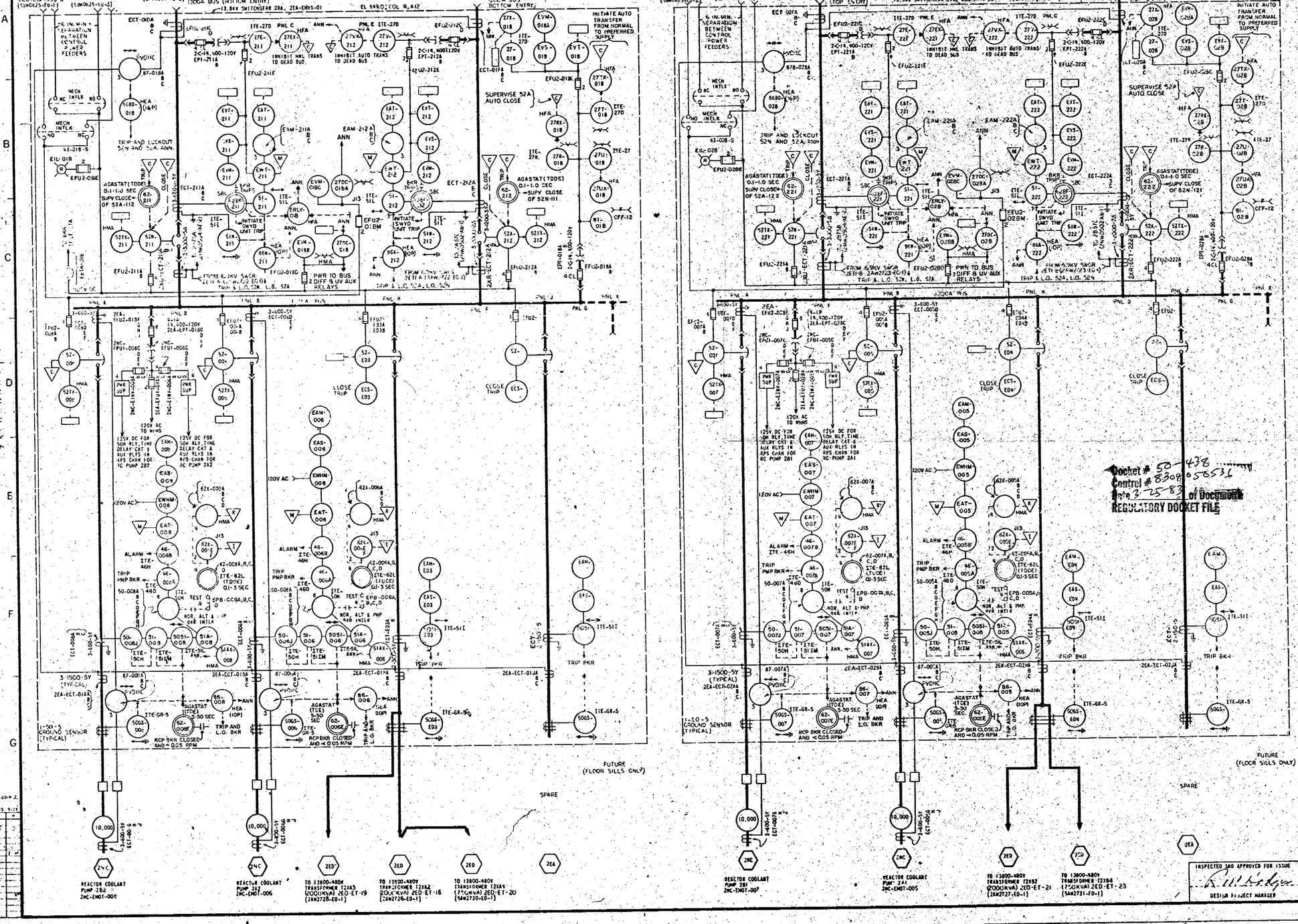

DWG NO.	TITLE
2GW2720-1AP CA	PLANT A.C. AUX POWER SYS SINGLE LINE
2GW2720-EA	SYSTEM EA CONTROL & LOGIC DIAGRAMS
2GW2720-EA	SYSTEM EA SCHEMATIC
5GW0783-1P	MISC CIRCUIT ARRANGEMENT TYPICAL SCHEMATICS

SWITCHGEAR MANUFACTURER: ITE IMPERIAL CORPORATION

CONTRACT NUMBER: 75K5-95593

NOTES:

1. ALL CIRCUIT BREAKERS ARE 1200 AMPS CONTINUOUS, 750 MVA INTERRUPTING, 13.8KV NOMINAL, 60,000 AMPS MOMENTARY, 58,000 AMPS CLOSE AND LATCH. THE SWITCHGEAR MAIN BUS IS RATED 1200 AMPS CONTINUOUS, 60,000 AMPS MOMENTARY, 13.8KV NOMINAL.
2. AUTOMATIC TRANSFER IS INITIATED AND SUPERVISED BY UNDERVOLTAGE RELAYS; AUTO TRANSFER IS FROM NORMAL TO PREFERRED ALTERNATE SUPPLY ONLY. RETURN TO NORMAL IS MANUAL.
   MANUAL TRANSFER IS INITIATED AT THE UNIT CONTROL PANEL BY A CLOSE COMMAND TO THE SELECTED SUPPLY BREAKER. THE COMMAND WILL SIMULTANEOUSLY TRIP THE CLOSED BREAKER AND COMPLETE THE CLOSE CIRCUIT TO THE SELECTED BREAKER.
   PARALLELING OF THE NORMAL AND ALTERNATE SUPPLIES IS PREVENTED BY ELECTRICAL INTERLOCKS ON THE SWITCHGEAR.
3. EACH DEVICE ASSOCIATED WITH THE SWGR BUS, AND THE NOR. OR ALT. CKT BKRS IS PART OF THE 13.8KV NOR AC AUX PWR DISTRIBUTION SYS WITH UNIT AND SYS DESIGNATION, 2EA. THE DEVICE UNID IS FORMED BY PREFIXING THE DESIGNATIONS SHOWN ON THE DWG WITH 2EA, 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 PERSON SYMBOL, EXCEPT AS NOTED. THE SWGR PNL NO. UNID DESIGNATIONS ARE FORMED AS FOLLOWS USING THE PNL NO. [X] AND THE BOARD NO. XXX: 2EA-EMVS-YYXX.
4. REACTOR PROTECTION SYSTEM CONNECTIONS AND 62X RELAYS SUPPLYING RPS SIGNALS REQUIRE PHYSICAL AND ELECTRICAL SEPARATION PER IEEE279 AND SECTION 5.6 OF PROPOSED IEEE STD P-NA, NOV 15, 1973 REV.
5. THIS EQUIPMENT IS CLASS 1E LOCATED IN A CATEGORY I STRUCTURE.
6. RELAYS SHALL BE THE TYPES SHOWN ON THIS DWG.

PRC APERTURE CARD

SYMBOLS:
- REMOTE METER CONNECTION
- INTERFACE FOR STATUS, ENVIRONMENTAL, AND ALARM MONITORING-SYS (SEMS)
- PRIMARY CONTAINMENT PENETRATION
- ANN. THIS FUNCTION TO BE MONITORED BY ONE OR MORE ANNUNCIATION OR ALARM SYSTEMS.
- XXX UNIT AND SYSTEM DESIGNATION
- INTERFACE FOR REMOTE CONTROL
- INTERFACE FOR INTEGRATED CONTROL SYSTEM (ICS)
- INTERFACE FOR REACTOR PROTECTION SYSTEM (RPS)

REV NO	ECN NO	DATE	DSGN	DRWN	CHKD	SUPV	ENGR	INSP	QC	SUB	RCA	APPR
3	906, 51											
	CHANGED AGASTATS TO TYPE 62L & SWG TO J13, MADE MINOR CHANGES											
4	773, 578, 51											
	REMOVED SIK AND ADDED EPLF RELAYS, CHANGED HMA TO J13, MINOR CHANGES											
3	579, 347, 45											
	PROVIDED SEPARATE 125 VDC CONT POWER FOR HCP NOR & OTHER SWGR BOARD FUNCTIONS, IMPLEMENTED ANTICIPATORY RELAY SCHEME, PROVIDED ADDITIONAL RCP MOTOR PROTECTION, & MINOR CHANGES											
2	102, 138, 51, 139											
	IMPLEMENTED SS RELAYS PER ECN 100 - VARIOUS REDESIGN REF POST SYS INPUTS PER ECN 138. MINOR REV PER 51 VARIOUS CHANGES CE RATIOS PER ECN 134.											
1	104, 114, 51, 45											
	CHG DC CONT PWR-TRANS SW FROM AUTO TO NOM PER ECN 54, INCORPORATED SEAMS PER ECN 44, INCORPORATED UNID SYS, DET REV (SEE REV CIRCLES) PER ECN 51-1 CHANGED RCP FEEDS PER ECN 74.											

DSGN G. REED
DRWN B. SPENCER
CHKD
SUPV
INSP
ENGINEER

AUXILIARY BUILDING
UNIT 2

SINGLE LINE DIAGRAM
13800V SWITCHGEAR 2RA, 2EA-EMVS-01
AND 2RB, 2EA-EMVS-02

BELLEFONTE NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

Q

SUBMITTED	RECOMMENDED	APPROVED

KNOXVILLE 2-1-74 | 88 | 2AW2720-EA-1 | R3

45W712-1

RECORD DRAWING AS CONSTRUCTED