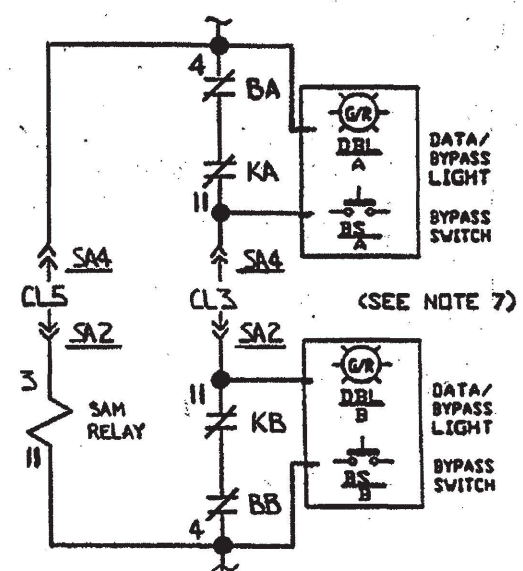
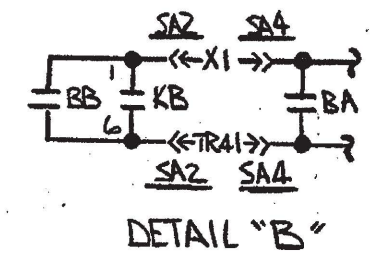
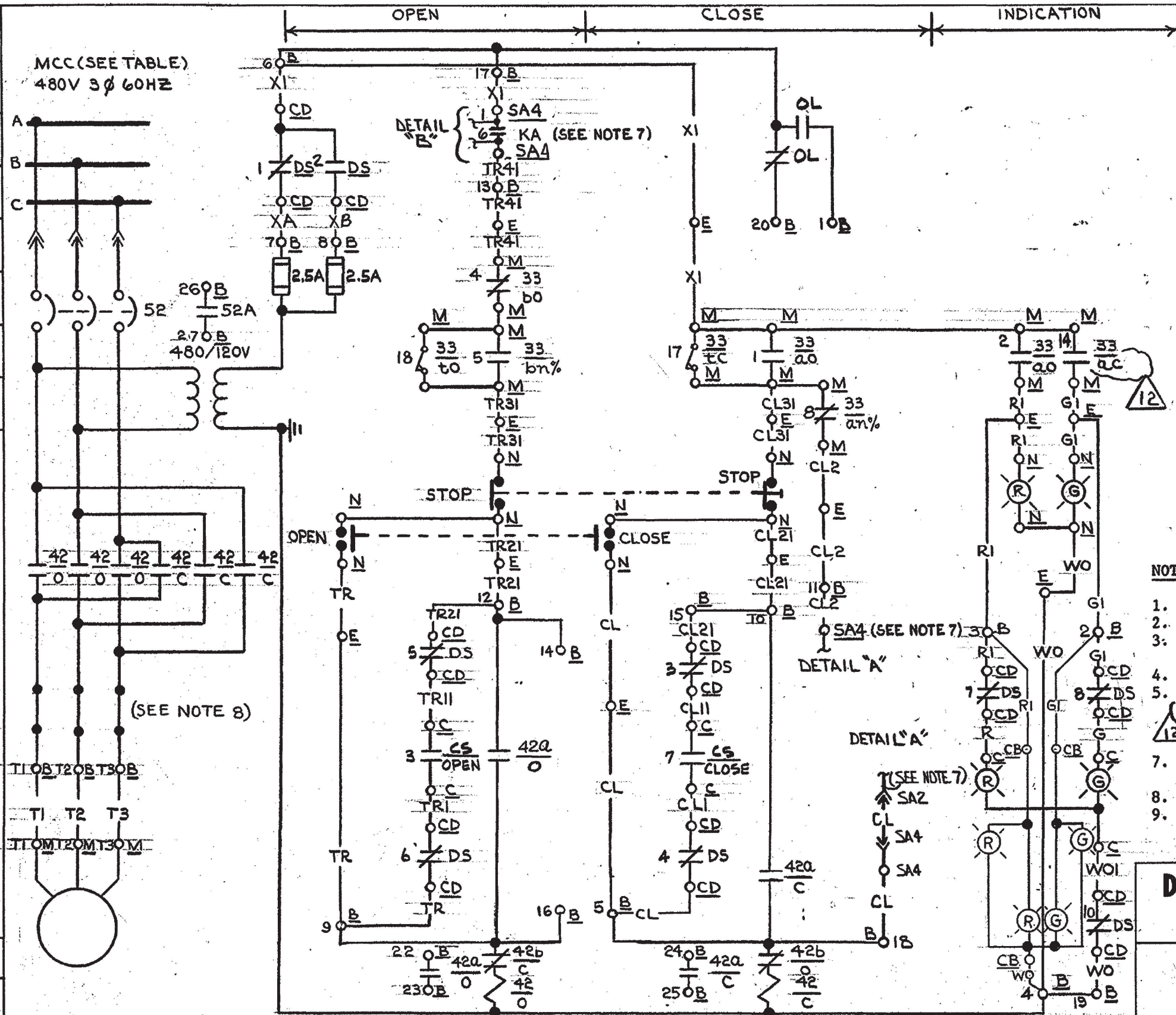


REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
12	INC. DAVIS E-52B-902+903 PER ECR 05-0204-00 (CA03-09353-02)	9-15-03	SAW	JOR				
11	INC. DAVIS E-52B-683 PER MND 90-0006 SUP. O.	3/4/02	SAW	JOR				
8	"AS BUILT" FOR FCR 80-147, REV. C, SUPPL. 9, INC. DCN E-52B-206	7-9-93	PI	JOR				
0	ISSUED FOR CONSTRUCTION	12/16/73	DMS	JOR				



#### NOTES

1. FOR SCHEME & BLOCK DIAGRAM SEE DWG. E-52B SH-16B.
2. FOR GENERAL NOTES SEE DWG. INDEX E-52B.
3. FOR LOCAL PUSHBUTTONS AND INDICATING LIGHTS DETAILS SEE DWG. E-30B, SH-7, TYPES 3, 4 & 6.
4. FOR DETAILS OF CS SEE DWG. E-30B, SH-7 FIG 7.
5. FOR VALVE LIMIT SW. DEVICE SEE DWG. E-30B, SH-8H (FIG. Q (SEE NOTE 9 THIS SHEET))
7. FOR VENDOR DWG. REFER TO E-17B, SEE VENDOR DWG FOR SPAS INTERNAL WIRING.
8. OVERLOAD HEATERS REPLACED BY SHORTING BARS.
9. FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN. +5% -0%

### DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM

RC PRZR

VLV

BECHTEL COMPANY

JOB NO.

DRAWING NO.

REV.

7749

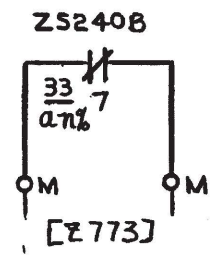
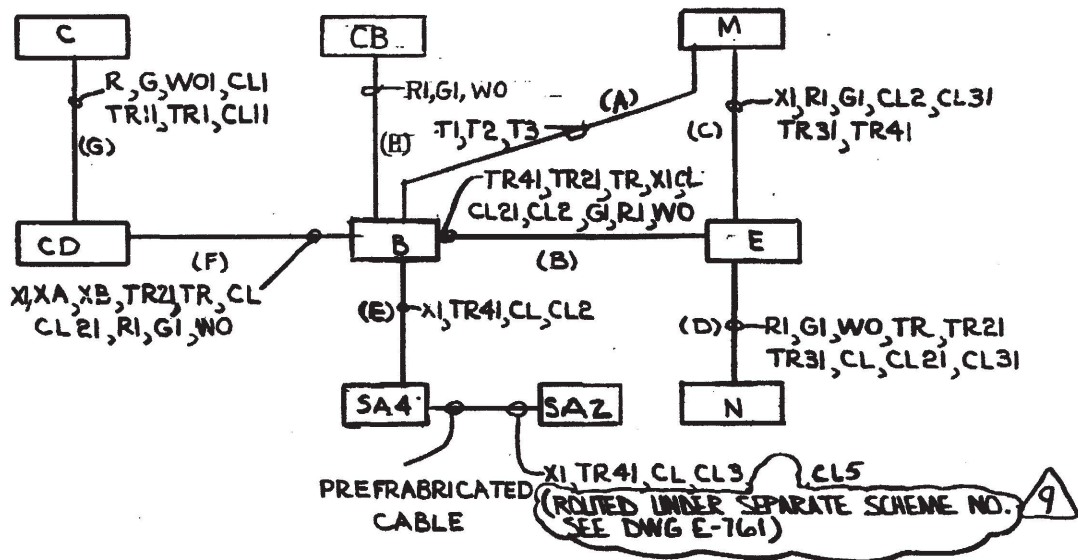
E52B

SH-16A

12



9	INC. UCN E-52B-6B2 PER MOD 90-0006 SUP. Q	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
	AS BUILT FOR RC 85-112, SUPP. 1 & 85-277 INC. UCN E-52B-271 & E-52B-300	3/4/64	1/17	1/17	1/17	1/17	1/17	1/17
	ISSUE FOR CONSTRUCTION	7/2/67	DM	BS	KS	1/17	1/17	1/17
	REV. DESCRIPTION							



SCHEME NO	MCC	SU No	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBERS									SA OUTPUT RELAY		DESCRIPTION
						C	CD	B	M	E	N	SA4	SA2	CB	KA	KB	
BF1128	F11A	64	2	PSB	H15240B	C5717	CDF11A-1	BF1128	MV0240B	EV0240B	NV0240B	C5756C	C5755D	CL708	K27D	K27D	RC PRZR-1-1 SAMPLE LINE VLV

**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

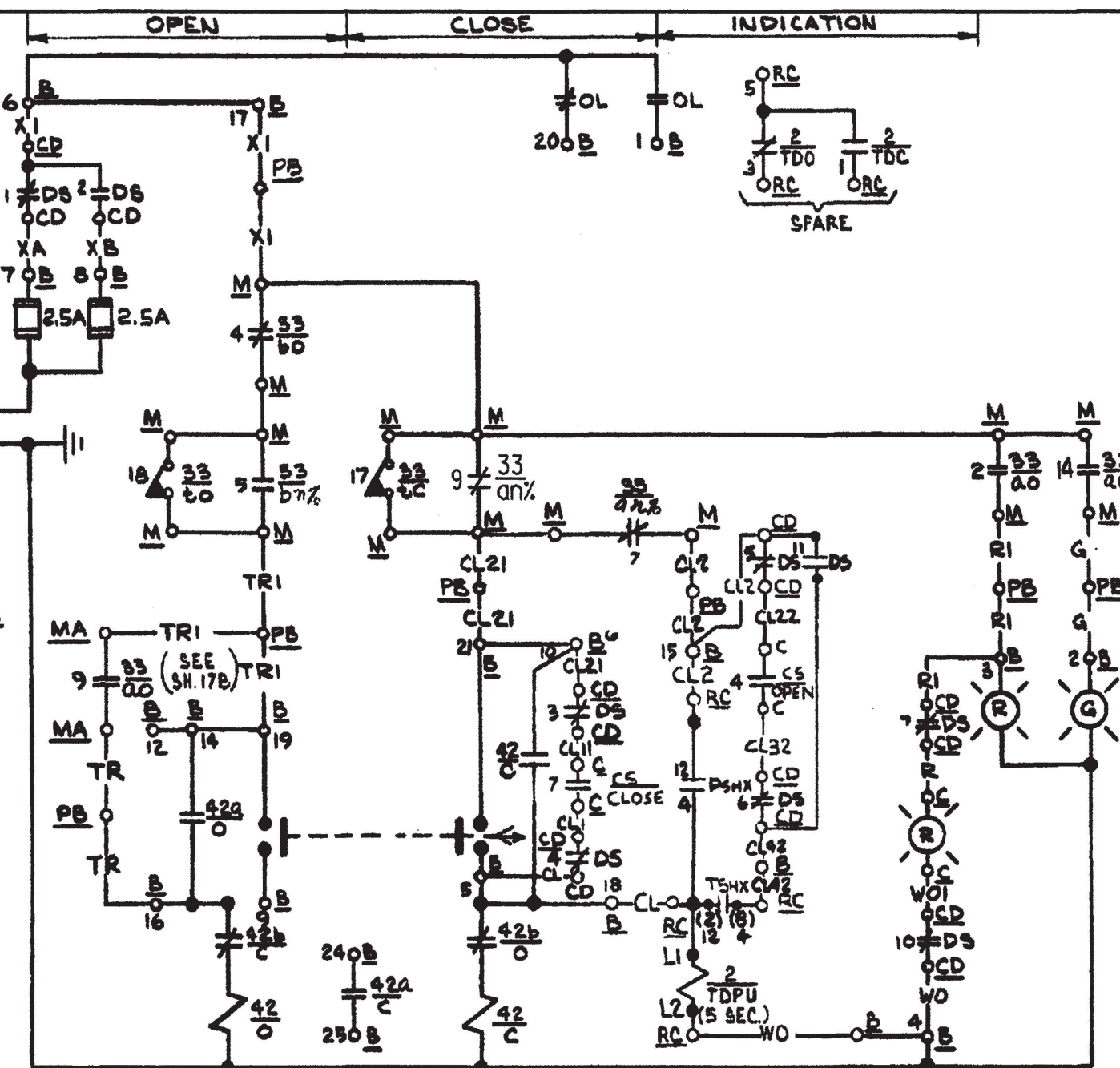
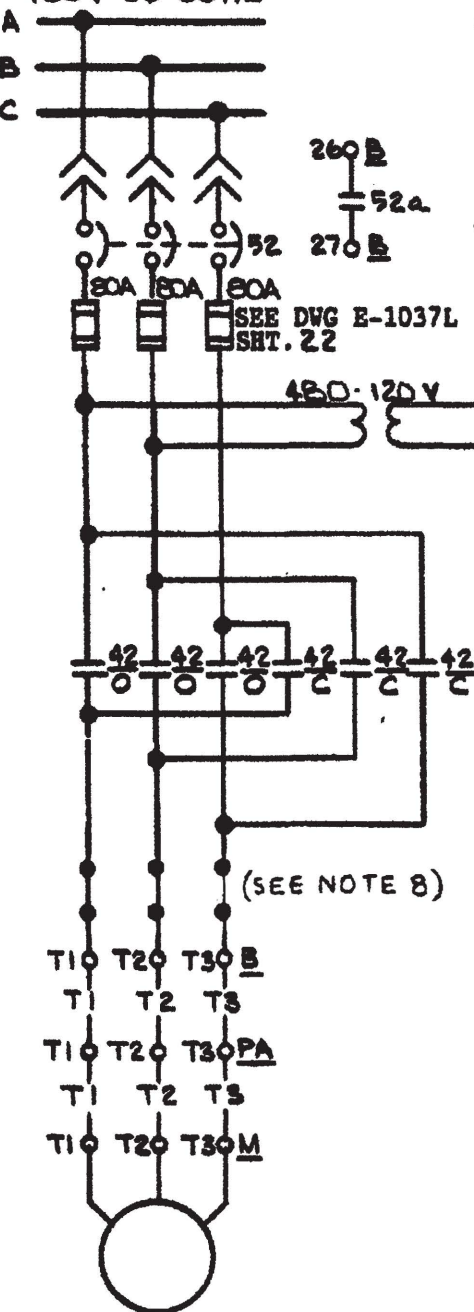
ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM  
RC PRZR SAMPLE VLV

