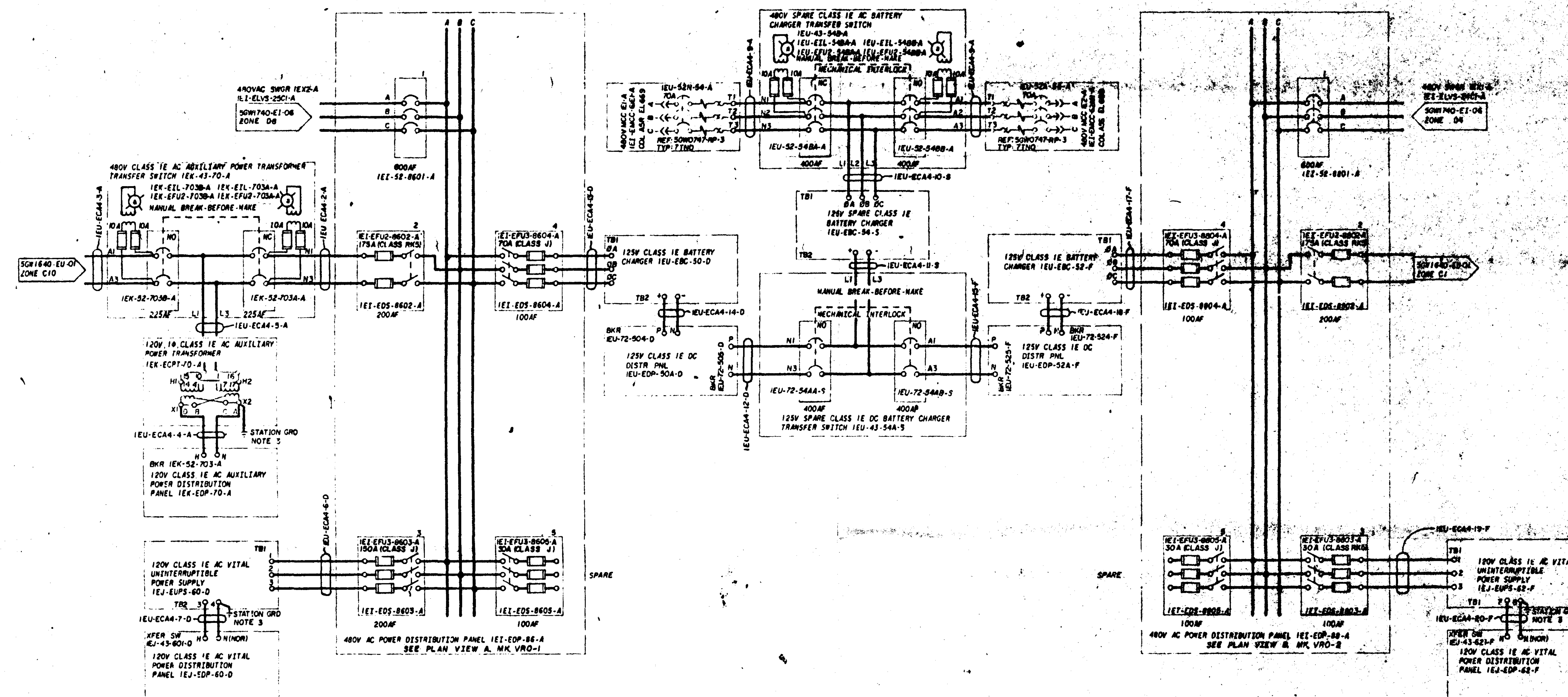
5GW1640-EU-01 E 88



NOTES:

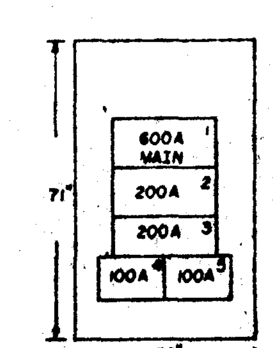
1. SYSTEMS EJ AND EK SHOWN ON THE 5GW1640-EU SCHEMATIC SERIES ARE CONSIDERED SUBSYSTEMS OF SYSTEM EU:

