TYPICAL 500KV PCB BYPASS MOD CONTROL
(WIRE DESIGNATIONS AND POWER SUPPLY ARE FOR MOD 5025, OTHERS SIMILAR - SEE TABLE B BELOW)

480V AC FROM 500KV SWYD DIST CAB.2, BKR 16 (SWWO756-EO-01)

480/240V 250VA XFMR

SEAL-IN BRAKE COIL THIS DWG

BRAKE COIL

LOCAL STOP PB

ECS-502B MOD CONT SW TRIP

ECS-502B MOD CONT SW CLOSE

EIS-502B MOD INTLK SW TRIP

LOCAL PB

BRAKE INTLK SS

LIMIT SW OPEN ONLY IN FULL OPEN POSITION

LIMIT SW OPEN ONLY IN FULL CLOSE POSITION

MOD 5025 (SEE NOTE 2)

DATA ACQ

TABLE B

MOD NO.		5025	5035	5045	5055	5075	5085	5095
WIRE PREFIX		525	535	545	555	575	585	595
SWYD DIST CAB		2	2	2	2	1	1	1
BKR NO.		15	19	20	23	15	18	20
DATA ACQUISITION	OPEN	0556	0560	—	0570	0572	0588	0592
	CLOSE	0557	0561	—	0571	0573	0589	0593

TYPICAL 500KV BUS SECTIONALIZING MOD CONTROL
(WIRE DESIGNATIONS AND POWER SUPPLY ARE FOR MOD 5050, OTHERS SIMILAR - SEE TABLE C BELOW)

480V AC FROM 500KV SWYD DIST CAB.2, BKR 24 (SWWO756-EO-01)

480V ≤40V 250VA XFMR

EIS-112 MOD INTLK PB ON ECB

ECS-112 MOD CONT SW OPEN

ECS-112 MOD CONT SW CLOSE

LOCAL PB

BRAKE INTLK SS

LIMIT SW OPEN ONLY IN FULL OPEN POSITION

LIMIT SW OPEN ONLY IN FULL CLOSE POSITION

MOD 5050 (SEE NOTE 2)

DATA ACQUISITION

TABLE C

MOD NO.		5050	5060	5070	5080
WIRE PREFIX		550	560	570	580
SWYD DIST CAB		2	2	1	1
BKR NO.		24	26	21	22
DATA ACQUISITION	OPEN	0574	0576	0578	0584
	CLOSE	0575	0577	0579	0585

NOTES:
1. FOR INTERNAL WIRING AND MANUFACTURER DETAILS OF MODS, SEE SOUTHERN STATES DRAWING C-450185 TVA CONTRACT 75C2-85698.
2. THE AUXILIARY SWITCHES SHOWN ARE LOCATED BENEATH THE ROTATING INSULATOR STACKS OF EACH PHASE OF THE DISCONNECT SWITCH AND ARE ADJUSTABLE OVER THE COMPLETE RANGE OF TRAVEL.
3. ALL UNIQUE IDENTIFICATION NUMBERS SHOWN ARE PREFIXED BY "0XE" UNLESS NOTED.

MOD AUXILIARY CONTACT DEVELOPMENT
BAR SHOWS WHEN CONTACTS ARE CLOSED (CRANK END SHOWN AT TOP)

MOD CLOSED | MOD OPEN

BQ | AC | AQ | BC

MOD AUXILIARY CONTACTS
(EACH MOD HAS AN AUX SWITCH FOR EACH PHASE MOD 5027 A# SHOWN)
(SEE NOTE 2)

GEN 1 BUS COOLING START RELAY
(FOR UNIT 2 SEE TABLE E BELOW)

250VDC SUPPLY DIST BD PNL 7, BKR 49 (UNIT 2 - PNL 7, BKR 33)

ON RIB 4

GEN 1 BUS COOLING START RLY 1TM-59-1

START GEN 1 BUS COOLING FANS (...)

TABLE E

GEN	WIRE PREFIX	CONTROL CIRCUIT WIRE NUMBERS
1	1BC	Volts 0 1 3 Volts; Volts 3 4 5 Volts
2	2BC	Volts 0 1 3 Volts; Volts 3 4 5 Volts

XFMR 1 COOLING START RELAY
(FOR UNIT 2 SEE TABLE F BELOW)

250V DC SUPPLY, DIST BD PNL 7, BKR 51 (XFMR 2 - PNL 7, BKR 33)

XFMR 1 CLG AUX START RLY 1XM-59-1

1TM-ETFB-A
1TM-ETFB-B
1TM-ETFB-C
1TM-ETFB-S

START XFMR COOLING FANS (...)

