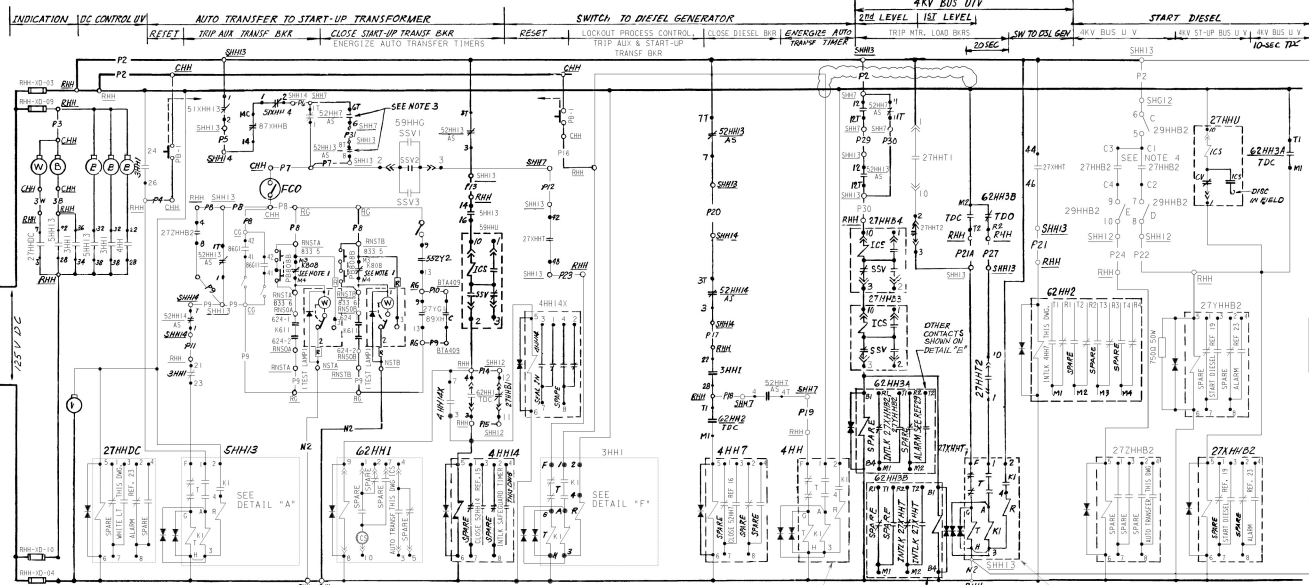
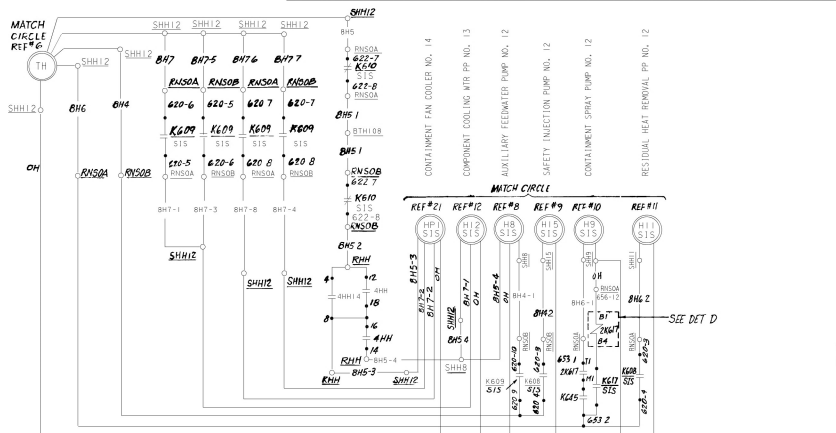




SCHEMATIC DIAGRAM 4160 V BUS SECTION "H" AUTOMATIC TRANSFER CKT NO. HATH



POTENTIAL FOR AUTO-TRANSFER AND ENGINEERED SAFEGUARD TIMERS  
CKT NO. HATH



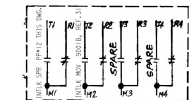
DETAIL A RELAY CONTACT DEVELOPMENT OF 27XHT1  
(SEE NOTE 2)



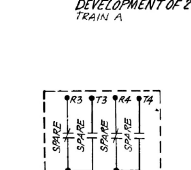
DETAIL B RELAY CONTACT DEVELOPMENT OF 27XHT2  
(SEE NOTE 2)



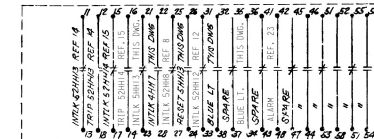
DETAIL C RELAY CONTACT DEVELOPMENT OF 4HH  
(SEE NOTE 2)



DETAIL D RELAY CONTACT DEVELOPMENT OF 27XHT3  
(SEE NOTE 2)



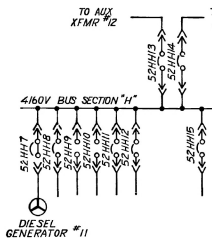
DETAIL E RELAY CONTACT DEVELOPMENT OF 27XHT4  
(SEE NOTE 2)



DETAIL F RELAY CONTACT DEVELOPMENT OF 3HH  
(SEE NOTE 2)



DETAIL G RELAY CONTACT DEVELOPMENT OF 62HH3A & B (TYP)



PARTIAL SINGLE LINE DIAG 4160V SYSTEM BUS SECTION "H"

