5AW2730-ED-1 | E | 88

REFERENCE DRAWINGS	
DWG NO	TITLE
2GW0F20-RP-1	PLANT AC AUXILIARY POWER SYSTEM SINGLE LINE
5GW2740-ED	480V SWGR 2XA4 SYSTEM SCHEMATIC
2GW0900-88	CONTROL & LOGIC DRAWINGS

NOTES:

* # SYSTEM DESIGNATION

1. 480 V MCC PROVIDED CONTRACT NO. 76K5-86242.
   480V SWGR PROVIDED ON CONTRACT NO. 76K3-86826.
2. ALL MOLDED CASE CIRCUIT BREAKERS ARE 3-POLE, 600V, THERMAL MAGNETIC, AND HAVE AIR INTERRUPTING RATING OF NOT LESS THAN 25,000 RMS SYMMETRICAL AMPS AT 480V. ALL MCC BREAKERS, #FE400 A FRAME WITH SHUNT TRIP EXCEPT AS NOTED. THE SHUNT TRIP COIL IS CAPABLE OF OPERATING AT 55% OF RATED VOLTAGE. 1200A FRAME BKRS HAVE 30,000A RMS SYM INTERRUPTING RATING AT 480V, 1 1600A FRAME BKRS HAVE 50,000A RMS SYM INTERRUPTING RATING AT 480V.
3. FUSES IN THE PWR CKT ARE CHASE SHAWMUT AMP-TRAP CLASS J (EXCEPT AS NOTED). FUSES ARE RECLAIMED TO PROVIDE REDUNDANT PROTECTION FOR PRIMARY CONTAINMENT PENETRATIONS, NOT FOR CIRCUIT BREAKER PROTECTION.
4. ALL CONTACTORS ARE PROVIDED WITH 2 ELEC SEPARATE AUXILIARY CONTACTS.
5. ALL CONTROL TRANSFORMERS ARE 1Ø 480-120V WITH GROUNDED SECONDARY. FUSES SHALL BE SIZED TO PROTECT TRANSFORMERS.
6. A 120V RED IND LIGHT IS CONNECTED IN PARALLEL WITH EACH STARTER COIL.
7. EACH DEVICE ASSOCIATED WITH THE SWGR BUS, TRANSFORMER, AND THE NOR, TIE, CKT BKR, IS PART OF THE 480V NORMAL AC AUX PWR DISTRIBUTION SYS WITH UNIT AND SYS DESIGNATION, ED. THE DEVICE UNID IS FORMED BY PREFIXING THE DESIGNATIONS SHOWN ON THE DWG WITH 2ED, EXCEPT AS NOTED. ALL OTHER BKRS WITH THEIR ASSOCIATED DEVICES ARE PART OF THE SYS WHICH THEY SUPPLY. THE UNID IS FORMED BY PREFIXING THE DESIGNATIONS SHOWN ON THE DWG WITH THE UNIT AND SYS DESIGNATION SHOWN IN THE HEXAGON SYMBOL, EXCEPT AS NOTED. THE SWGR COMPARTMENT NO UNID DESIGNATIONS ARE FORMED AS FOLLOWS USING THE COMPARTMENT NO. (XX) AND THE BOARD NO (YY): 2ED-ELVS-YYXX
8. MCC 2A6 IS CLASS 1E, SWGR 2XA4 IS NON-CLASS 1E LOCATED IN A CATEGORY I STRUCTURE.
9. RELAYS SHALL BE THE TYPES SHOWN ON THIS DRAWING OR TVA APPROVED EQUIVALENT (SEE NOTE 8)

SYMBOLS:

