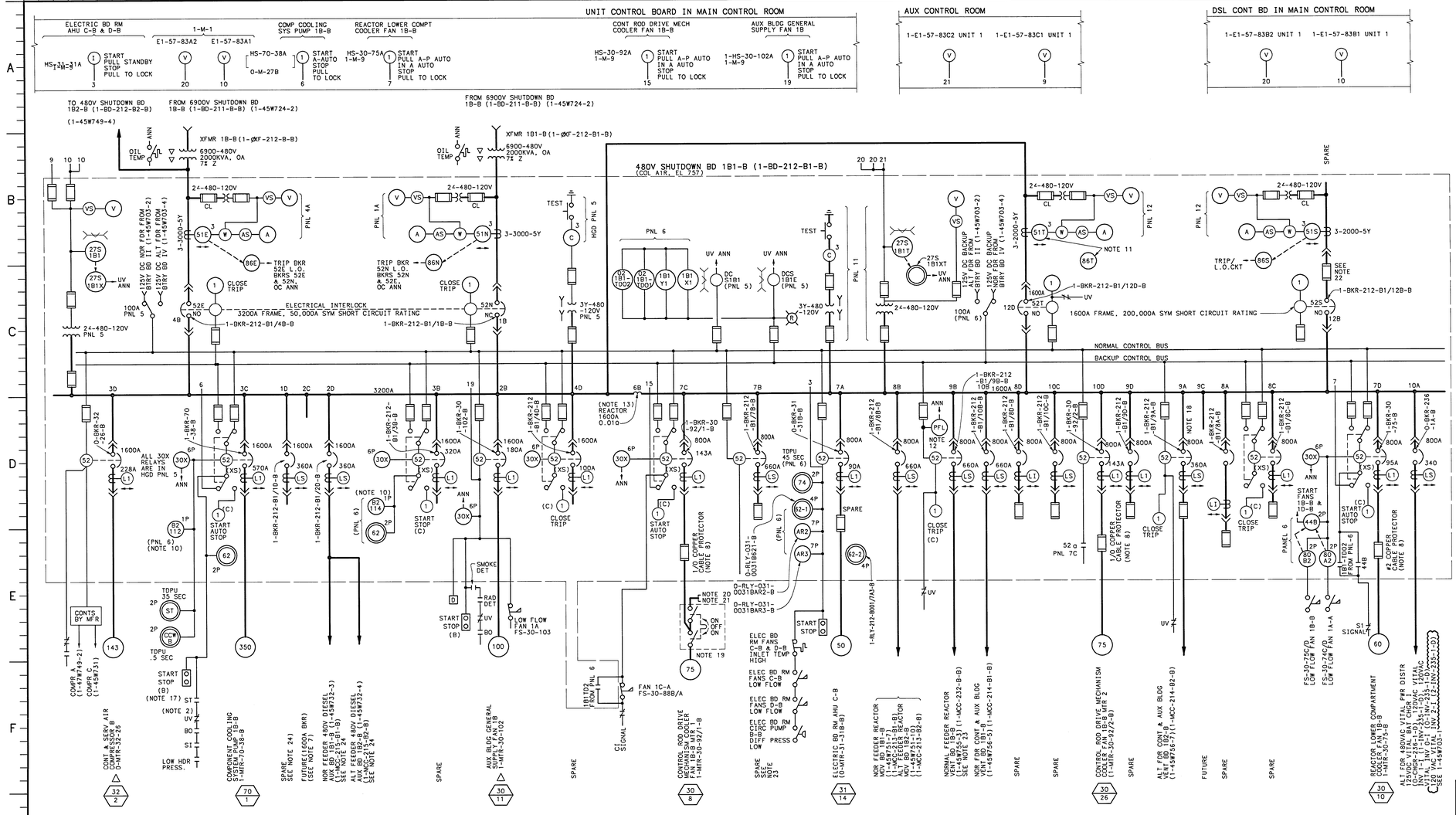

NOTES:

