

REFERENCE DRAWINGS	
2040720-EP-1	PLANT AC AUXILIARY POWER SYSTEM - SINGLE LINE
5042740-EB	ELECTRICAL SYSTEM EB - EVATICS
240409-EP	125V AC ARRANGEMENT TYPICAL SCHEMATIC
274000-EB	SYSTEM EB - CONTROL & LOGIC DIAGRAM

SWITCHGEAR MANUFACTURER'S 1-T-E IMPERIAL CORPORATION
 CONTRACT NUMBER 7545-65593

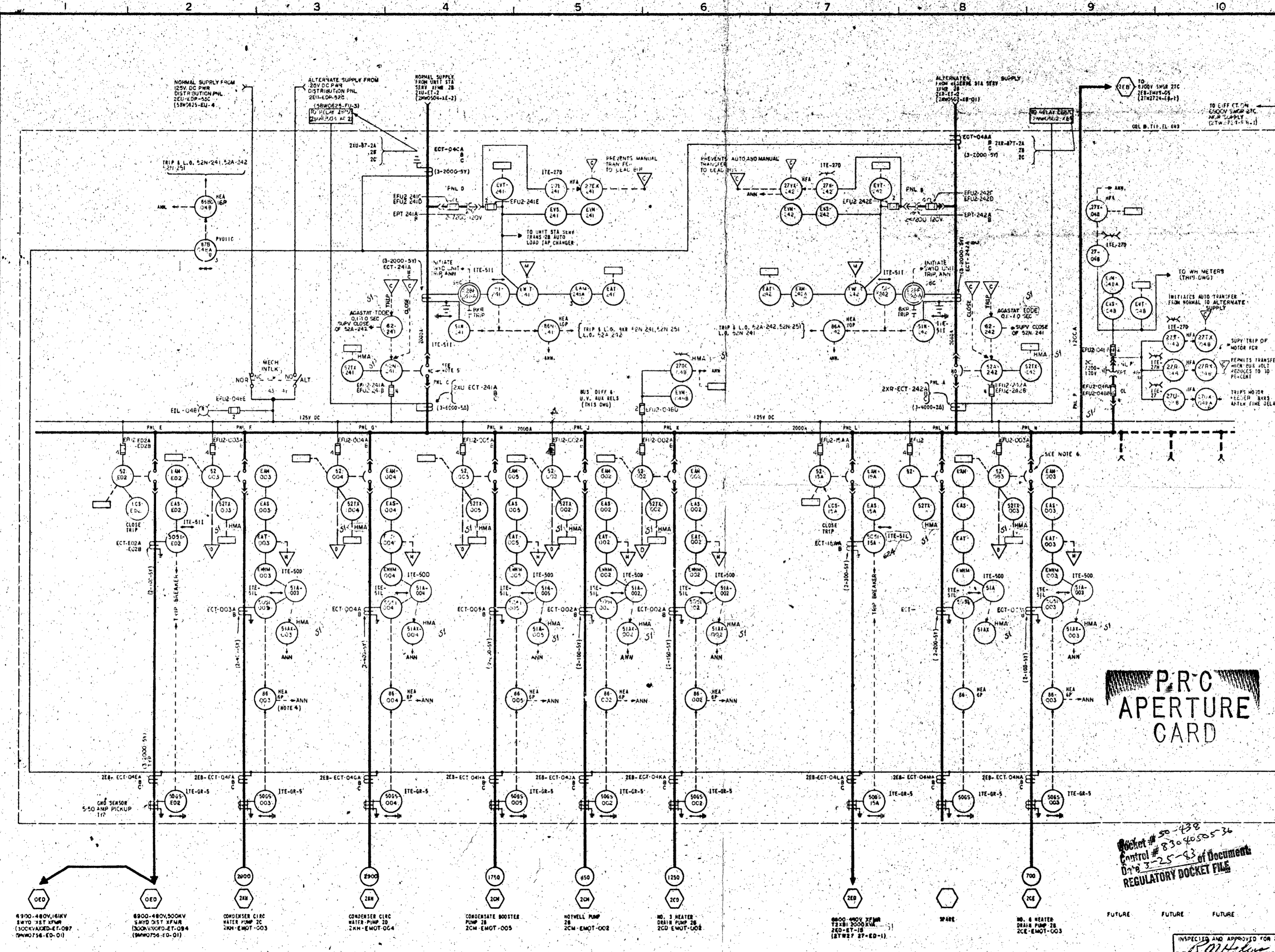
- NOTES:
1. A MANUAL TRANSFER IS INITIATED BY A SINGLE CLOSE COMMAND TO THE SELECTED BREAKER. THE COMMAND WILL SIMULTANEOUSLY TRIP THE CLOSED SUPPLY BREAKER AND COMPLETE THE CLOSE CIRCUIT OF THE SELECTED BREAKER. IF ANY ABNORMAL CONDITION EXISTS WHICH INHIBITS THE CLOSE COMMAND, THE TRIP SIGNAL IS SUPPRESSED, AND THE BUS WILL REMAIN ON THE CLOSED SUPPLY.
 2. AUTOMATIC TRANSFER IS INITIATED AND SUPERVISED BY UNDERVOLTAGE RELAYS. AUTOMATIC TRANSFER IS FROM NORMAL TO ALTERNATE SUPPLY ONLY. RETURN TO NORMAL SUPPLY IS MANUAL.
 3. PARALLING OF THE NORMAL AND ALTERNATE SUPPLIES UNDER MANUAL OR AUTOMATIC TRANSFER IS INHIBITED BY INTERLOCKS.
 4. 86 RELAYS IN MOTOR FEEDER CIRCUITS TRIP AND LOCK OUT THEIR RESPECTIVE CIRCUIT BREAKERS.