ALARM CIRCUIT TABLE

| 4 KV BUS SECT. H<br>UNDERVOLTAGE |          | 4 KV BUS SECT. H<br>AUTOMATIC TRANSFER |      | 4 KV BUS H<br>BUS OR ST-UP FOR U V |         | DC CONTROL<br>UNDERVOLTAGE |
|----------------------------------|----------|----------------------------------------|------|------------------------------------|---------|----------------------------|
| DEVICE                           | 27XHTT   | 5HH3                                   | 3HH1 | 27XHHB2                            | 27YHHB2 | 27HDC, 27HHB2,<br>27HHT1   |
| CKT NO                           | AV4203DH | AY4212DH                               |      | AV4204DH                           |         | AV4206DH                   |

**NOTES**  
1. TEST RELAY CONTACT OPEN DURING TEST  
2. CONTACTS ARE SHOWN IN RESET POSITION  
3. THESE CONTACTS PERMIT TRIPPING OF THE UNIT AUX TRANSF. BKR ON 2ND LEVEL U/V  
4. CONTACT C1-C2 MAY ALLOW VOLTAGE READING ACROSS AN INTERNAL HIGH IMPEDANCE  
TRIP CIRCUIT MONITOR (TCM) WHERE NO VOLTAGE IS EXPECTED DURING POST MAINTENANCE  
TESTING. THE TCM FUNCTION IS NOT USED WITH AUTO TRANSFER SCHEME TO START D/C  
NOR WILL IT AFFECT ITS FUNCTION.  
REF: 663332-220 PAGES 12-11, 6-17)

**EQUIPMENT LOCATION**  
BTH100 TERMINAL BOX H100  
BTH101 ENC. SAFE BOARD RELAY BOARD BTH101  
BTH102 CONTROL BOARD ENG. SAFEGUARD BUS H  
BTH103 CONTROL BOARD MAIN GENERATOR  
BTH104 GENERATOR RELAY BOARD  
BTH105 25KV 25KV BUS H CUBICLE 5  
BTH106 RACK RACK SAFEGUARD OUTPUT A  
BTH107 TERMINAL BOARD FOR DEVICE 27XHT

**REFERENCES**  
1. DESCRIPTION OF ELECT. SCHEMATIC DIAG. SYMBOLS & CIRCUIT DESIGNATIONS DWG. NO. 050000  
2. SINGLE LINE METER & RELAY DIAG. 4160 V SYSTEM (SEE 1 & 6)  
3. SCHEMATIC DIAG. 4KV SYSTEM AUTOMATIC TRANSFER (SEE 1 & 6)  
4. 4KV BUS POTENTIAL & SYNCHRONIZING BUS SECT. H, 64H  
5. AUX. SHUT WATER PUMPS  
6. AUX. FEEDWATER PUMPS  
7. SAFETY INJECTION PUMPS  
8. CONTAINMENT SPRAY PUMPS  
9. RESIDUAL HEAT REMOVING PUMPS  
10. COMPONENT COOLING WATER PUMPS  
11. 4160 V BUS DIFFERENTIAL  
12. BUS TRANSFORMER NO. 1 & ASSOCIATED CIRCUIT BREAKERS SH 2  
13. START UP TRANSFORMER NO. 1 & ASSOCIATED CIRCUIT BREAKERS SH 2  
14. DIESEL GENERATORS & ASSOCIATED CIRCUIT BREAKERS SH 2  
15. GENERATOR CONTROL SHEET NO. 1  
16. SHEET NO. 2  
17. 4KV DIESEL GENERATOR CONTROL SHEET NO. 1  
18. 25KV 25KV BUS MOTOR OPERATED DISC SW  
19. CONTAINMENT FAN COOLERS  
20. LOGIC DIAGRAM 4160 V BUS SECTIONS F, G & H AUTOMATIC TRANSFER. . . . . 458663.64, 65  
21. SCHEMATIC DIAG. MAIN AIRING UNIT SW. 16  
22. SINGLE LINE METER & RELAY DIAG. 125V DC SYSTEM. . . . . 445076  
23. SCHEMATIC DIAG. 4KV SYSTEM AUTOMATIC TRANSFER (SEE 1 & 6)  
24. LIST OF EQUIPMENT LOCATION CODES. . . . . 101900  
25. SOLID STATE PROTECTION SYSTEM MFR'S. . . . . 437614  
26. FUNCTIONAL DIAGRAM MFR. DWG. . . . . 663195  
27. SCHEMATIC DIAG. MAIN AIRING UNIT SW. 16  
28. SCHEM. DIAG. 55PS OUTPUT RELAYS, TRAIN A, TRAIN B. . . . . 501869, 503088  
29. SCHEM. DIAG. CMT SPRAY MOTOR OPERATED VALVES. . . . . 437604  
30. LIST OF ELECTRICAL DEVICES. . . . . 050000  
31. WIRING DIAGRAM - 4KV SWITCHGEAR BUS "H". . . . . 448596

NUCLEAR SAFETY RELATED

|                    |  |                                                |  |                                                                                     |  |                                                |  |                                                               |  |
|--------------------|--|------------------------------------------------|--|-------------------------------------------------------------------------------------|--|------------------------------------------------|--|---------------------------------------------------------------|--|
| DATE<br>12-07-2015 |  | REVISION DESCRIPTION<br>REVISED PER DPT-7-3408 |  | UNIT I<br>ELECTRICAL SCHEMATIC DIAGRAM<br>4160V BUS SECTION H<br>AUTOMATIC TRANSFER |  | DWG. SCALE<br>BILL OF MATERIALS<br>SHEET NO. 1 |  | P.C. & SYSTEM<br>PHASE SEQUENCE<br>A-B-C                      |  |
| D.D. CRON          |  | R.E. RAG2                                      |  | I.V. N/A                                                                            |  | P.C. N/A                                       |  | PACIFIC GAS AND ELECTRIC COMPANY<br>SAN FRANCISCO, CALIFORNIA |  |
| 437627             |  | 1                                              |  | 0                                                                                   |  | 38                                             |  | 437627                                                        |  |