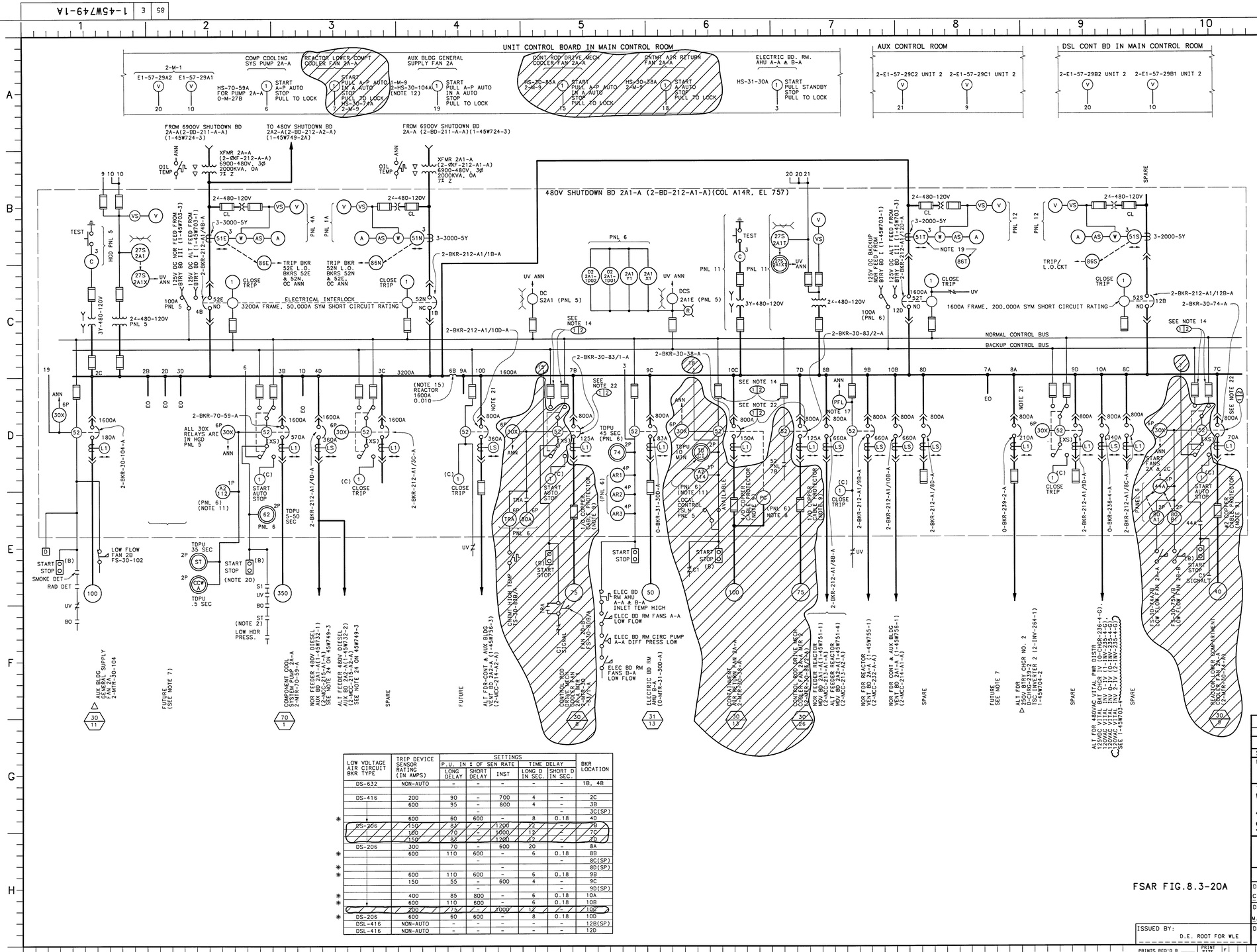

NOTES:

