AS NOTED.
12. BREAKER 1 OF PANEL 3 AND BREAKER 3,7,8,9 AND A OF PANEL 4 ARE NON-AUTOMATIC.

REFERENCE DRAWINGS
5BW0620-EU-01 ...... KEY DIAGRAM
5AW0624-EU-01,02 ...... FRONT VIEW
5BW0625-EU-01-04 ...... 125 VDC SINGLE LINES
5GW640-EU-01,02,04-09, 5GW2640-EU-01,02,04-09 } SCHEMATICS

Docket # 50-438
Control # 8304050536
Date 3-25-83 of Document
REGULATORY DOCKET FILE

PRC APERTURE CARD

REV NO.	ECN NO.	DATE	
6	1496		ADDED FSAR FIG. NO. & REVISED NOTE 8.
5	781, 951, SI		REVISED LOADS, CHANGED BKR SIZES, MISC CHANGES
4	SI		REVISED LOADS, ADDED CABLE NUMBERS, MISC CHANGES.
3	ECN-SI	8-15-77	REVISED LOADS, BKR SIZES
2	ECN-31, 207		UNID NO'S, LOADS, UPS & XFMR SYS CAPACITY SYN, CKT.
1	ECN-SI	3-11-75	SYN LIGHT BY MFRR

FSAR FIG. 8.3.1-14

INSPECTED AND APPROVED FOR ISSUE

DSGN C.F. PETERSON
DRWN M.D. DEBORD
CHKD BJ WHEELER

POWERHOUSE
UNITS 1-2

SINGLE LINE
120 V CLASS 1E AC VITAL POWER DISTRIBUTION SYSTEM — CHANNEL D
120 V CLASS 1E AC AUXILIARY POWER DISTRIBUTION SYSTEM — TRAIN A

BELLEFONTE NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

Q

SUBMITTED | RECOMMENDED | APPROVED

KNOXVILLE | 88 | E | 5BW0625-EJ-01 | R6

RECORD DRAWING AS CONSTRUCTED

FSAR