 5. ALL SUPPLY BREAKERS ARE RATED AT 2000 AMPERES CONTINUOUS 500 MVA INTERRUPTING, 7.2KV NOMINAL, 80,000 AMPERES MOMENTARY AND 77,000 AMPERES CLOSE AND LATCH.
 6. ALL FEEDER BREAKERS ARE RATED THE SAME AS SUPPLY BREAKERS EXCEPT 1200 AMPERES CONTINUOUS.
 7. THE SWITCHER MAIN BUS IS RATED AT 2000 AMPERES CONTINUOUS, 80,000 AMPERES MOMENTARY AND 7.2KV NOMINAL.
 8. FOR A COMPLETE DEFINITION OF THE UNIQUE IDENTIFICATION NUMBERS (UNID) EACH SYMBOL ASSOCIATED WITH THE SWGR IS AND THE NORMAL OR ALTERNATE SUPPLY BREAKER IS PART OF THE 400 VOLT AC AUXILIARY POWER DISTRIBUTION SYSTEM WITH SYSTEM DESIGNATION EB. THE DEVICE UNID IS PREFERRED BY THE DESIGNATION SHOWN ON THE DRAWING WITH ZEB EXCEPT AS NOTED ON DRAWING. ALL FEEDER BREAKERS WITH THEIR ASSOCIATED RELAYS ARE PART OF THE SWGR UNID WHICH THEIR SUPPLY. THE COMPLETE UNID IS FORMED BY PREFIXING THE DESIGNATIONS SHOWN ON THE DRAWING WITH THE UNIT AND SYSTEM DESIGNATOR SHOWN IN THE HEADING SYMBOL.
 9. RELAYS SHALL BE THE TYPE SHOWN ON THIS DRAWING.