1. ALL 800A FRAME BREAKERS WITH INSTANTANEOUS OVERCURRENT TRIP DEVICES HAVE AN INTERRUPTING RATING OF 30,000 RMS SYM AMPERES, AND 800A FRAME BREAKERS WITH SELECTIVE OVERCURRENT TRIP DEVICES HAVE A MINIMUM INTERRUPTING RATING OF 22,000 RMS SYMMETRICAL AMPERES.
2. THESE CONTACTS ARE ON SEQUENTIAL TIMER (LOCATED ON SHUTDOWN BD LOGIC RELAY PANEL) THAT APPLIES LOAD SEQUENTIALLY TO THE DIESEL GENERATOR.
3. LOAD SHEDDING IS ACCOMPLISHED BY RELAYS LOCATED ON SHTDN BD LOGIC RELAY PANEL (SEE 1-45W724-3 & 1-45W760-211-SERIES).
4. ALL FUSES IN DC CIRCUITS ARE BUSSMAN.
5. EQUIPMENT DESIGNATIONS FOR EQUIP SHARED BY BOTH UNITS WILL HAVE A PREFIX (O).
6. CLASS 1E LS AMPTECTORS ON DS-206 AND DS-416 BREAKERS THAT ARE REQUIRED TO COORDINATE WITH DOWNSTREAM CLASS 1E LOAD BREAKERS MUST HAVE THE DISCRIMINATOR CIRCUIT DISABLED (SEE TABLE).
7. ALL FUTURE BREAKERS MARKED EO ARE WIRED TO ACCOMMODATE ELECTRICALLY OPERATED BREAKERS. ALL OTHERS ARE MANUALLY OPERATED.
8. "PC" IN COMPT 10C IS A DEVICE THAT TRIPS THE BKR WHEN ANY ONE OF THE CABLE PROTECTORS IS BLOWN, NOT SUPPLIED BY BD MFR, FIELD TO INSTALL.
9. PENETRATION PROTECTION FUSES (COMPTS 7B, 7C, 10C, 7D) ARE NOT SUPPLIED BY BD MFR, FIELD TO LOCATE AND INSTALL.
10. CONTROL SWITCH(C) REPRESENTS BACKUP CONTROL. (B) REPRESENTS LOCAL CONTROL. (XS) REPRESENTS NOR TO AUX TRANSFER SWITCH.
11. RELAYS A2-112 & A2-114 (COMPTS 3B & 10C) ARE NOT SUPPLIED BY THE BD MFR, FIELD TO INSTALL.
12. UNIT 2, 2-HS-30-104A IS LOCATED ON UNIT 1 PANEL 1-M-9.
13. THE FUSE INFORMATION FOR CLASS 1E FUSES OR FUSES USED TO PROTECT ELECTRICAL PENETRATIONS SHOWN IN THIS DRAWING SERIES, OR AS GIVEN FOR THESE CIRCUITS IN VENDOR CONTRACT DRAWINGS REFERENCED IN THIS DRAWING SERIES, IS FOR INFORMATION ONLY. REFER TO THE MASTER FUSE REPORT, DRAWING SERIES 45B6000. FOR CONFIGURATION CONTROLLED FUSE INFORMATION. OTHERWISE, FOR THOSE FUSES NOT LISTED IN THE MASTER FUSE REPORT, THESE DRAWINGS WILL REMAIN THE CONTROLLING DOCUMENT.
14. (12) IDENTIFIES U1/U2 INTERFACE POINTS
CONTROL POWER FUSES ARE REMOVED IN COMPARTMENTS 7B, 7C, 7D, & 10C.
15. CURRENT LIMITING REACTORS FOR 480V SHUTDOWN BOARD (TVA CONTRACT 90NNQ-75767A).
16. THE CURRENT LIMITING REACTOR BYPASS BREAKER SHALL BE MANUALLY TRIPPED PRIOR TO CLOSURE OF THE 6.9KV SHUTDOWN BOARD SUPPLY BREAKERS FROM CSST C, CSST D OR THE 6.9KV UNIT BOARDS.
17. POWER FAILURE RELAY: 2-74-212-9BA-A
18. FOR LOSS OF VOLTAGE OR A BOARD UNDERVOLTAGE CONDITION, THE TARGET ON UNDERVOLTAGE RELAY 27S2A1T WILL OPERATE BUT THE TARGET ON UNDERVOLTAGE RELAY 27S2A1 MAY OR MAY NOT OPERATE.
19. DEVICES 51T AND 86T ARE ABANDONED IN-PLACE. NO PERIODIC MAINTENANCE AND SURVEILLANCE TESTS ARE REQUIRED.
20. CABLE DISCONNECTED - NOT CURRENTLY USED.
21. DUE TO THE POTENTIAL FOR MULTIPLE HIGH IMPEDANCE FAULTS DURING AN APPENDIX R FIRE, THE BREAKER IDENTIFIED BY THIS NOTE SHALL BE OPEN. HOWEVER, IF FOR OPERATIONAL NEEDS, THE BREAKER MUST BE TEMPORARILY CLOSED, SEE THE FIRE PROTECTION REPORT, PART II, OPERATING REQUIREMENT (OR) SECTIONS 14.10.2 AND B14.10.2 FOR ACCEPTABLE OPERATING DURATION AND CONDITIONS. AS A SEPARATE ALTERNATE FEEDER ISSUE, SEE DRAWING 1-15E500-2 FOR ADDITIONAL RESTRICTIONS WHICH MAY RESULT IN A TECHNICAL SPECIFICATION ACTION.
22. (12) IDENTIFIES U1/U2 INTERFACE POINTS. THE BREAKER IS EITHER "REMOVED" OR "DISCONNECTED AND LOCKED IN THE OPEN POSITION".