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E52B SH-16B	9



19	5-6-72	INC. DUN 12-0085-001-001 REV.00	GEN. SUPV.	MLB	ENGR. SUPV.	CH'K	BY	KNF	DATE
18	10-24-97	INC. DCN E-52B-807 PER MOD 93-0035 SUP.0	ENGR.	SBW					
17	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
16	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
15	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
14	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
13	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
12	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
11	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
10	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
9	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
8	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
7	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
6	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
5	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
4	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
3	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
2	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					
1	7-16-96	INC. DCN E-52B-808 FOR MOD 93-0035-00 (DRAWING SCANNED)	ENGR.	SBW					

MCC (SEE TABLE)  
480V 3Ø 60HZ



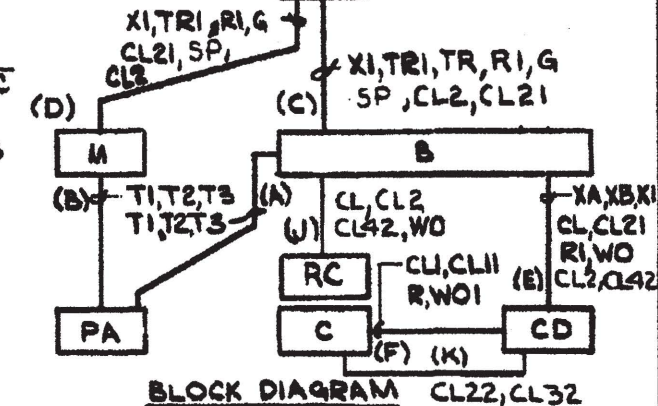
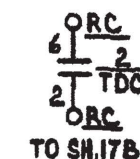
SCHEME NO. (SEE TABLE)

# NOTES (CONT)

- FIELD TO ADJUST ROTOR #3 WITH SWITCH CONTACT 9 THRU 12 TO ACTUATE WHEN VALVE REACHES 96% CLOSED  $\pm 2\%$ .

THIS DRAWING WAS SCANNED AT REVISION 17  
AND SUPERSEDES REVISION 16.

SCHEME NO	MCC	SU NO	CH	WIRE PRE	CS	EQUIPMENT						AUX RELAYS		DESCRIPTION
						M	C	B	PA	PB	MA	CD	RC	
BF1237	F12A	64	2	LCA	HISMUOIA	MVMUOIA	CS703	BF1237	P2P5F	P2C5G	MV14070	CD12A-2	RC4605	3711 3745A RC LETDOWN CLR 1 IN VLV
BF1238	F12A	64	2	LCB	HISMUOIB	MVMUOIB	CS703	BF1238	P2P5F	P2C5G	MV14070	CD12A-2	RC4605	3712 3745A RC LETDOWN CLR 2 IN VLV



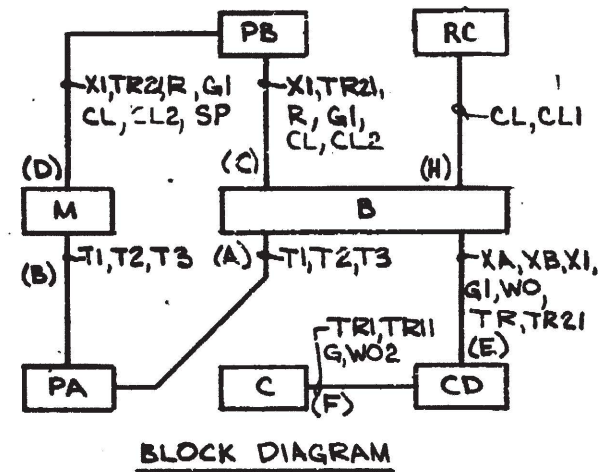
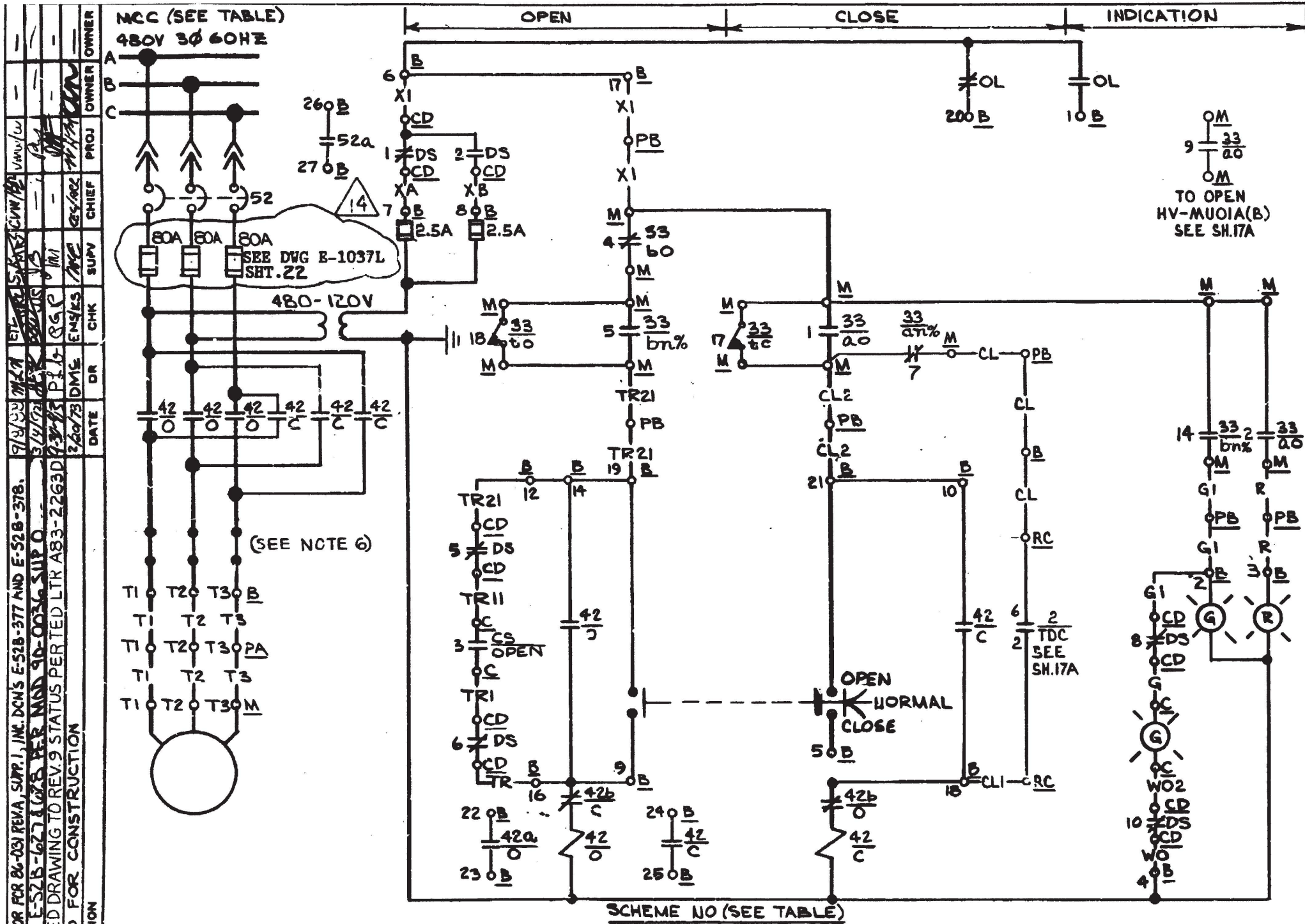
BLOCK DIAGRAM CL22, CL32

# NOTES

- FOR GENERAL NOTES SEE DWG. INDEX E-52B.
- FOR DETAILS OF CS SEE DWG. E-30B, SH. 7, FIG. 7.
- PSHX CONTACT CLOSING ON HIGH PRESSURE TSHX CONTACT CLOSING ON HIGH TEMP.
- FOR VALVE LIMIT SWITCH DEVELOPMENT SEE DWG. E-30B SH. 8F FIG. L. ALSO SEE NOTES 9 AND 10 ON THIS DRAWING.
- FOR TSHX & PSX RELAYS COIL CONN SEE DWG. E-52B SH. 57.
- ONE CS SWITCH CONTROLS BOTH SCHEMES THIS SCHEME AND SCHEME ON SH. 17B.
- FOR GREEN LIGHT AT CONTROL BOARD SEE SH. 17B.
- OVERLOAD HEATERS REPLACED BY SHORTING BARS.
- FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN.  $\pm 5\%$ .  
-0%

SCALE NONE	DESIGNED	DRAWN KNF	DATE 06-26-96
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAM REACTOR COOLING SYSTEM RC LETDOWN CLR 1 & 2 IN VLV			
DRAWING NO.			REV.
E-52B SH 17A			19





NOTES

- 1) FOR GENERAL NOTES SEE DWG INDEX E-52B.
- 2) FOR DETAILS OF CS SEE DWG E-30B SH 7 FIG 7.
- 3) FOR VALVE LIMIT SWITCH DEVELOPMENT SEE DWG E-30B SH 8. FIG A (SEE NOTE 7 THIS SHEET)
- 4) ONE CS SWITCH CONTROLS BOTH SCHEMES THIS SCHEME AND SCHEME ON SH 17A.
- 5) FOR RED LIGHT AT CONTROL BOARD SEE SH 17A.
- 6) OVERLOAD HEATERS REPLACED BY SHORTING BARS.
- 7) FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN. +5% -0%

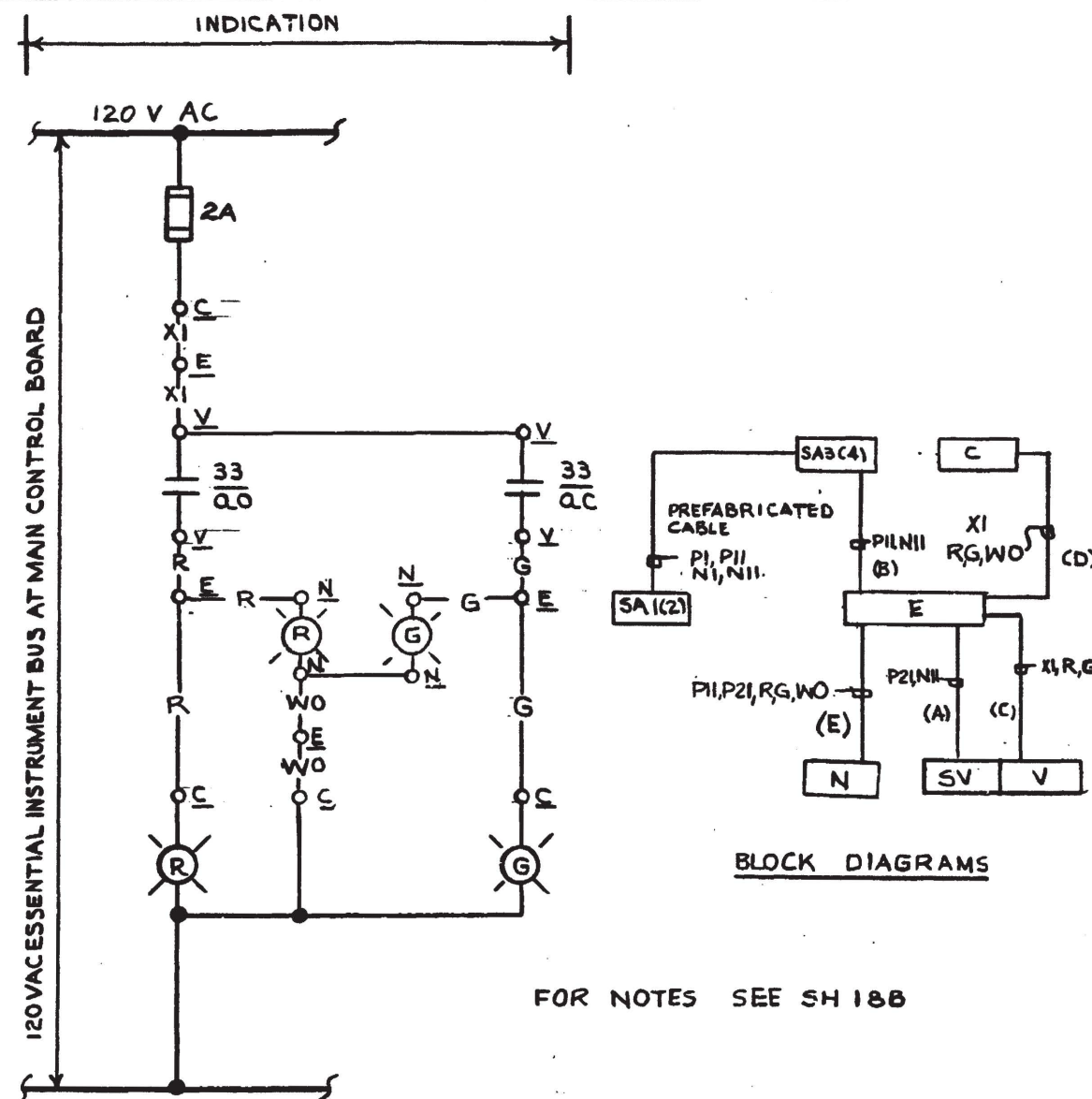
REV.	DESCRIPTION	ISSUED	REVERTED	INC. DON'S	AS BUILT	SCHEME NO	MCC	START UP NO	CHAN	WIRE PREFIX	CS	EQUIPMENT							DESCRIPTION	
												M	C	B	PA	PB	MA	RC		CD
13		0				BF1227	F12A	16P	2	LCA	HISMU01A	MV14090	CS703	BF1227	P2P5F	P2C5G	MVMU01A	RC4605	CD12A2	RC LETDOWN CLR 1 CCW IN VLV
14		0				BF1228	F12A	16P	2	LCB	HISMU01B	MV14100	CS703	BF1228	P2P5F	P2C5G	MVMU01B	RC4605	CD12A2	RC LETDOWN CLR 2 CCW IN VLV