TABLE F

XFMR		XFMR 2 CLG AUX START RLY 2TM-59X-2 CONTACT
BANK 1	A	2AT1 — 2TM-ETFB-A — 2AT2
BANK 1	B	2BT1 — 2TM-ETFB-B — 2BT2
BANK 1	C	2CT1 — 2TM-ETFB-C — 2CT2
SPARE PHASE		2ST1 — 2TM-ETFB-S — 2ST2

480V AC FROM 500KV SWYD DIST CAB.1, BKR 2C (SWWO756-EO-01)

250V DC SUPPLY

SEAL-IN BRAKE COIL THIS DWG

TYPICAL 500KV PCB ISOLATING MOD CONTROL
(WIRE DESIGNATIONS, POWER SUPPLY, AND DEVICE DESIGNATIONS SHOWN FOR MOD 5067, OTHERS SIMILAR - SEE TABLE D BELOW)

STOP LOCAL PB

EIL-50FA

EIL-50FB

ECS-50FA PCB 5068 CONT SW TRIP

PCB 5068

43RE-50FA LOCAL

43RE-50FA REMOTE

ETCB-50F3

ECS-50FB MOD CONT SW TRIP

ECS-50FB MOD CONT SW CLOSE

LOCAL PB

BRAKE INTLK SS

LIMIT SW OPEN ONLY IN FULL OPEN POSITION

LIMIT SW OPEN ONLY IN FULL CLOSE POSITION

DATA ACQ

MOD 5027 (SEE NOTE 2)

MOD 5029 (SEE NOTE 2)

ISOLATING MOD DATA ACQUISITION POINTS (SHOWN FOR MODS 5027 & 5029, SEE TABLE FOR WIR. NUMBERS FOR OTHER MOD'S)

MOD'S	OPEN	CLOSE
4027-4029	0568	0569
5037-5039	0582	0583
5057-5059	0572	0573
5067-5069	0576	0577
5077-5079	0580	0581
5087-5089	0586	0587
5093-5095	0590	0591

A THERE IS ONLY ONE CONTROL SWITCH OR DEVICE AND ONE PCB ASSOCIATED WITH EACH PAIR OR MODS. STUD NUMBERS IN PARENTHESIS REFER TO THE OTHER MOD IN EACH PAIR.

TABLE D

MOD NO.		5027	5029	5037	5039	5047	FUT	5057	5059	5067	5069	5073	5075	5083	5085	5093	5095
WIRE PREFIX		527	529	537	539	547	FUT	557	559	567	569	573	575	583	585	593	595
PCB NO.		5028		5038		5048 (FUT)		5058		5068		5074		5084		5094	
SWYD DIST CAB		2		2		2		2		2		1		1		1	
BKR NO.		14		17		18		21		22		13		14		18	

MOD 5027 SEE NOTE 2 | MOD 5029 SEE NOTE 2

CONTACTS SHOWN ARE FOR MODS 5027 & 5029. FOR USE IN PCB 5024 BKR FAIL CKT, OTHERS SIMILAR.

TO PCB 5024 BKR FAIL CKT (9MW0560-XE-02)

PRINTS RECD-R

BR BY PROJ	DWG	SIZE
WE		
EE	3	
CE		
AD		
CD		
ED		
DF	1	
BW		
BL		
DA		

INSPECTED AND APPROVED FOR ISSUE
K M Hodges
DESIGN PROJECT MANAGER

Docket # 50-438
Control # 830405036
Date 3-25-83 of Documents
REGULATORY DOCKET FILE

REV NO.	ECN NO.	DATE	DSGN	DRFTG	CHKD	SUPV	ENGR	WDSN	REG'D	APPR
1	159	7-5-77	GB	W						

REVISE BREAKER FAILURE RELAYING SCHEME.

DSGN A.T. LENNIS
DRWN W.S. SHARPE
CHKD C.A. BALDWIN
SUPV

INSP
ENGINEER

CONTROL BUILDING

WIRING DIAGRAM
MISC CONTROL CIRCUITS
A-C AND D-C SCHEMATICS

BELLEFONTE NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

N

SUBMITTED	RECOMMENDED	APPROVED
Robert F. Hewitt	K. N. Herndon	John E. Huffaker
KNOXVILLE 12-29-76	BB	9MW0552-XE-01 R1

RECORD DRAWING AS CONSTRUCTED

PRC APERTURE CARD