1. ALL 800A FRAME BREAKERS WITH INSTANTANEOUS OVERCURRENT TRIP DEVICES HAVE AN INTERRUPTING RATING OF 30,000 RMS SYMMETRICAL AMPERES, AND 800A 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 1-45W724-2 & 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 EQ ARE WIRED TO ACCOMMODATE ELECTRICALLY OPERATED BREAKERS. ALL OTHERS ARE TO BE MANUALLY OPERATED.
8. PENETRATION PROTECTION FUSES (COMPTS 7C, 7D, 10D) ARE NOT SUPPLIED BY BD MFR. FIELD TO LOCATE AND INSTALL.
9. CONTROL SWITCH(C) REPRESENTS BACKUP CONTROL. (B) REPRESENTS LOCAL CONTROL. (XS) REPRESENTS NOR TO AUX TRANSFER SWITCH.
10. RELAYS B2-112 & B2-114 (COMPTS 3B & 3C) ARE NOT SUPPLIED BY THE BD MFR. FIELD TO INSTALL.
11. DEVICES 51T AND 86T ARE ABANDONED IN-PLACE. NO PERIODIC MAINTENANCE AND SURVEILLANCE TESTS ARE REQUIRED.
12. POWER FAILURE RELAY: 1-74-212-98B-B.
13. CURRENT LIMITING REACTORS FOR 480V SHUTDOWN BOARD (TVA CONTRACT 90NNO-75767A).
14. 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.
15. ALL SWITCHGEAR CUBICLES MARKED SPARE MAY OR MAY NOT CONTAIN A BREAKER AND SHALL BE VERIFIED BEFORE USE.
16. FOR LOSS OF VOLTAGE OR A BOARD UNDERVOLTAGE CONDITION, THE TARGET ON UNDERVOLTAGE RELAY 27S1B1T WILL OPERATE BUT THE TARGET ON UNDERVOLTAGE RELAY 27S1B1 MAY OR MAY NOT OPERATE.
17. CABLE DISCONNECTED - NOT CURRENTLY USED.
18. 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.
19. DOUBLE THROW TRANSFER SWITCH.
20. RECEPTACLE FOR 480V POWER DURING OUTAGES. TO ENERGIZE THIS RECEPTACLE DURING OUTAGES, THE CRDM COOLER FAN CONTROL SWITCH 1-HS-30-92A MUST BE PLACED IN "STOP - PULL TO LOCK" AND CONTROL POWER FUSES 1-FU-212-B110/B1 AND -B110/32 MUST BE REMOVED TO PREVENT FAN 2 FROM RUNNING. ALSO REMOVE FUSES 1-FU-275-R75/K1 AND -R75/K2 ON PANEL 1-R-75 TO PREVENT LOW FLOW NUISANCE ALARM OR DISABLE ALARM BY REMOVING ALARM INPUT FROM SCAN PER PAI-2.08. AFTER THE TRANSFER SWITCH IS PLACED IN "480V RECEPTACLE" PLACE 1-HS-30-92A IN "START".
21. ALL CIRCUITS BEING SUPPLIED BY THIS RECEPTACLE SHALL HAVE THEIR OWN PROPERLY SIZED ELECTRICAL CIRCUIT PROTECTION.
22. SPARE BREAKER IS NOT TO BE USED AS A SUBSTITUTE FOR THE TIE BREAKER.
23. BREAKER 1-BKR-212-B1/7B-B IS AN INSTALLED SPARE BREAKER FOR BREAKER 9B. "NORMAL FEEDER" TO THE REACTOR VENT BOARD 1B-B. BREAKER SETTINGS FOR THE SPARE BREAKER ARE NOT REQUIRED TO BE MAINTAINED. THEREFORE, THE SETTINGS MUST BE VERIFIED PRIOR TO USE AS A FEEDER BREAKER. ONCE ADJUSTED TO THE SETTINGS SHOWN IN THE LOWER LEFT HAND TABLE, THE BREAKERS ARE INTERCHANGEABLE.
24. BREAKER 1-BKR-212-B1/1D-B IS AN INSTALLED SPARE BREAKER. IT CAN BE SUBSTITUTED FOR ANY ONE OF THE 480V DIESEL AUXILIARY BOARD FEEDER BREAKERS, WHICH ARE LOCATED ON THE 480V SHUTDOWN BOARDS. THE FEEDER BREAKERS, FOR WHICH THE SPARE MAY BE USED, ARE 1-BKR-212-A1/4D-A, 1-BKR-212-A2/2D-A, 1-BKR-212-B1/1D-B, 1-BKR-212-B2/7D-B, 2-BKR-212-A1/4D-A, 2-BKR-212-A2/2D-A, 2-BKR-212-B1/2D-B AND 2-BKR-212-B2/1D-B. THE SETTINGS MUST BE VERIFIED PRIOR TO USE AS A FEEDER BREAKER. ONCE ADJUSTED TO THE SETTINGS SHOWN IN THE LOWER LEFT HAND TABLE, THE BREAKERS ARE INTERCHANGEABLE.

LOW VOLTAGE AIR CIRCUIT BKR TYPE	TRIP DEVICE SENSOR RATING (IN AMPS)	SETTINGS P.U. IN I 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	-	2B	
*	600	60	600	-	8	0.18	2D	
*	600	60	600	-	8	0.18	1D(SP)	SEE NOTE 24
DS-416							3B(SP)	
	600	95	-	800	4	-	3C	
	300	76	-	600	4	-	3D	
			-			-	4D(SP)	
DS-206	100	90	-	800	6	-	7A	
*	600	110	600	-	6	0.18	7B(SP)	SEE NOTE 23
	150	95	-	600	4	-	7C	
	100	95	-	1200	9	-	7D	
				-			8A(SP)	
*	600	110	600	-	6	0.18	8B	
			-			-	8C(SP)	
				-			8D(SP)	
*	400	90	800	-	20	0.18	9A	
*	600	110	600	-	6	0.18	9B	
			-			-	9D(SP)	
*	400	85	800	-	6	0.18	10A	
**	600	110	600	-	6	0.18	10B	
*				-			10C(SP)	
	150	95	-	600	4	-	10D	
DSL-416	NON-AUTO	-	-	-	-	-	12B(SP)	
DSL-416	NON-AUTO	-	-	-	-	-	12D	

FSAR FIG. 8.3-22

REV	CHANGE REF	PREPARER	CHECKER	APPROVED	DATE
56	52285	RWE	ESJ	JHA	DTS

REVISED PER DCA 52285-108-0.

SCALE: NTS — EXCEPT AS NOTED

PROJECT FACILITY
AUXILIARY BUILDING
UNIT 1

TITLE
WIRING DIAGRAMS 480V SHUTDOWN BD 1B1-B SINGLE LINE

1 — WATTS BAR NUCLEAR PLANT, TENNESSEE VALLEY AUTHORITY — Q

DESIGN		INITIAL ISSUE	ENGINEERING APPROVAL
DRAFTER D.L.WANG	CHECKER C.N.CLABOUGH	RO ISSUE PER WBEP 5.17 & RIMS B26 '90 0828 376	1 C.H.SUDDUTH
DESIGNER M.L.CHAPMAN	REVIEWER D.F.FAULKNER		2 W.A.LAMBERT
			3 C.C.LYKE FOR MCB

ISSUED BY: J.EDWARD GIBBS

DATE 9-22-90 | 85 | E | 1-45W749-3 | R56

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