**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

**ELEMENTARY WIRING DIAGRAM**  
**REACTOR COOLING SYSTEM**  
**RC LETDOWN CLR 1 & 2 CCW IN VLV**

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH-17B	14






SCHEME	SU NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBER								SAOUTPUT RELAY		DESCRIPTION	
					C	V	E	N	SV	SA1	SA2	SA3	SA4	KA		KB
VMU66A	64	2	SIA	HISMU66A	C5717	VMU66A	EVMU6B	NVMU66A	SYMU66A	—	C5755C	—	C5756D	K33E	K33E	RCP2-1 SEALINJ ISO VLV
VMU66B	64	1	SIB	HISMU66B	C5717	VMU66B	EVMU66	NVMU66B	SYMU66B	C5762D	—	C5763C	—	K33J	K33J	RCP2-2 SEALINJ ISO VLV
VMU66C	64	1	SIC	HISMU66C	C5717	VMU66C	EVMU66	NVMU66C	SYMU66C	C5762D	—	C5763C	—	K33K	K33K	RCPI-1 SEALINJ ISO VLV
VMU66D	64	2	SID	HISMU66D	C5717	VMU66D	EVMU63	NVMU66D	SYMU66D	—	C5755D	—	C5756C	K33G	K33G	RCPI-2 SEALINJ ISO VLV

**THE TOLEDO EDISON COMPANY**  
**THE CLEVELAND ELECTRIC ILLUMINATING COMPANY**

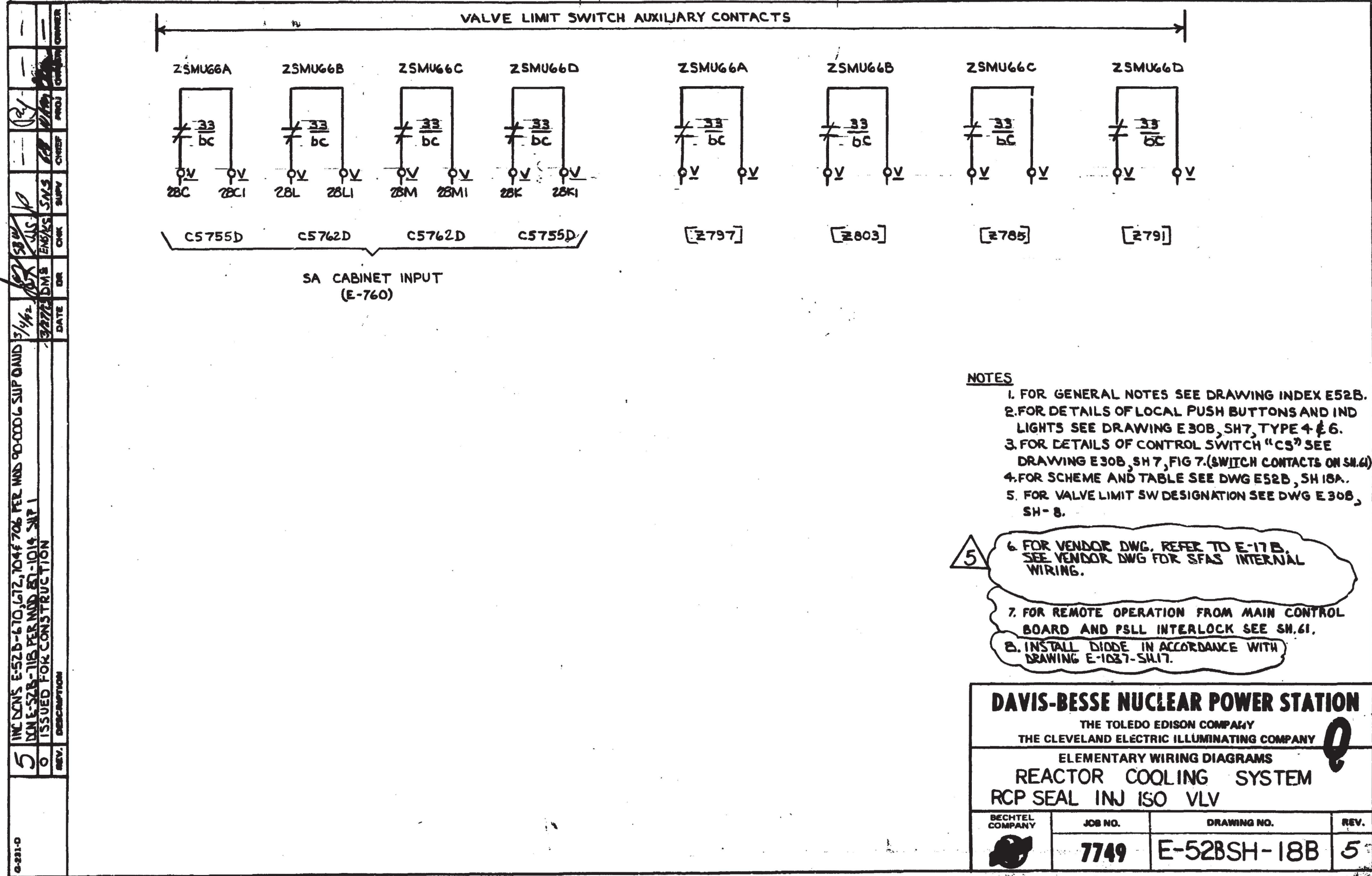
### ELEMENTARY WIRING DIAGRAMS

## REACTOR COOLING SYSTEM

### RCP SEAL INJ ISO VLV

 BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH-18A	6





ZSMUG6A

33

bc

OV

OV

[Z797]

ZSMUG6B

33

bc

OV

OV

[Z803]

ZSMUG6C

33

bc

OV

OV

[Z785]

ZSMUG6D

33

bc

OV

OV

[Z791]

SA CABINET INPUT  
(E-760)

NOTES

1. FOR GENERAL NOTES SEE DRAWING INDEX E52B.

2. FOR DETAILS OF LOCAL PUSH BUTTONS AND IND LIGHTS SEE DRAWING E30B, SH7, TYPE 4 & 6.

3. FOR DETAILS OF CONTROL SWITCH "CS" SEE DRAWING E30B, SH 7, FIG 7. (SWITCH CONTACTS ON SH. 6)

4. FOR SCHEME AND TABLE SEE DWG E52B, SH 18A.

5. FOR VALVE LIMIT SW DESIGNATION SEE DWG E30B, SH-8.

6. FOR VENDOR DWG. REFER TO E-17B. SEE VENDOR DWG FOR SFAS INTERNAL WIRING.

7. FOR REMOTE OPERATION FROM MAIN CONTROL BOARD AND PSLL INTERLOCK SEE SH. 61.

8. INSTALL DIODE IN ACCORDANCE WITH DRAWING E-1037-SH.17.

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM  
RCP SEAL INJ ISO VLV

BECHTEL COMPANY

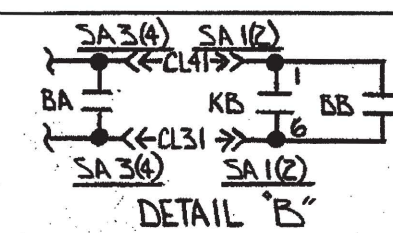
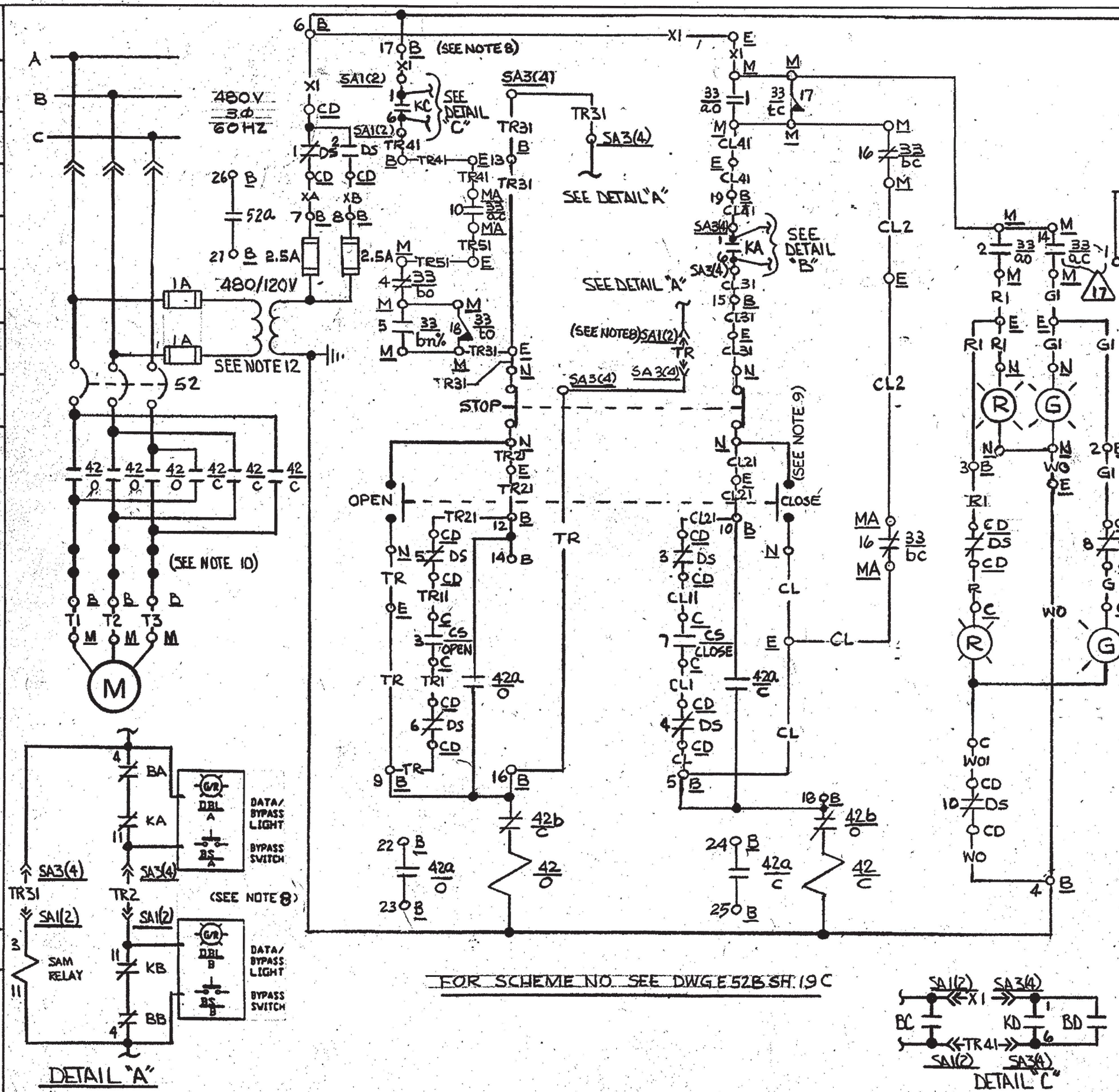
JOB NO.  
7749

DRAWING NO.  
E-52BSH-18B

REV.  
5



REV.	DESCRIPTION	DATE	CHK	SUPV	PROJ	OWNER
17	INC. DYN 5 E-52B-904 + 905 PER ECR 05-0204-00 (CA 03-09353-02)	19.15.05	SBW	JOR	LEA	
16	GEN. UPDATE; REF. DCN E-52B-853 PER DDR 02-1397 (CR 02-300)	1/11/04	JOR	SBW	ATM	
0	ISSUED FOR CONSTRUCTION	12.26.79	DP	ENRKS	PPR	



- NOTES**
1. VALVE IS OPENED BY SA INCIDENT LEVELS 2,3,4
  2. FOR GENERAL NOTES SEE DWG INDEX E52B
  3. FOR CONTROL SW DETAILS SEE DWG E 30B SHEET 7 FIG 7
  4. FOR VALVE LIMIT SW DEVELOPMENT SEE DWG. E 30B SHEET 8 FIG. Q (SEE NOTE 11 THIS SHEET)
  5. FOR DETAILS OF LOCAL PUSH BUTTONS & IND LIGHTS SEE DWG E-30B SH. 7. TYPES 3,4,8,6
  6. FOR BLOCK DIAGRAM SEE E52B SH. 19C
  8. FOR VENDOR DWG REFER TO E-17B, SEE VENDOR DWG FOR SFAS INTERNAL WIRING.
  9. FIELD TO INSTALL COVER PLATE WITH LOCK ON "OPEN-CLOSE" CONTROL STATION.
  10. OVERLOAD HEATERS REPLACED BY SHORTING BARS.
  11. FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN.  $\pm 5\%$
  12. THE CONTROL CIRCUITS ARE ENERGIZED WITH BREAKERS BF1148 AND BE1157 MAINTAINED IN THE OPEN POSITION.

## DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY.

ELEMENTARY WIRING DIAGRAMS

### REACTOR COOLING SYSTEM

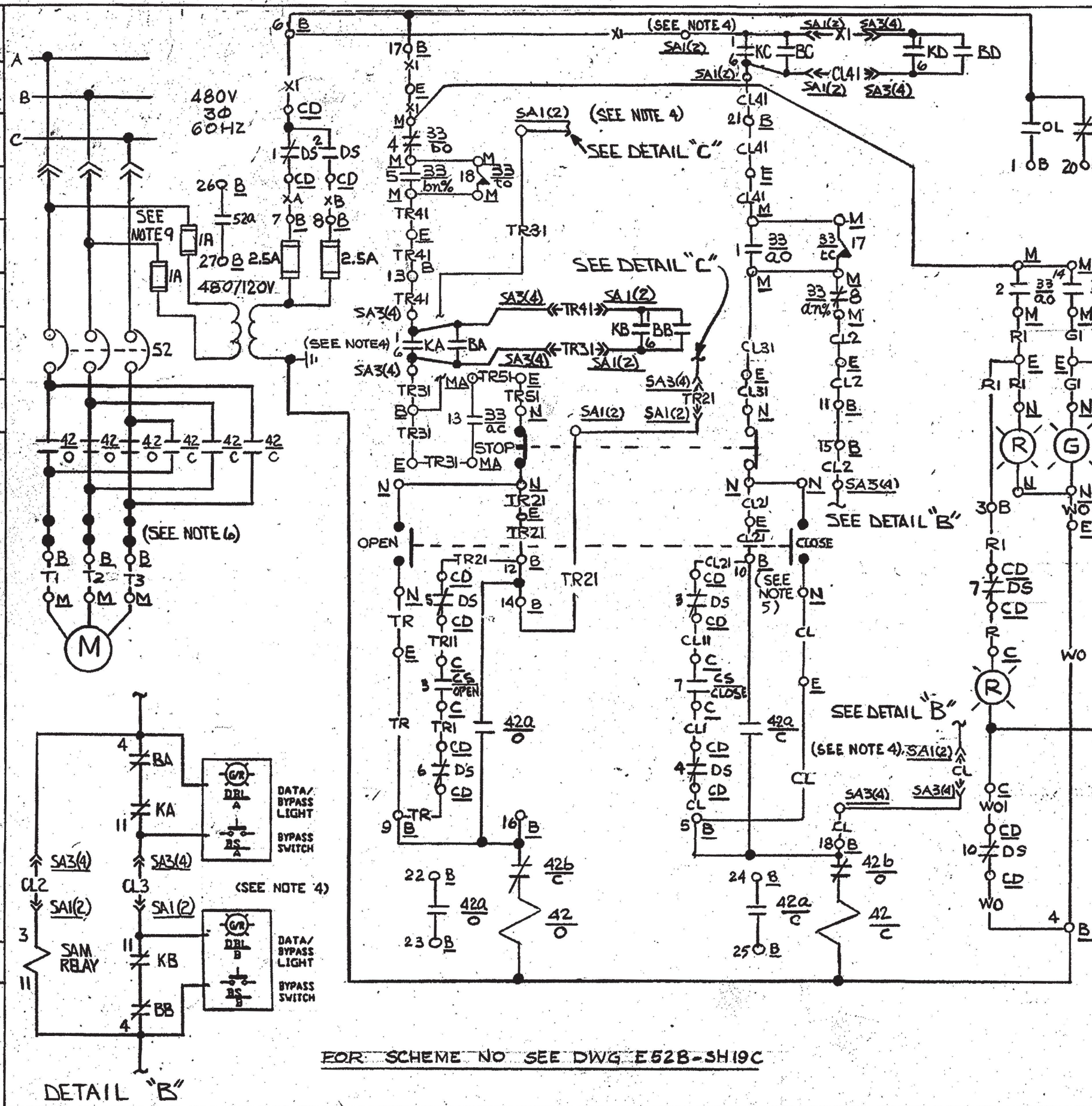
### BWST OUTLET VLV.

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	<b>7749</b>	<b>E52B SH-19A</b>	<b>17</b>

G-231-D

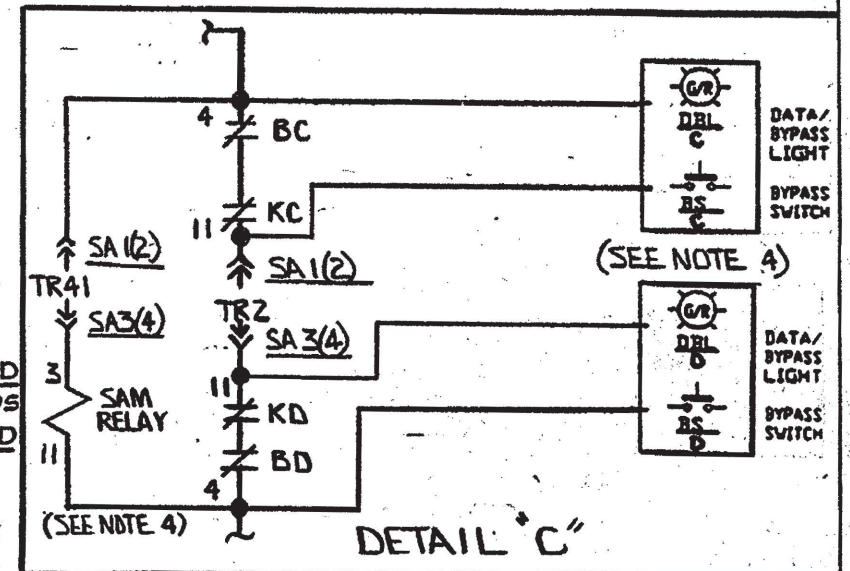


REV.	DESCRIPTION	DATE	CHK.	SUPV.	CHIEF	OWNER
15	INC. DWN'S E-52B-906+907 PER ECR 05-0204-00 (CA 03-07353-02)	9-15-03	SBW	JOR	CER	—
14	INC. DCN'E-52B-766 PER DCR 94-0001	5/20/04	SBW	DVK	—	—
0	ISSUED FOR CONSTRUCTION	12/26/72	CP	ENS/MS	—	—



# NOTES

1. VALVE IS CLOSED BY SA INCIDENT LEVEL 2,3 & 4.
2. FOR OTHER NOTES SEE DWG. E-52 SH-19A.
3. FOR BLOCK DIAGRAM SEE E-52B SH-19C.
4. FOR VENDOR DWG. REFER TO E-17B, SEE VENDOR DWG. FOR SPAS INTERNAL WIRING.
5. FIELD TO INSTALL COVER PLATE WITH LOCK ON "OPEN-CLOSE" CONTROL STATION.
6. OVERLOAD HEATERS REPLACED BY SHORTING BARS.
7. FIELD HAS ADJUSTED ROTOR #3 SO THAT LIMITSWITCH CONTACTS 9 & 10 CLOSE AND LIMITSWITCH CONTACTS 11 & 12 OPEN WHEN THE VALVE IS FULLY CLOSED, FOR VLVS. MVDH09A & B.
8. FOR VALVE LIMIT SW. DEVELOPMENT SEE DWG. E-30B, SH.86 FIG.N. (SEE NOTE 10 THIS SHEET)
9. THE CONTROL CIRCUIT IS ENERGIZED WITH BEAKER NOS. BF1142 & BE1112 IN THE OPEN POSITION.



- NOTES (CONT'D):
10. FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN (+5%, -0%)

**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

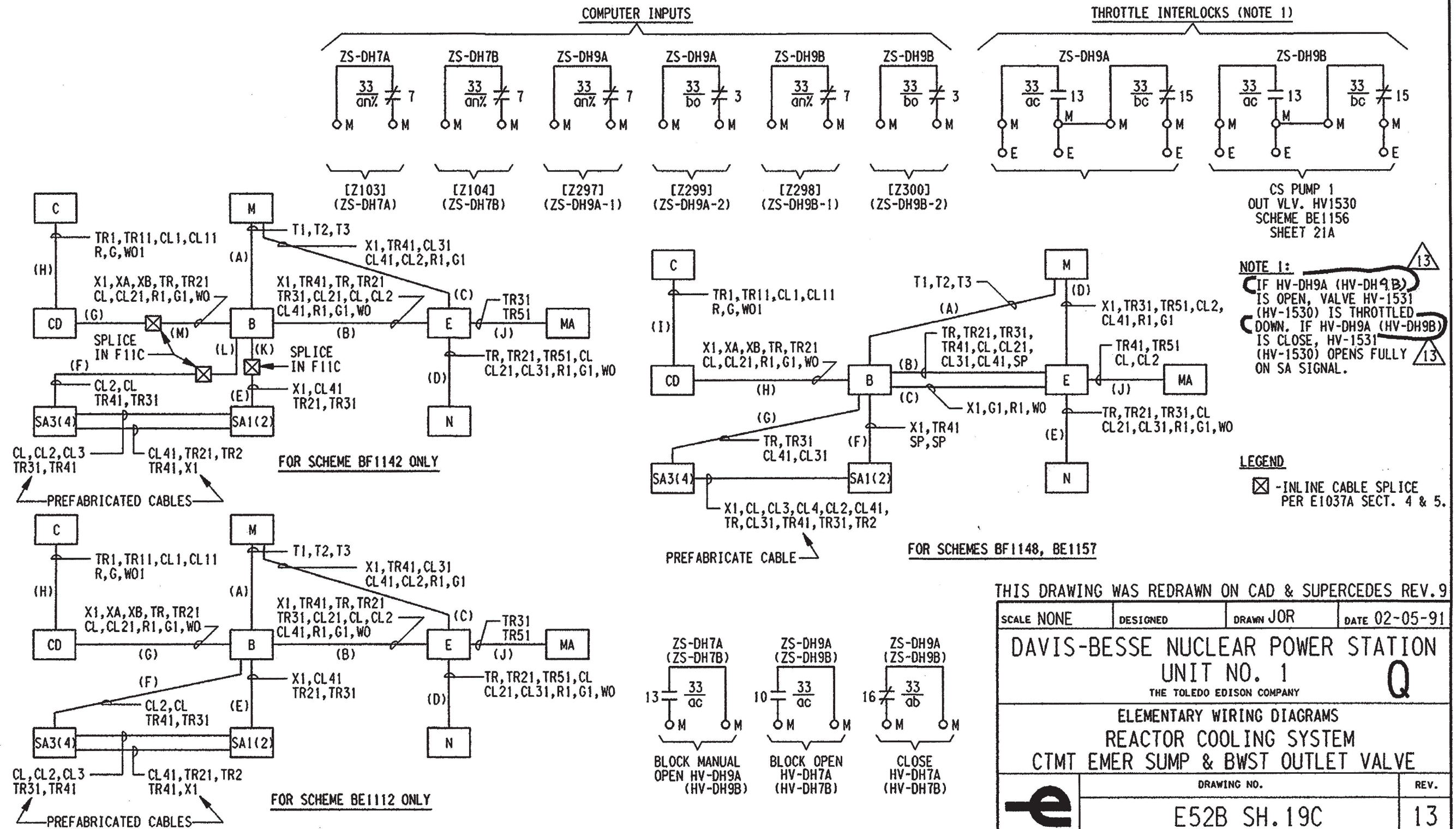
**ELEMENTARY WIRING DIAGRAMS**  
**REACTOR COOLING SYSTEM**  
**CTMT EMER SUMP VLV**

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
7749	E52B SH-19B	15	

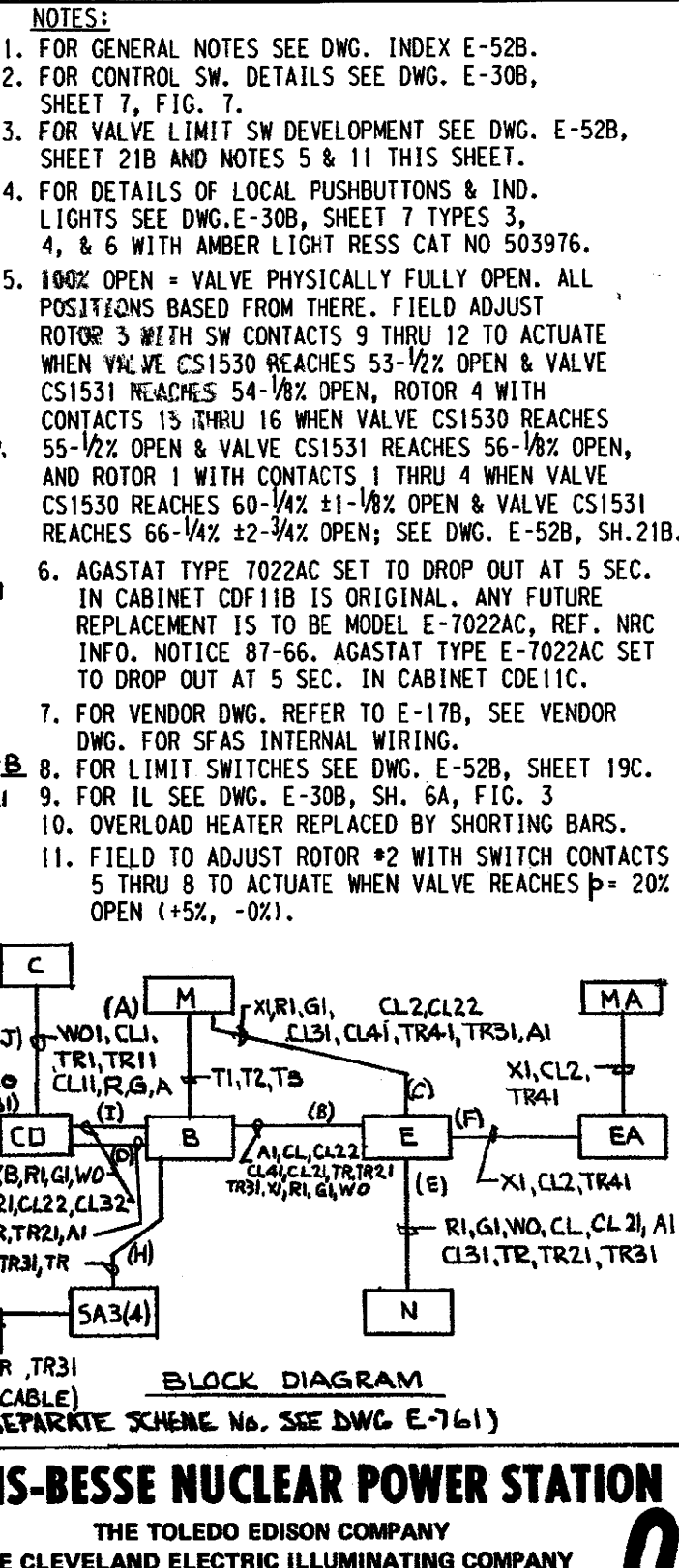


NO.	DATE	REVISIONS	BY	CHK	ENGR.	GEN. SUPV.
13	9/15/92	INC DCN E-52B-908 PER ECR 05-0204-00	SBW	J.P.		
12	9/10/92	INC DCN E-52B-744 FOR MOD 90-0006 SUPP. 0				
11	3/4/92	INC DCN'S E52B-653, 655, 676, 696, 698 & 710 FOR MOD 90-0006 SUPP. 0				
10	3/13/91	INC DCN E52B-545 FOR MOD 89-0089 SUPP. 0 & GEN UPDATE (SCHEME CHANGE REQD)				