DWG NO	SYSTEM
5GW1640-EU	EU-125V CLASS 1E DC POWER DISTR SYS EJ-120V CLASS 1E AC VITAL PWR DISTR SYS EK-120V CLASS 1E AC AUX POWER DIST SYS

2. ALL DEVICES SHOWN ON THIS DRAWING ARE CLASS 1E.
3. 120V CLASS 1E AC VITAL UNINTERRUPTIBLE POWER SUPPLIES AND AUXILIARY TRANSFORMERS HAVE COMMON GROUND POINT IN THEIR RESPECTIVE CHANNEL BATTERY BOARD AREA.
4. INDICATING LIGHT WIRING IS NO. 16 AWG, SINGLE CONDUCTOR, 600V, TEFLON COATED.
5. INDICATING LIGHTS ARE OILTIGHT UNITS COMPLETE WITH LAMP BASE, AMBER LENS, 6-W LAMP, AND TRANSFORMER FOR 480V AC OPERATION, CUTLER HAMMER TYPE 10250T184C3.
6. INSTRUMENT FUSES ARE CURRENT LIMITING - CLASS J.
7. 480V POWER DISTRIBUTION PANELS.
   A. PANELS ARE PROVIDED ON CONTRACT NO. 77K3-920237
   B. PANELS ARE DESIGNED FOR 600 AMP SERVICE. WESTINGHOUSE TYPE FDP, OR EQUAL.
   C. 600 AMP FRAME BREAKER IS NON-AUTOMATIC USED AS MAIN BREAKER. WESTINGHOUSE TYPE LA, THREE POLE, OR EQUAL.
   D. 200 AMP FUSIBLE SWITCHES HAVE INTERRUPTING CAPACITY OF 100,000 RMS SYMMETRICAL AMPS. FUSES SIZED AS SHOWN, WESTINGHOUSE 200 AMP SINGLE UNIT FUSIBLE SWITCH, CLASS RK5 FUSES (SEE NOTE 16), TWO POLE, OR EQUAL.
   E. 100 AMP FUSIBLE SWITCHES HAVE INTERRUPTING CAPACITY OF 100,000RMS SYMMETRICAL AMPS. FUSES SIZED AS SHOWN, WESTINGHOUSE 100 AMP SINGLE UNIT FUSIBLE SWITCH, CLASS RK5 FUSES, THREE POLE, OR EQUAL.
   F. 100 AMP FUSIBLE SWITCHES HAVE INTERRUPTING CAPACITY OF 100,000 RMS SYMMETRICAL AMPS. FUSES SIZED AS SHOWN, WESTINGHOUSE 100 AMP TWIN UNIT FUSIBLE SWITCH, CLASS J FUSES, THREE POLE, OR EQUAL.
8. 480V CLASS 1E SPARE BATTERY CHARGER TRANSFER SWITCH:
   A. SWITCH IS PROVIDED ON CONTRACT NO 77K5-820984
   B. 400 AMP FRAME BREAKERS ARE NON-AUTOMATIC WITH MECHANICAL INTERLOCK FOR MAKE-BEFORE-BREAK TRANSFER. WESTINGHOUSE TYPE LA (WITH WALKING BEAM INTERLOCK), THREE POLE
9. 125V SPARE CLASS 1E DC BATTERY CHARGER TRANSFER SWITCH.
   A. SWITCH IS PROVIDED ON CONTRACT NO. 77K5-820984
   B. 400 AMP FRAME BREAKERS ARE NON-AUTOMATIC WITH MECHANICAL INTERLOCK FOR BREAK-BEFORE-MAKE TRANSFER. WESTINGHOUSE TYPE LA (WITH WALKING BEAM INTERLOCK), TWO POLE.
10. 120V CLASS 1E AC AUXILIARY POWER TRANSFORMER TRANSFER SWITCH.
    A. SWITCH IS PROVIDED ON CONTRACT NO. 77K5-820984
    B. 225 AMP FRAME BREAKERS ARE NON-AUTOMATIC WITH MECHANICAL INTERLOCK FOR BREAK-BEFORE-MAKE TRANSFER. WESTINGHOUSE TYPE JA (WITH WALKING BEAM INTERLOCK), TWO POLE.
11. 120V CLASS 1E AC AUXILIARY POWER TRANSFORMER.
    A. TRANSFORMER IS PROVIDED ON CONTRACT NO. 77K3-820551
    B. DRY TYPE TRANSFORMER, 240 x 480-120/240, 1Ø, 60HZ, 75KVA, 80°C TEMPERATURE RISE, WITH TWO, 2 1/2% FULL-CAPACITY-ABOVE-NORMAL TAPS AND TWO, 2 1/2% FULL-CAPACITY-BELOW-NORMAL TAPS. HEVI-DUTY TYPE S5N50.
12. 600A AND 400A NON-AUTOMATIC BREAKERS HAVE MINIMUM SHORT-TIME CURRENT RATINGS AT 600 VAC AS FOLLOWS:

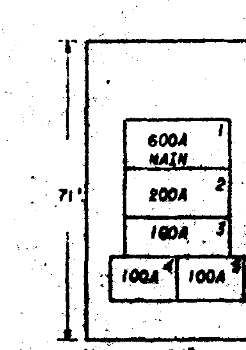
CURRENT	DURATION
6,000 A	1 SECOND
10,000 A	0.166 SECONDS
28,900A	0.0166 SECONDS
35,000A	0.0083 SECONDS

13. 120VAC CLASS 1E VITAL UPS' ARE SUPPLIED ON CONTRACT 77K3-86801.
14. 125VDC CLASS 1E BATTERY CHARGERS ARE SUPPLIED ON CONTRACT 76K6-86843.
15. 480V SWITCHGEAR IS SUPPLIED ON CONTRACT 76K3-85526.
16. CLASS RK5 FUSES FOR TRANSFORMER FEEDS ARE PROVIDED ON CONTRACT 80K13-826663.
17. CLASS RK5 FUSES FOR 7.5 KVA UPS FEEDS PROVIDED BY FIELD.



PLAN VIEW A

480V AC POWER DISTRIBUTION PANELS
1EI-EDP-86-A
1EI-EDP-87-B
REFER TO NOTES 2,7, AND 12
NOT TO SCALE



PLAN VIEW B

480V AC POWER DISTRIBUTION PANELS
1EI-EDP-88-A
1EI-EDP-89-B
REFER TO NOTES 2,7, AND 12
NOT TO SCALE

PRC APERTURE CARD

COMPANION DRAWINGS:
5GW1640-EU-02 ---- SCHEMATICS
5GW2640-EU-01,02
REFERENCE DRAWINGS:
5GW0625-EU-01-04 ---- SINGLE LINES
5GW0629-EJ-01-04
5GW0620-EU-01 ---- KEY DIAGRAM
5AW0820-RU-01 ---- EQUIP LAYOUT

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

REVIEWED
RC (CIVIL) ---- NA
RE (ELEC.) ---- N/A
RM (MECH.) ---- N/A
INSPECTED AND APPROVED FOR ISSUE

4	S1	2-3-82
INCORPORATED PCR E-2488. REVISED EK XFER SW FUSE & LIGHT UNITS.		
3	1240	9-17-81
REVISED FUSE CLASS.		
2	1139	3-15-81
MISC CHANGES.		
1	S1,748	9-18-7[illegible]
ADDED CABLE AND TERMINAL DESIG., INCREASED PNL CAP REV FUSE CLASS.		
REV	ECN NO.	DATE

GENERAL
UNIT 1

SCHEMATIC DIAGRAM
125V CLASS 1E DC POWER
DISTRIBUTION SYSTEM

BELLEFONTE NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

Q

SUBMITTED / RECOMMENDED / APPROVED

KNOXVILLE 3-9-76 88 E 5GW1640-EU-01