- SYMBOLS:
- HEXAGON - UNIT & SYSTEM DESIGNATION
 - INVERTED TRIANGLE - INTERFACE WITH DECONTAMINATION SYSTEM
 - TRIANGLE - INTERFACE FOR REMOTE CONTROL
 - SQUARE WITH DIAGONAL LINE - INTERFACE WITH STATUS ENVIRONMENTAL ALARM MONITORING SYSTEM (SEAMS)
 - CIRCLE - RED INDICATING LIGHT
 - DIAMOND - CONNECTION FOR REMOTE METERING
 - ANN - THIS FUNCTION IS TO BE MONITORED BY ONE OR MORE ANNUNCIATOR OR ALARM SYSTEMS

4	6/24/51	H.S. W.	Initial Design		
CHANGED XFRM OR PROT. MINOR CHANGES					
8	2/22/51	H.S. W.	Implemented Anticipatory Relay Scheme per E.C.S. Rev. per S. W. H. 3/28/51		
2	10/2/51	H.S. W.	Implemented 2S Relays per E.C.S. Rev. per S. W. H. 10/2/51		
1	5/1/51	H.S. W.	Implemented 2S Relays per E.C.S. Rev. per S. W. H. 5/1/51		

BELLEFONTE NUCLEAR PLANT
 TENNESSEE VALLEY AUTHORITY
 DIVISION OF ENGINEERING DESIGN

SUBMITTED	RECOMMENDED	APPROVED
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
KNOXVILLE	88	2TW2723-EB-1
45W726-2		



UNID'S KEYED TO BUS:
 87B-04BA THRU C
 87X-04BA THRU B
 EUM-04AA THRU C
 EUD-04AA THRU C
 EUD-04A THRU C
 EUD-04B THRU C
 EUD-04C THRU C
 EUD-04D THRU C
 EUD-04E THRU C
 EUD-04F THRU C
 EUD-04G THRU C
 EUD-04H THRU C
 EUD-04I THRU C
 EUD-04J THRU C
 EUD-04K THRU C
 EUD-04L THRU C
 EUD-04M THRU C
 EUD-04N THRU C
 EUD-04O THRU C
 EUD-04P THRU C

UNID'S KEYED TO PANEL:
 ECT-04AA THRU C
 ECT-04BA THRU C
 ECT-04CA THRU C
 ECT-04DA THRU C
 ECT-04EA THRU C
 ECT-04FA THRU C
 ECT-04GA THRU C
 ECT-04HA THRU C
 ECT-04IA THRU C
 ECT-04JA THRU C
 ECT-04KA THRU C
 ECT-04LA THRU C
 ECT-04MA THRU C
 ECT-04NA THRU C
 ECT-04OA THRU C
 ECT-04PA THRU C
 ECT-04QA THRU C
 ECT-04RA THRU C
 ECT-04SA THRU C
 ECT-04TA THRU C
 ECT-04UA THRU C
 ECT-04VA THRU C
 ECT-04WA THRU C
 ECT-04XA THRU C
 ECT-04YA THRU C
 ECT-04ZA THRU C

PRINTED BY	DESIGNED BY	CHECKED BY
ME	CE	AD
LD	CB	SA
BF	EP	AL
EF	DF	SL

- 4900-480V, 15KW 3WY 1ST XFRM (300V/480V-ET-087) (MW0756-EP-01)
- 4900-480V, 500KW 3WY 2ND XFRM (300V/480V-ET-084) (MW0756-EP-01)
- CONDENSER CIRC WATER PUMP 2C 2CM-EMOT-003
- CONDENSER CIRC WATER PUMP 2D 2CM-EMOT-004
- CONDENSATE BOOSTER PUMP 2B 2CM-EMOT-005
- NOVILLI PUMP 2B 2CM-EMOT-002
- NO. 1 HEATER DRAIN PUMP 2B 2CD-EMOT-003
- 6900-480V XFRM 2B 2ED-ET-18 (2TW2723-EP-1)
- NO. 2 HEATER DRAIN PUMP 2B 2CE-EMOT-003
- 8600-480V XFRM 2B 2ED-ET-18 (2TW2723-EP-1)