SCHEME	MCC	S.U. NO.	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBERS														DESCRIPTION
						MA	C	CD	B	E	M	N	SA1	SA2	SA3	SA4	KA	KB	KC	
BF1142	F11D	49	2	SLB	HISDH09A	MVDH07A	C5716	CDF11C	BF1142	EVDH09A	MVDH09A	NVDH09A	C5755D C5755C	C5756C C5756D	K28 F	K28 F	K51 A	K51 A	CTMT EMER OUT VALVE A	
BE1112	E11A	49	1	SLA	HISDH09B	MVDH07B	C5716	CDE11A	BE1112	EVDH09B	MVDH09B	NVDH09B	C5762D C5762C	C5763C C5763D	K28 A	K28 A	K51 A	K51 A	CTMT EMER OUT VALVE B	
BF1148	F11B	49	2	BWB	HISDH07A	MVDH09A	C5716	CDF11B	BF1148	EVDH07A	MVDH07A	NVDH07A	C5755D C5755C	C5756C C5756D	K28 G	K28 G	K51 B	K51 B	BWST 1-1 OUT VALVE A	
BE1157	E11A	49	1	BWA	HISDH07B	MVDH09B	C5716	CDE11A	BE1157	EVDH07B	MVDH07B	NVDH07B	C5762D C5762C	C5763C C5763D	K28 G	K28 G	K51 B	K51 B	BWST 1-1 OUT VALVE B	







**BLOCK DIAGRAM**

REPARTE SCHEME No. SEE DWG E-761)

# DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

## ELEMENTARY WIRING DIAGRAMS

### REACTOR COOLING SYSTEM

### CS PMP'S 1 & 2 OUT VLV'S



Q-931-0	REV.	DESCRIPTION	DATE	DR	CHK	SUPV	PROJ	OWNER
6	INC. DUN'S 03-0359-001-002 & 03-0359-002-002 BOTH REV. 01 (REDRAWN)	3.4.14 SACK	RTG	SAW	RTG	SAW	RTG	SAW
5	"AS-BUILT" FOR RGR 85-277 SUPP O MC DGN E52B-907 & FOR 86-119 INC DGN E52B-936	12/31/87	CA	SA	SA	SA	SA	SA
0	ISSUED FOR CONSTRUCTION	12/27/85	CA	SA	SA	SA	SA	SA

CONTACTS	VALVE POSITION			CLOSED	aX% aX% bX% bX%
	OPEN	INTERMEDIATE	POSITION		
1					aX%
2					aX%
3					bX%
4					bX%
5					bP
6					bP
7					aP
8					aP
9					aM
10					aM
11					bM
12					bM
13					bM
14					bM
15					aM
16					aM

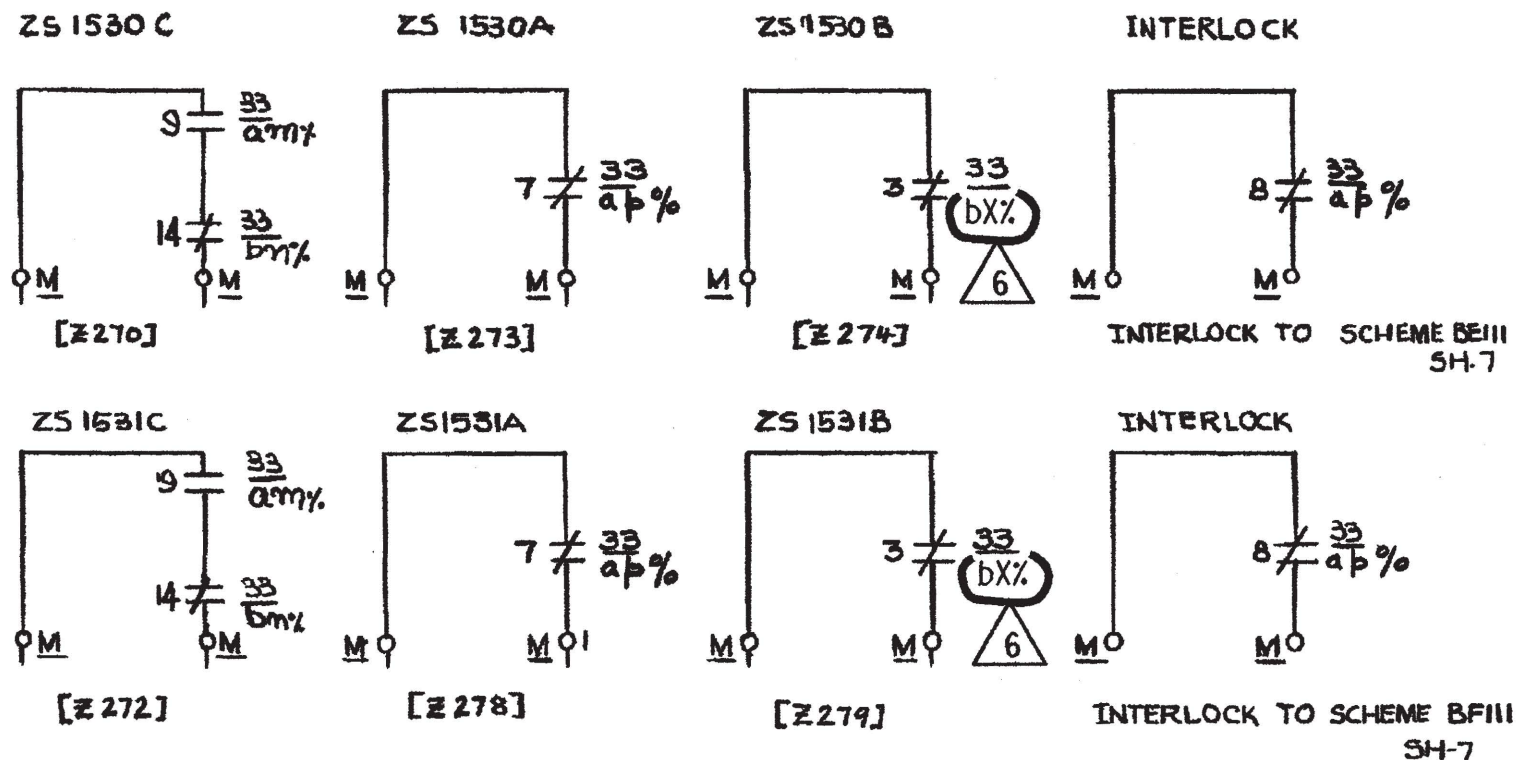
n% m% p%

# LIMIT SWITCH DEVELOPMENT

n% = CS1530 55 1/2% OPEN: CS1531 56 1/8% OPEN  
m% = CS1530 46 1/2% CLOSED: CS1531 45 7/8% CLOSED  
p% = 20% OPEN ± 5%

XX=CS1530 XX% OPEN: CS1531 YY% OPEN  
WHERE XX=60-1/4±1-1/8 AND YY= 66-1/4±2-3/4

6



THIS DRAWING WAS REDRAWN/SCANNED ON CAD AND SUPERSEDES REV. 5.

## DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

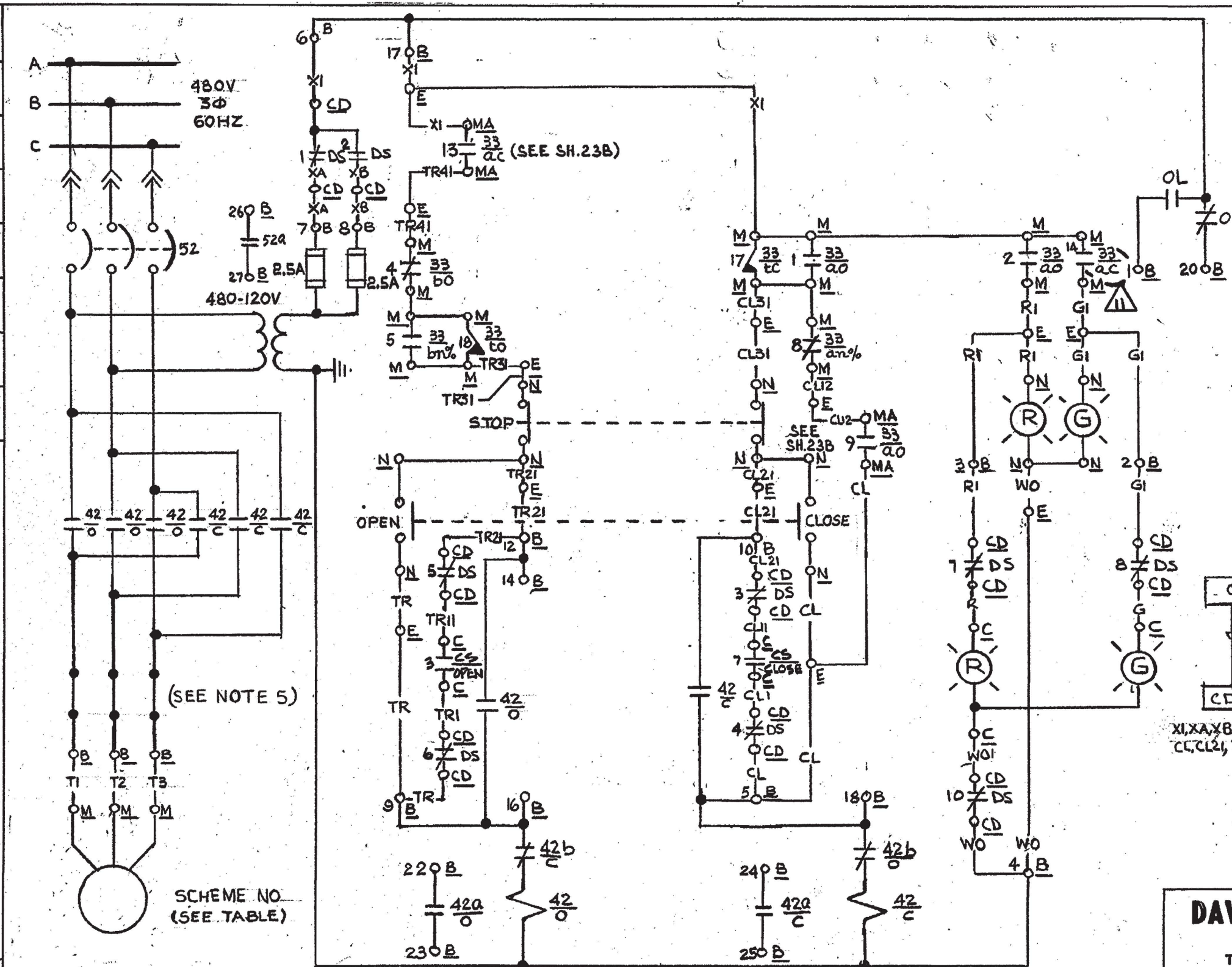
ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM

CS PMPS 1 & 2 OUT VLVS

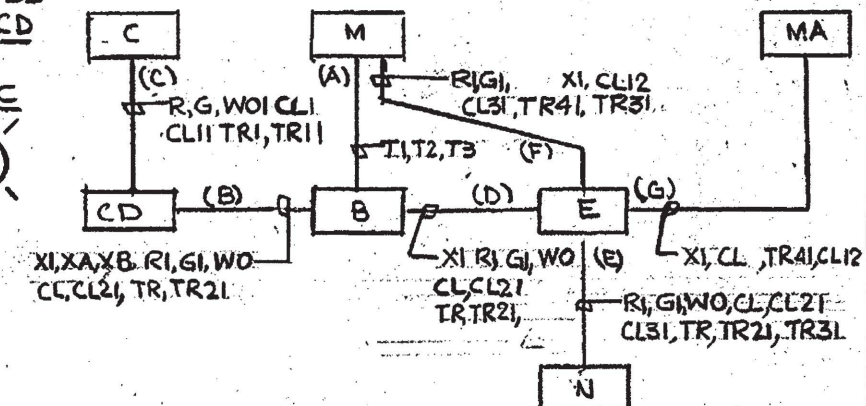
BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E 52B SH 21B	6



REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
10	INC. DCN'S E-52B-831 + 832 PER MOD 97-0074 SUP. 00	2/2/61	58W	JOR				
11	INC. DCN'S E-52B-909 + 910 PER ECROS-0204-00 (CA 03-09353-02)	9-15-60	58W	JOR				
0	ISSUED FOR CONSTRUCTION	1/27/73	CP	BMS/KS				



- NOTES**
- FOR GENERAL NOTES SEE DWG INDEX E52B
  - FOR CONTROL SW DETAILS SEE DWG E-30B SHEET 7 FIG 7
  - FOR VALVE LIMIT SW DEVELOPMENT SEE DWG E 30B SH: 8H FIG. Q (SEE NOTE 6 THIS SHEET)
  - FOR DETAILS OF LOCAL PUSHBUTTONS & IND LIGHTS SEE DWG E 30B SHEET 7 TYPES 3, 4 & 6
  - OVERLOAD HEATERS REPLACED BY SHORTING BARS.
  - FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN  $\pm 5\%$



BLOCK DIAGRAM.