- ▽ - INTERFACE FOR REMOTE CONTROL
- 111 L S G - SOLID STATE TRIP DEVICE WITH SENSOR RATING SHOWN
  L - LONG TIME DELAY (OVERLOAD)
  S - SHORT TIME DELAY (SELECTIVE TRIP)
  I - INSTANTANEOUS (FAULT CURRENT)
  G - GROUND (FAULT CURRENT)
- □ - PRIMARY CONTAINMENT PENETRATION
- ▭ - INDICATING LIGHT, R = RED, A = AMBER
- ▭ - INTERFACE FOR STATUS, ENVIRONMENTAL, AND ALARM MONITORING SYSTEM (SEAMS)
- ⬡ XXX - UNIT AND SYSTEM DESIGNATION (SEE NOTE 7)
- ANN. - THIS FUNCTION TO BE MONITORED BY ONE OR MORE ANNUNCIATION OR ALARM SYSTEMS

FROM PRIMARY SIDE (13.8kV) OF 2XA2 DISCONNECT SWITCH. 2ED-EDS-18 (2AW2726-ED-8)

480V SWITCHGEAR 2XA4. 2ED-ELVS-20 (SEE NOTE 1)

(ELEV 669 COL A10U)

CABLE

FROM 125V DC CLASS 1E PWR DISTR PNL 2EU-EDP-50B-D (2AW0628-EU-1)

480V MCC 2A6 (SEE NOTE 1) (ELEV 649' COL U, A10)

125V DC CONTINUED BELOW

600A BUS

SPLIT BUS

2NC-EHTR-053 | 2NC-EHTR-054 | 2NC-EHTR-055 | 2NC-EHTR-056 | 2NC-EHTR-057 | 2NC-EHTR-058 | 2NC-EHTR-059

PRESSURIZER HEATER GROUP NO. 3. 2NC-MHTR-041

480V MCC 2A6 (SEE NOTE 1) (ELEV 649 COL U, A10)

125V DC CONTINUED FROM ABOVE

600 A BUS (ISOLATED)

2ED-EFUI-037B (B Ø ONLY)

SCR CONTROLLER 480V 3Ø, 60HZ, 300A 250KW

2NC-EHTR-043 | 2NC-EHTR-044 | 2NC-EHTR-045

PRESSURIZED HEATER GROUP NO. 1 2NC-MHTR-037

480V SWGR 2XA4 FRONT VIEW REGN NO 85526

480V MCC 2A6 FRONT VIEW

ELEV 649, COL U, A10

Docket # 50-438
Control # 8801280074
Date 1/19/83 of Document
REGULATORY DOCKET FILE

8801280087

REV	DWG NO	DATE	DESCRIPTION
6	1133, SI	2-3-81	REPLACED 3 AMP FUSES WITH 6 AMP FUSES. MINOR CHANGES
5	SI 345, 239		GEN. REVISION PER ECN SI-VARIOUS. MOD BUS UNDERVOLTAGE RELAY PER ECN 345. ADD HIGH VOLTAGE LIMITING FUSES PER ECN 239.
4	SI, 1	4-22-76	GEN REV PER ECN SI-VARIOUS. REDESIGN THE POWER AND CONTROL CIRCUITS OF THE PRESSURIZER HTR PER ECN 186.
3	SI-1	7-1-75	INCORPORATED SLAMS PER ECN 66-VARIOUS. INCORPORATED UNID SYS. GEN REV PER ECN SI-1-VARIOUS
2	SI	1-8-75	REMOVED GROUND FAULT LIMITING NETWORK & REVISED GROUND FAULT PROTECTION SYSTEM.
1	21	12-4-74	REVISED DWG LAYOUT, REMOVED HOLD ON MCC, AND ADDED SCR CONTROLLER.

REV NO	ECN NO	DATE
DESN	M.F. JOHNSEY	
DRWN	R.E. WILLIAMS	
CHKD	D.E. Young / A.L. ANDREWS	
SUPV	W. A. SPIKE	

MGR
ENGINEER Myrle J. Younger

AUXILIARY BUILDING UNIT 2

SINGLE LINE

480V PRESSURIZER HTR BDS-2XA4 & 2A6

2ED-ELVS-20 & 2ED-EMCC-51

BELLEFONTE NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

N

SUBMITTED	RECOMMENDED	APPROVED
Myrle J. Younger	J. L. Younger	R. M. Bird

KNOXVILLE 9/16/74

88 | E | 5AW2730-ED-1 | R6

PRC APERTURE CARD