REFERENCE DRAWINGS:
1-45W760-SYS-NO-----SHEET NO-----480V SHTDN BD SCHEMATICS
45W2748 SERIES-----480V SHUTDOWN BD CONNECTION DIAGRAMS
(W) 6947D54-D61
(W) 618F937, 938 } 480V SHTDN BD INTERNAL CONNECTIONS (TVA CONTRACT NO. 74-84647)
9277D61
9277D62
(W) 618F903-1 - VENDOR ONE LINE DWG.
6946D26-1 - FRONT VIEW DWG.
6946D29-1 - SECTION DWG.
6946D32-1 - BILL OF MATERIAL
6503C91-1, THRU C97-1 - BUS CONNECTION AND REACTOR MOUNTING DETAIL
6504C02-1, 6504C24-1
} (TVA CONTRACT 90NNQ-75767A)

SYMBOLS:

Δ--EQUIPMENT MARKED WITH THIS SYMBOL IS NOT SAFETY RELATED

(L1) SOLID STATE OVERCURRENT TRIP DEVICE WITH LONG DELAY AND INSTANTANEOUS TRIP RANGES, BREAKER TRIP SETTING IS INDICTED

(LS) SOLID STATE OVERCURRENT TRIP DEVICE WITH LONG DELAY AND SHORT DELAY TRIP RANGES, BREAKER TRIP SETTING IS INDICTED

30/1 -----EQUIPMENT SYSTEM NUMBER / -----SCHEMATIC SHEET NUMBER IN SERIES 1-45W760

(PFL) - POWER FAILURE RELAY

✱ BREAKER DISCRIMINATOR DEVICE HAS BEEN DISABLED.(NC0920004003)

LOW VOLTAGE AIR CIRCUIT BKR TYPE	TRIP DEVICE SENSOR RATING (IN AMPS)	SETTINGS P.U. IN I OF SEN RATE LONG DELAY	SHORT DELAY	INST	TIME DELAY LONG D IN SEC.	SHORT D IN SEC.	BKR LOCATION
DS-632	NON-AUTO	-	-	-	-	-	1B, 4B
DS-416	200	90	-	700	4	-	2C
	600	95	-	800	4	-	3B
			-			-	3C(SP)
✱	600	60	600	-	8	0.18	4D
DS-206	150	83	-	1200	12	-	7B
	100	70	-	1600	12	-	7C
	150	83	-	1200	12	-	7D
DS-206	300	70	-	600	20	-	8A
✱	600	110	600	-	6	0.18	8B
			-			-	8C(SP)
✱			-				8D(SP)
✱	600	110	600	-	6	0.18	9B
	150	55	-	600	4	-	9C
			-			-	9D(SP)
✱	400	85	800	-	6	0.18	10A
✱	600	110	600	-	6	0.18	10B
	200	75	-	1000	12	-	10C
✱ DS-206	600	60	600	-	8	0.18	10D
DSL-416	NON-AUTO	-	-	-	-	-	12B(SP)
DSL-416	NON-AUTO	-	-	-	-	-	12D

FSAR FIG.8.3-20A

REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
37	52285	RWE	ESJ	JKC	10-2-09
REVISED PER DCA 52285-105-0.					

SCALE: NTS — EXCEPT AS NOTED

PROJECT FACILITY
AUXILIARY BUILDING
UNIT 2

TITLE
WIRING DIAGRAM 480V SHUTDOWN BD 2A1-A SINGLE LINE

1 — WATTS BAR NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY

DESIGN		INITIAL ISSUE	ENGINEERING APPROVAL
DRAFTER C.N. CLABOUGH	CHECKER E.H. BUSH	RO ISSUE PER DCN W-21353-A DCA W21353-2-0	1 NR
DESIGNER M.L. CHAPMAN/JEW	REVIEWER NR		2 NR
			3 C.C. LYKE FOR MCB

ISSUED BY: D.E. ROOT FOR WLE

DATE 2-1-93 | 85 | E | 1-45W749-1A | R37

PRINTS REQ'D R ____ PRINT SIZE F BR OR PROJ AB CE EE ME NE FE HE SE TE BL BF WB SQ — PRINT SIZE H BR OR PROJ AB CE EE ME NE FE HE SE TE BL BF WB SQ

CAD MAINTAINED DRAWING

CONFIGURATION CONTROL DRAWING