## DAVIS-BESSE NUCLEAR POWER STATION

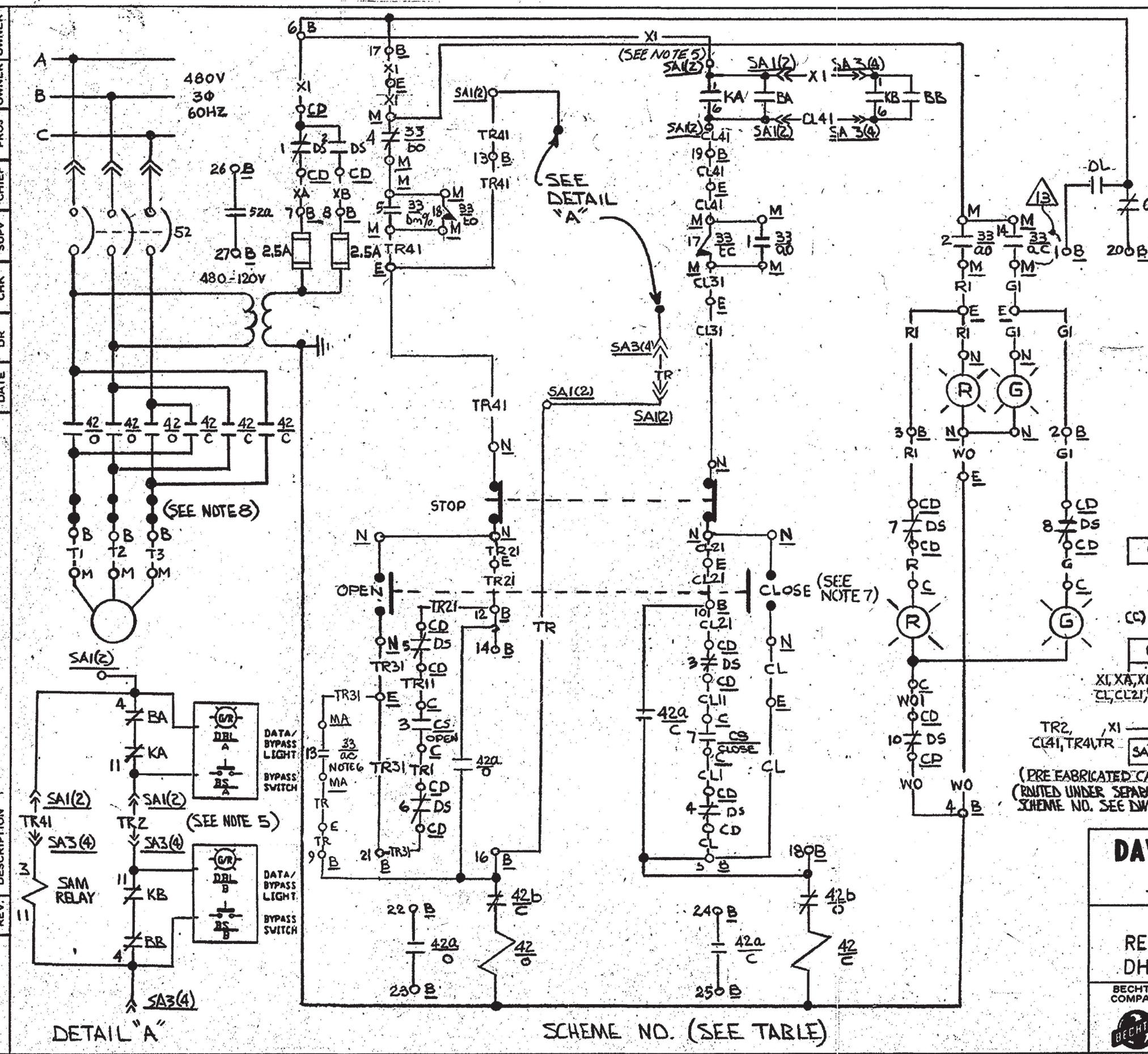
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM  
DH NORMAL SUCTION VALVE

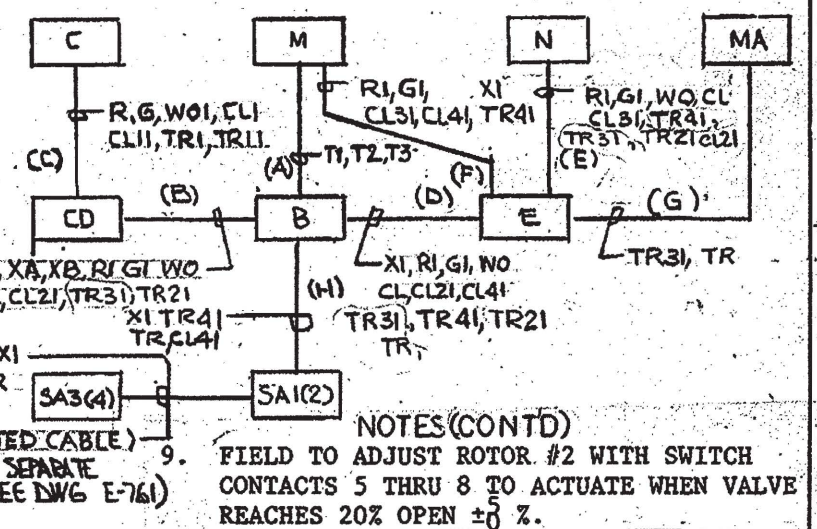
BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E52B SH22	11

SCHEME NO	MCC	5. U. NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NO'S							DESCRIPTION
						C	CD	B	E	M	MA	N	
BE1126	E11D	49	1	DHA	HIS1517	C5704	CD E11D	BE1126	EV15170	MV15170	MV27330	NV15170	DH REMOVAL SUCT. LINE 1 VLV
BF1129	F11C	49	2	DHB	HIS1518	C5704	CD F11C	BE1129	EV15180	MV15180	MV27340	NV15180	DH REMOVAL SUCT. LINE 2 VLV





- NOTES:
1. FOR GENERAL NOTES SEE DWG. INDEX E-52B.
  2. FOR CONTROL SWITCH DETAILS SEE DWG. E-30B, SHEET 7, FIG 7.
  3. FOR VALVE LIMIT SWITCH DEVELOPMENT SEE DWG. E-30B, SHEET 8B, FIG. D (SEE NOTE 9 THIS SHEET)
  4. FOR DETAILS OF LOCAL PUSHBUTTONS AND IND. LIGHTS, SEE DWG E-30B SHEET 7, TYPES 3,4, AND 6.
  5. FOR VENDOR DWG REFER TO E-17B SEE VENDOR DWG FOR SFAS INTERNAL WIRING
  6. INTERLOCK PERMITS MANUAL OPENING OF HV2733(2734) IF HV1517(1518) IS CLOSED (SEE SH. 22)
  7. FIELD TO INSTALL COVER PLATE WITH LOCK ON "OPEN-CLOSE" CONTROL STATION.
  8. OVERLOAD HEATERS REPLACED BY SHORTING BARS.




# DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

## ELEMENTARY WIRING DIAGRAMS

### REACTOR COOLING SYSTEM

DH. PMP 1 & 2 SUCT. VLV FROM BWST

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E52B SH23A	13



The diagram shows two main sections: COMPUTER INPUT and INTERLOCKS.

**COMPUTER INPUT:**

- ZS 2733:** A circuit with two terminals labeled 'M'. A 10 ohm resistor is connected between the two terminals. A 33 ohm resistor is connected in parallel with the 10 ohm resistor.
- ZS 2734:** A circuit with two terminals labeled 'M'. A 10 ohm resistor is connected between the two terminals. A 33 ohm resistor is connected in parallel with the 10 ohm resistor.


**INTERLOCKS:**

- ZS 2733 (NOTE 1):** A circuit with two terminals labeled 'M'. A 13 ohm resistor is connected between the two terminals. A 33 ohm resistor is connected in parallel with the 13 ohm resistor.
- ZS 2733 (NOTE 2):** A circuit with two terminals labeled 'M'. A 9 ohm resistor is connected between the two terminals. A 33 ohm resistor is connected in parallel with the 9 ohm resistor.
- ZS 2734 (NOTE 1):** A circuit with two terminals labeled 'M'. A 13 ohm resistor is connected between the two terminals. A 33 ohm resistor is connected in parallel with the 13 ohm resistor.
- ZS 2734 (NOTE 2):** A circuit with two terminals labeled 'M'. A 9 ohm resistor is connected between the two terminals. A 33 ohm resistor is connected in parallel with the 9 ohm resistor.

Below the diagrams, there are two rows of text:

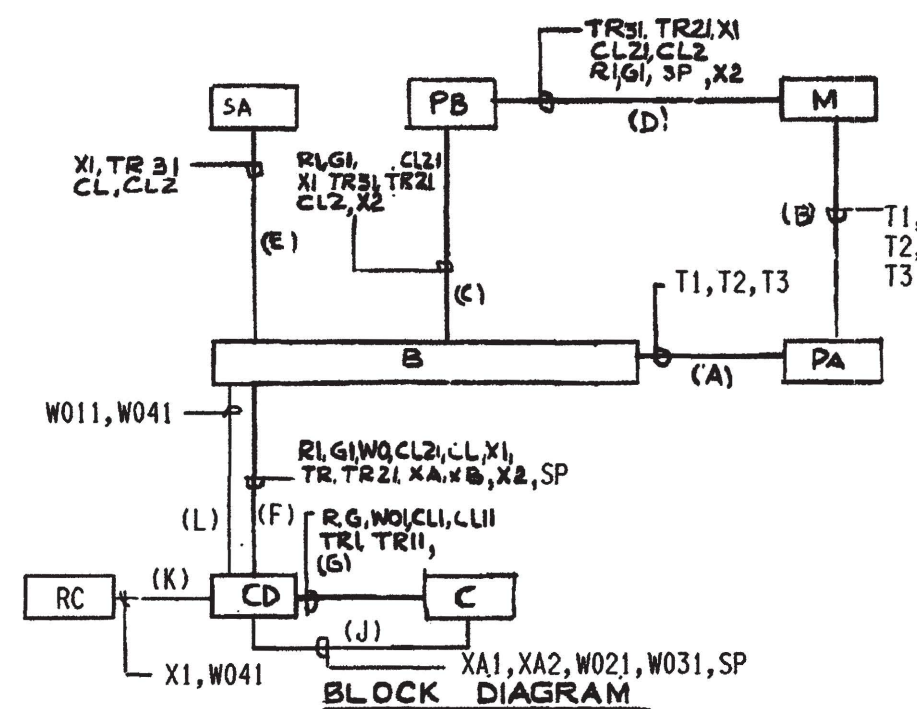
DH NORMAL SUCT VLV. DH NORMAL SUCT VLV.  
 MV1517, SCHEME BE1126 SH.22 HV1518, SCHEME BF1129 SH.22

- NOTES:
1. INTERLOCK PERMITS OPENING OF HV1517(HV1518) IF HV2733 (HV2734) IS FULLY CLOSED.
  2. INTERLOCK PERMITS CLOSING OF HV1517 (HV1518) IF HV2733 (HV2734) IS FULLY OPEN.

<h1 style="text-align: center;">DAVIS-BESSE NUCLEAR POWER STATION</h1> <p style="text-align: center;">THE TOLEDO EDISON COMPANY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY</p>			
<h2 style="text-align: center;">ELEMENTARY WIRING DIAGRAMS</h2>			
<h3 style="text-align: center;">REACTOR COOLING SYSTEM</h3>			
<h4 style="text-align: center;">DH. PMP. 1 &amp; 2 SUCT. VLV. FROM BWST</h4>			
BECHTEL COMPANY 	JOB NO.  <h2 style="text-align: center;">7749</h2>	DRAWING NO.  <h2 style="text-align: center;">E52B SH 23B</h2>	REV.  <h2 style="text-align: center;">6</h2>




16	4/7/10	INC. DUN 09-0588-001-005 REV. 00							
15	7-16-96	INC. DCN E-52B-800 FOR MOD 93-0035-00 (DRAWING SCANNED)							
NO.	DATE		BY	CHK'K	ENGR.	ENGR. SUPV.	GEN. SUPV.		
			SAS <i>Shw</i>		INITIALS ON FILE				



FOR SCHEME NO. AND NOTES SEE SH.24B.

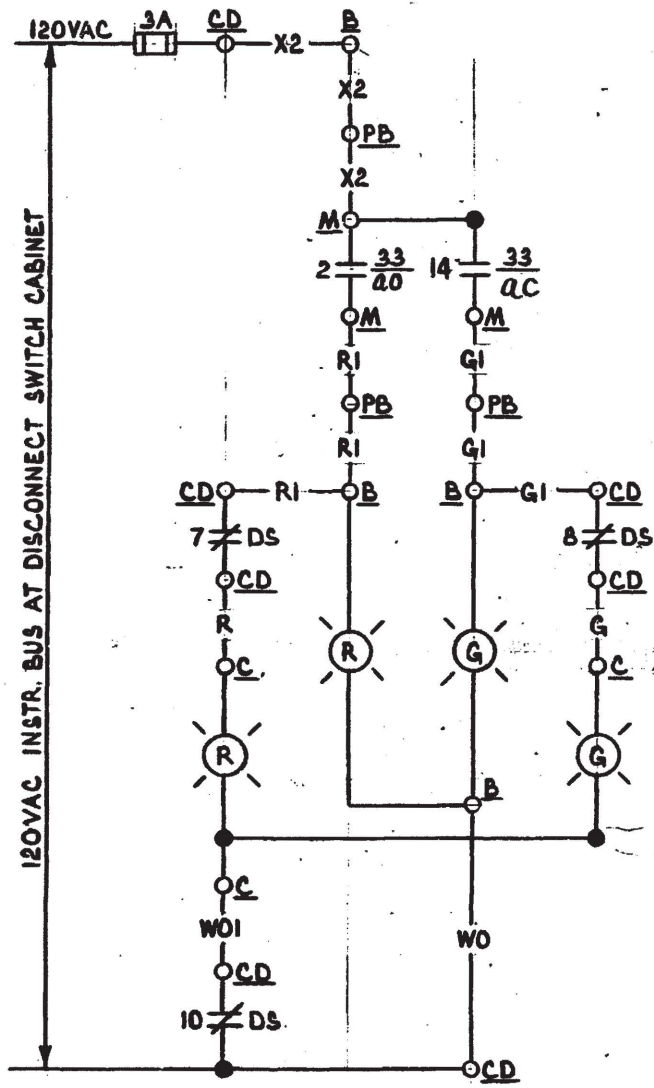
THIS DRAWING WAS SCANNED AT REVISION 15  
AND SUPERSEDES REVISION 14.

SCALE NONE	DESIGNED	DRAWN KNF	DATE 06-27-96
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS REACTOR COOLING SYSTEM DH NORMAL SUCTION VALVE			Q
	DRAWING NO.		REV.
	E-52B SH 24A		16

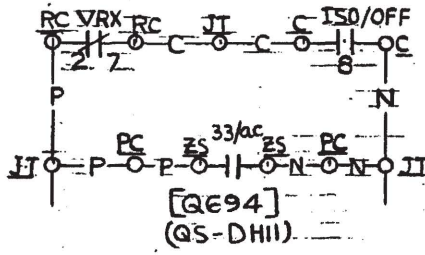


12	AS-BUILT FOR RC 60-031 REV. B SUPP. 2, INC. DCN E-52B-47B	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
13	INC. DCN E-52B-801 FOR MOD 93-0035-00	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
14	ISSUED FOR CONSTRUCTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
15	REV. DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER

SCHEME	MCC	S.U. NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBERS								PSH	ISO	DESCRIPTION
						C	CD	B	M	PA	PB	SA	RC			
BF1130	F11A	49	2	6SA	HISDH110	C5704	CD11A-1	BF1130	MVDH110	P2P5E	P2C5G	C5756D	RC3702	PSH753A	HISDH11A	DH. NORMAL SUCT. LINE VLV.



RC- RC3702 ZS-ZSDH11A  
C- C5704  
PC- PAC3E  
JT- JT3702



NOTES

- FOR GENERAL NOTES SEE DWG INDEX E52B
- FOR SWITCH DETAILS SEE DWG E30B SH7 FIG. 7
- FOR VALVE LIMIT SWITCH DEVELOPMENT SEE DWG. E30B SH. 8A FIG. C (SEE NOTE 11 THIS SHEET)
- SHOWN AT HIGH REACTOR COOLANT PRESSURE OR LOSS OF POWER AT SFAS CABINET C5756D
- FOR SA SCHEMATIC SEE DWG. 7749-E-30-27
- DELETED
- DELETED
- ZS IS A STEM-MOUNTED LIMIT SWITCH.
- FOR DETAILS OF ISOLATION SWITCH & BLUE INDICATOR LIGHT SEE DWG. E-30B SH. 17, FIG. 1
- OVERLOAD HEATERS REPLACED BY SHORTING BAR.
- FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20%  $\pm 5\%$
- FIELD TO ADJUST ROTOR #4 SO THAT LIMIT SWITCH CONTACTS 14, 15, 16 CLOSE AND LIMIT SWITCH CONTACT 13 OPENS WHEN THE VALVE IS FULLY CLOSED.
- FIELD TO ADJUST ROTOR #3 SUCH THAT CONTACT 12 WILL PROVIDE SPECIFIED TARGET THRUST ON SEATING.

**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM  
DH. NORMAL SUCTION VALVE

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E52B SH 24B	13

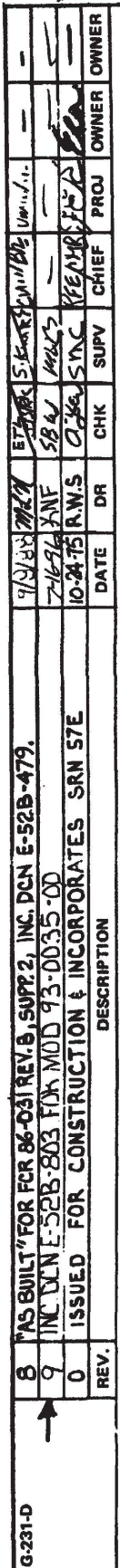
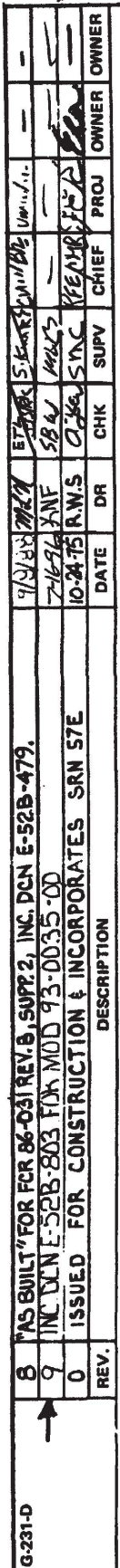


14	4/7/10	INC. DUN 09-0588-002-006 REV.00
13	7-16-96	INC. DCN E-52B-802 FOR MOD 93-0035-00 (SCANNED)



DFN=/J/RASDGN/E52BSH24C.DGN/CIT



[illegible][illegible]

- [illegible]

[illegible][illegible][illegible][illegible]










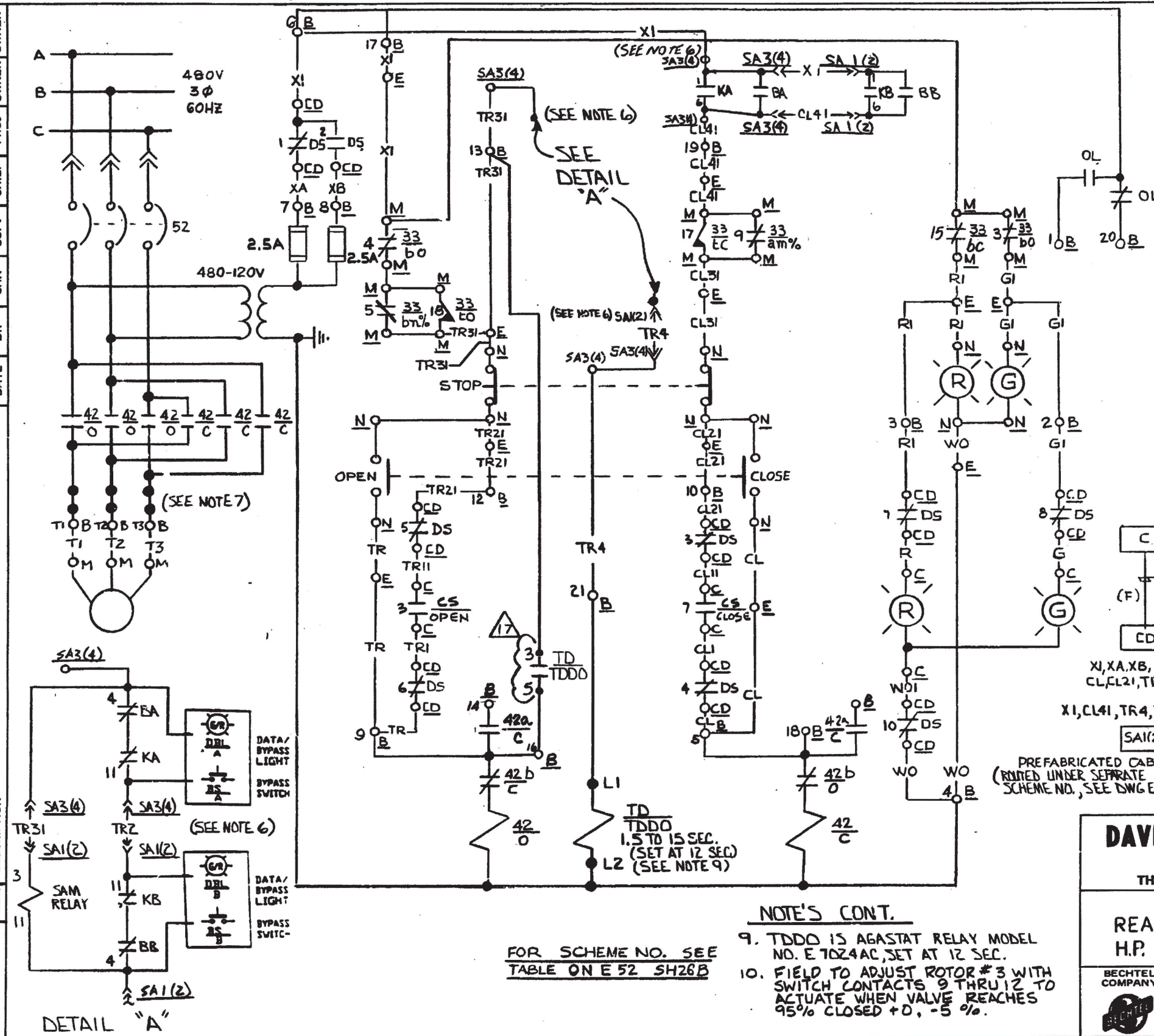
SCHEME	S.U NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBERS										QS	SA OUTPUT RELAY		DESCRIPTION
					C	E	N	SV	V	SA1	SA2	SA3	SA4	RC		KA	KB	
VDH13A	49	2	CB B	HISDH13A	C5717	EV1469	NVDH13A	SVDH13A	VDH13A	—	C5755C	—	C5756D	—	—	K31 F	K31 F	DH CLR 2 BYPASS VLV
VDH13B	49	1	CBA	HISDH13B	C5717	EV1467	NVDH13B	SVDH13B	VDH13A	C5762C	—	C5763D	—	—	—	K31 F	K31 F	DH CLR-1 BYPASS VLV
VDH14A	49	2	CB	HISDH14A	C5717	EV1469	NVDH14A	SVDH14A	VDH14A	—	C5755C	—	C5756D	RC2701	QSDH14A	K31 E	K31 E	DH CLR-2 OUT VLV
VDH14B	49	1	CA	HISDH14B	C5717	EV1467	NVDH14B	SVDH14B	VDH14B	C5762C	—	C5763D	—	RC3704	QSDH14B	K31 E	K31 E	DH CLR 1 OUT VLV

FOR NOTES SEE SH 25A

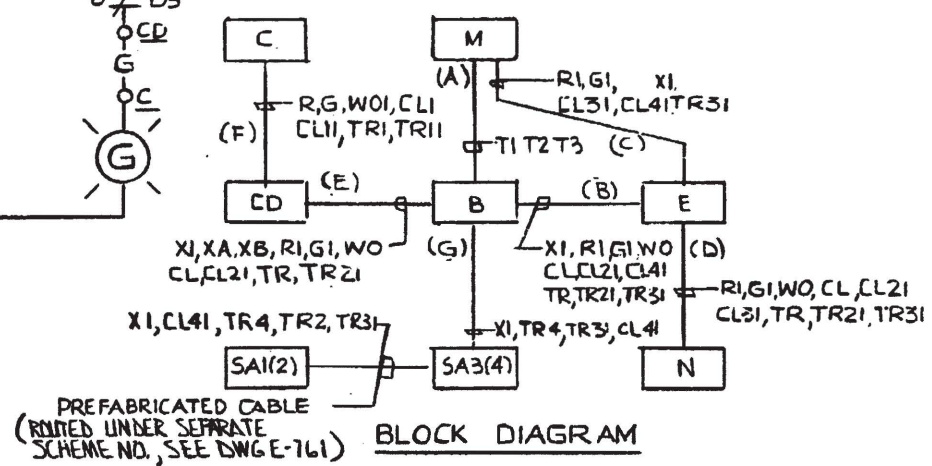
<h1 style="text-align: center;">DAVIS-BESSE NUCLEAR POWER STATION</h1> <p style="text-align: center;">THE TOLEDO EDISON COMPANY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY</p>			
<h2 style="text-align: center;">ELEMENTARY WIRING DIAGRAMS</h2>			
<h3 style="text-align: center;">REACTOR COOLING SYSTEM</h3>			
<h4 style="text-align: center;">DH      CLR      OUT &amp; BYPASS      VLV</h4>			
 <p><b>BECHTEL COMPANY</b></p>	<p><b>JOB NO.</b></p> <p style="font-size: 2em; font-weight: bold;">7749</p>	<p><b>DRAWING NO.</b></p> <p style="font-size: 2em; font-weight: bold;">E 52B SH 25B</p>	<p><b>REV.</b></p> <p style="font-size: 2em; font-weight: bold;">5</p>



16	INC DCN E-52B-806 FOR DDR 96-1355 & DCN E-52B-804 FOR DUK 96-1404	7-16-96	XNF	SBU	MLB				✓
17	INC. DCN E-52B-828 PER DDR 99-0821	9-23-99	TOR	SBU	MLB				
0	ISSUED FOR CONSTRUCTION	12-16-74	CD	EMS/KS	MAL	Kel	SBU	PROJ	OWNER
REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER	OWNER



- NOTES:
1. FOR GENERAL NOTES SEE DWG INDEX E52B
  2. FOR CONTROL SW DETAILS SEE DWG E 30B SHEET 7, FIG 7
  3. FOR VALVE LIMIT SW DEVELOPMENT SEE DWG. E-30B SHEET 8B FIG. E (SEE NOTES 8 AND 10 THIS SHEET).
  4. FOR DETAILS OF LOCAL PUSHBUTTONS & IND LIGHTS SEE DWG E 30B SHEET 7 TYPES 3.4 & 6
  6. FOR VENDOR DWG REFER TO E-17B SEE VENDOR DWG FOR SFAS INTERNAL WIRING.
  7. OVER LOAD HEATERS REPLACED BY SHORTING BARS.
  8. FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN  $\pm 5\%$



NOTE'S CONT.


9. TDDO IS AGASTAT RELAY MODEL NO. E70Z4AC, SET AT 12 SEC.
10. FIELD TO ADJUST ROTOR #3 WITH SWITCH CONTACTS 9 THRU 12 TO ACTUATE WHEN VALVE REACHES 95% CLOSED +0, -5 %.

FOR SCHEME NO. SEE  
TABLE ONE 52 SH26B

## DAVIS-BESSE NUCLEAR POWER STATION

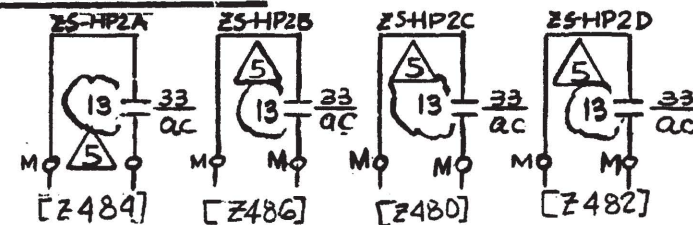
**THE TOLEDO EDISON COMPANY**  
**THE CLEVELAND ELECTRIC ILLUMINATING COMPANY**

**ELEMENTARY WIRING DIAGRAMS**  
**REACTOR COOLING SYSTEM**  
**H.P. INJECTION LINE VALVES**

 BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E 52B SH26A	17



## COMPUTER INPUTS



**THE TOLEDO EDISON COMPANY**  
**THE CLEVELAND ELECTRIC ILLUMINATING COMPANY**

## ELEMENTARY WIRING DIAGRAMS

REACTOR COOLING SYSTEM  
HP INJECTION LINE VALVES

**BECHTEL  
COMPANY**

**JOB NO.**

DRAWING NO.

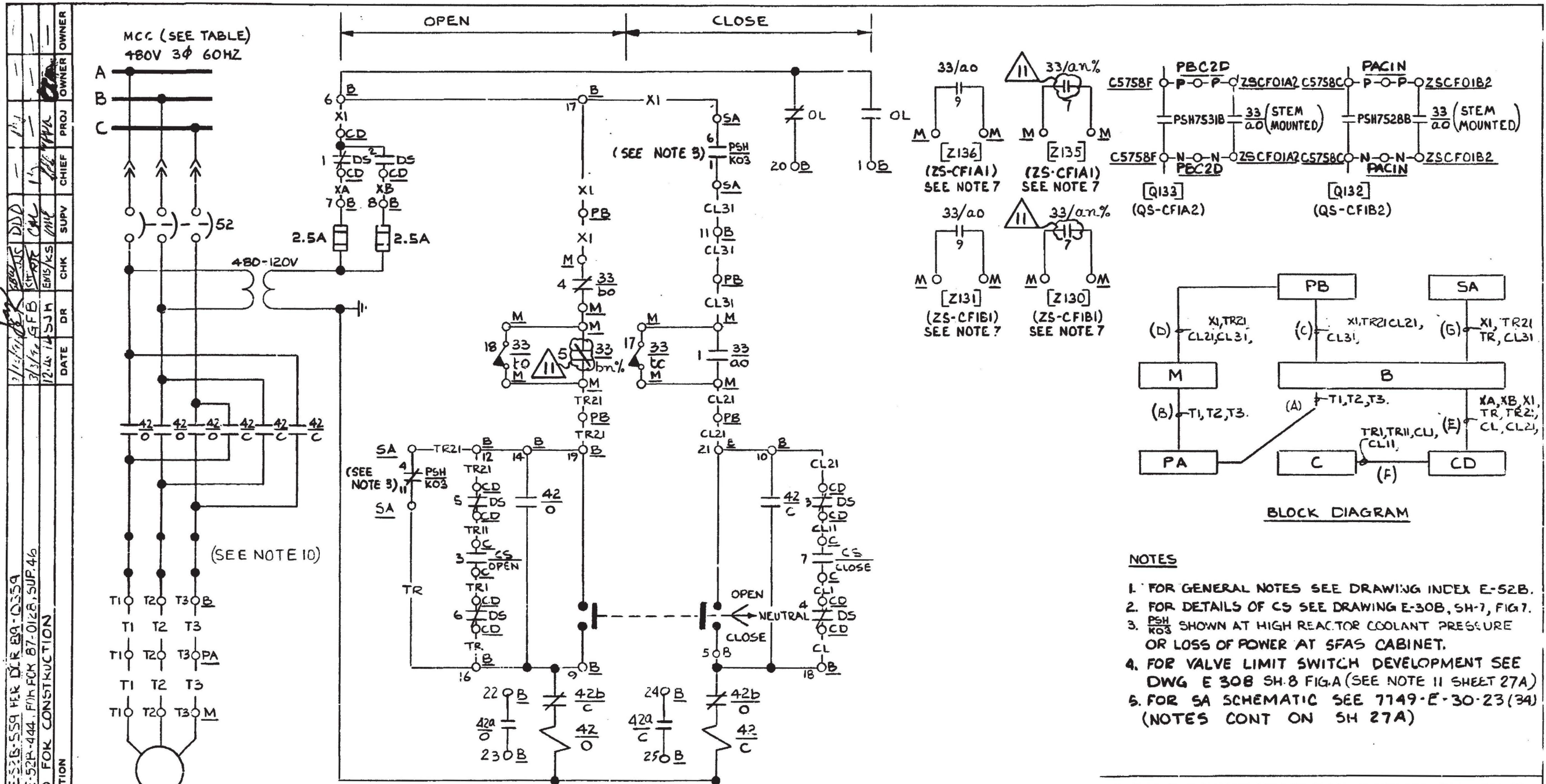
REV.

7749

E 52B	SH26B
-------	-------

5





SCHEME NO (SEE TABLE)

- NOTES**
- 1. FOR GENERAL NOTES SEE DRAWING INDEX E-52B.
  - 2. FOR DETAILS OF CS SEE DRAWING E-30B, SH-7, FIG 7.
  - 3. PSH KO3 SHOWN AT HIGH REACTOR COOLANT PRESSURE OR LOSS OF POWER AT SFAS CABINET.
  - 4. FOR VALVE LIMIT SWITCH DEVELOPMENT SEE DWG E 30B SH-8 FIG.A (SEE NOTE 11 SHEET 27A)
  - 5. FOR SA SCHEMATIC SEE 7749-E-30-23(3A) (NOTES CONT ON SH 27A)

REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	OWNER
11	INC DWN E-52B-559 PER D.R. 89-0359	11/1/88	DD	DD	DD	DD	DD
10	INC. DWN E-52B-444 FOR FOK 87-0128 SUP. 4/6	3/3/87	GF	GF	GF	GF	GF
0	ISSUED FOR CONSTRUCTION	12-24-85	JH	ME	ME	ME	ME

SCHEME Nº	M.C.C.	START UP Nº	CHANNEL	WIRE PREFIX	CS	EQUIPMENT							PRESSURE SWITCH PSH	DESCRIPTION
						M	C	B	PA	PB	SA	CD		
BF1120	F11A	51	2	F1B	HISCFA	MVCFO1A	C5716	BF1120	P2P5F	P2C5G	C5755C	CDF11A-1	PSH7529A	CF.TK. 2 INJ. ISO. VLV.
BE1162	E11B	51	1	F1A	HISCFA	MVCFO1B	C5716	BE1162	PIP2M	PIC2L	C5763D	CDE11B-1	PSH7530A	CF TK. 1 INJ. ISO. VLV.

**DAVIS-BESSE NUCLEAR POWER STATION**

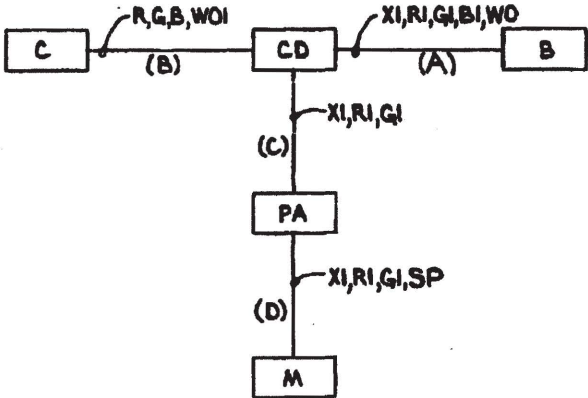
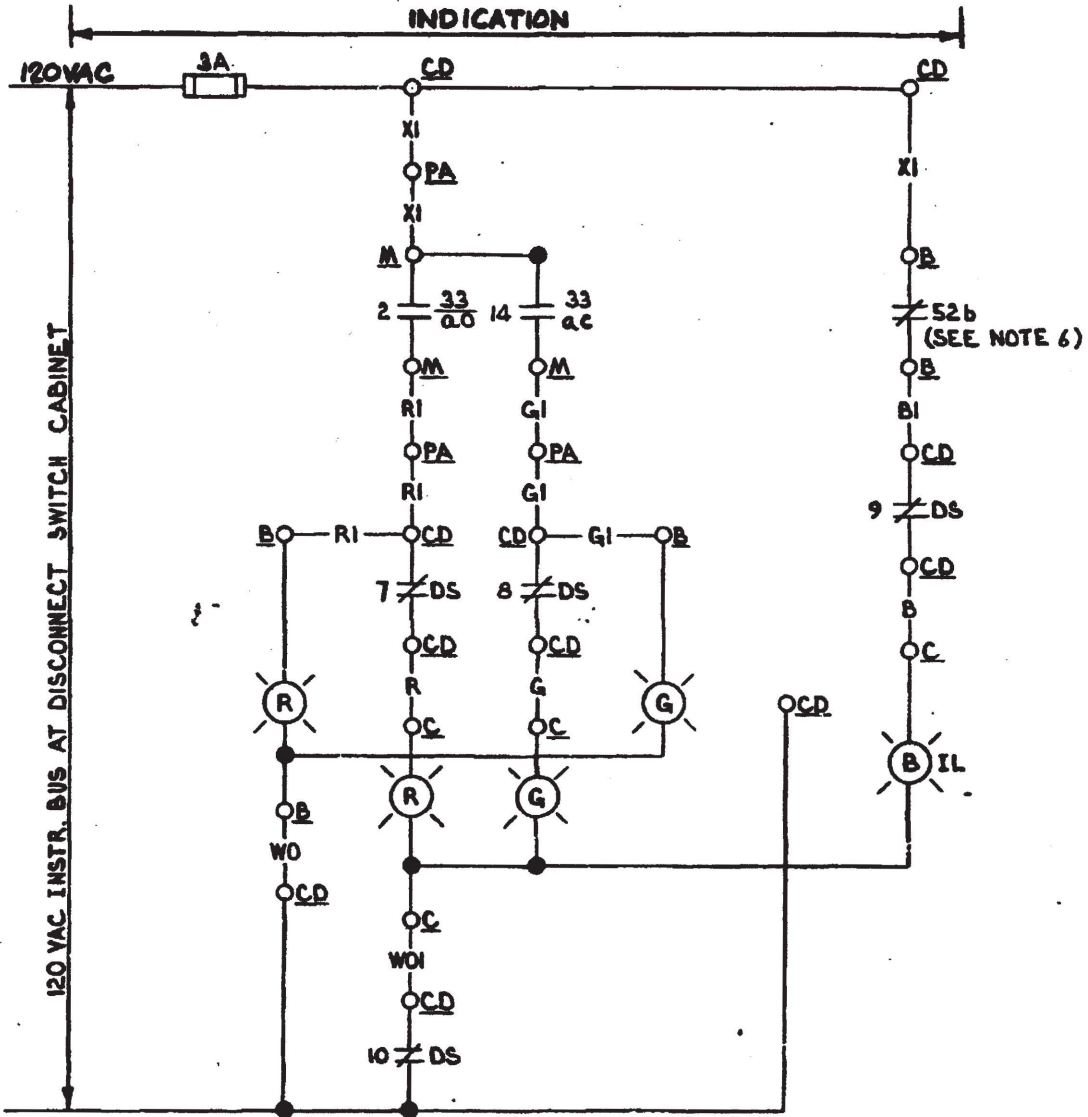
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM  
CF TANK 1 & 2 ISO. VLV'S

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH-27	11



REV.	DESCRIPTION	DATE	CHK	SUPV	CHIEF	PROJ	OWNER
6	INC. DCN E-52B-817 PER SCR 94-5010	11/10/01	SNW	JGC	—	—	—
5	INC. DCN E-52B-540 PER DCR 89-0359	3/11/91	WIS	WIS	WIS	WIS	WIS
0	ISSUED FOR CONSTRUCTION & INCORPORATED SKN 69E	10/24/85	KWIS	—	—	—	—



NOTES (CONTINUED FROM SH. 27)

6. WIRE FROM 52a CONTACT TO TB, TO BE RECONNECTED (BY CONTRACTOR) TO RUN FROM 52b CONTACT TO TB.
7. POINTS Z136 & Z131 ARE INTERLOCKED IN THE COMPUTER TO PROVIDE AN ALARM WHEN TWO OUT OF FOUR WIDE RANGE REACTOR PRESSURE SENSORS SENSE A PRESSURE IN EXCESS OF 725 PSIG (SEE APPLICABLE PROCEDURES FOR CURRENT SETPOINT) AND THE VALVE IS NOT FULLY OPEN.
8. AFTER THE CORE FLOODING TANK ISOLATION VALVES ARE FULLY OPEN AND BEFORE THE REACTOR COOLANT PRESSURE REACHES OR EXCEEDS 725 PSIG (SEE APPLICABLE PROCEDURES FOR CURRENT SETPOINT), THE BREAKERS OF THE COMBINATION LINE STARTERS OF EACH ISOLATION VALVE WILL BE TRIPPED OPEN AND PADLOCKED.
9. PSH7531B & PSH7528B ARE SHOWN WITH RCS PRESSURE ABOVE 750 PSIG (SEE APPLICABLE PROCEDURES FOR CURRENT SETPOINT).
10. OVERLOAD HEATERS REPLACED BY SHORTING BARS.
11. FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN.  $\pm 5\%$

SCHEME NO.	START UP NO.	CHANNEL	EQUIPMENT					IL
			C	CD	B	PA	M	
VCFOIA	SI	2	C5716	CDH1A-1	BF1120	P2C5G	MVCFOIA	IL-CFIA
VCFOIB	SI	1	C5716	CDEH1B-1	BE1162	PIC2L	MVCFOIB	IL-CFIB

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM  
CF. TANK 1 & 2 ISO. VLV'S POS. IND.

BECHTEL COMPANY

JOB NO.

DRAWING NO.

REV.

7749

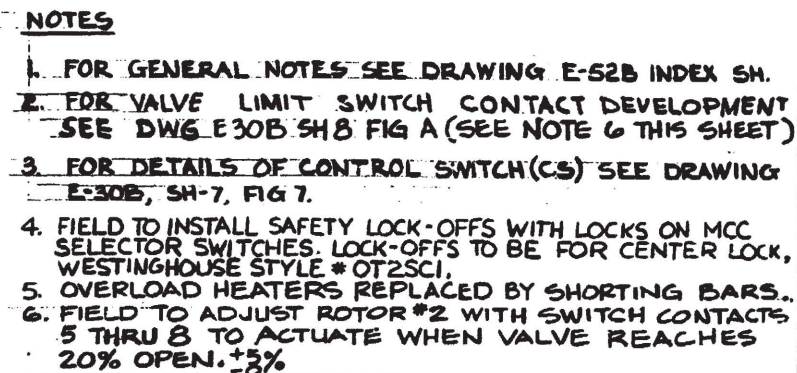
E-52B SH-27A


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DB 10-03-01

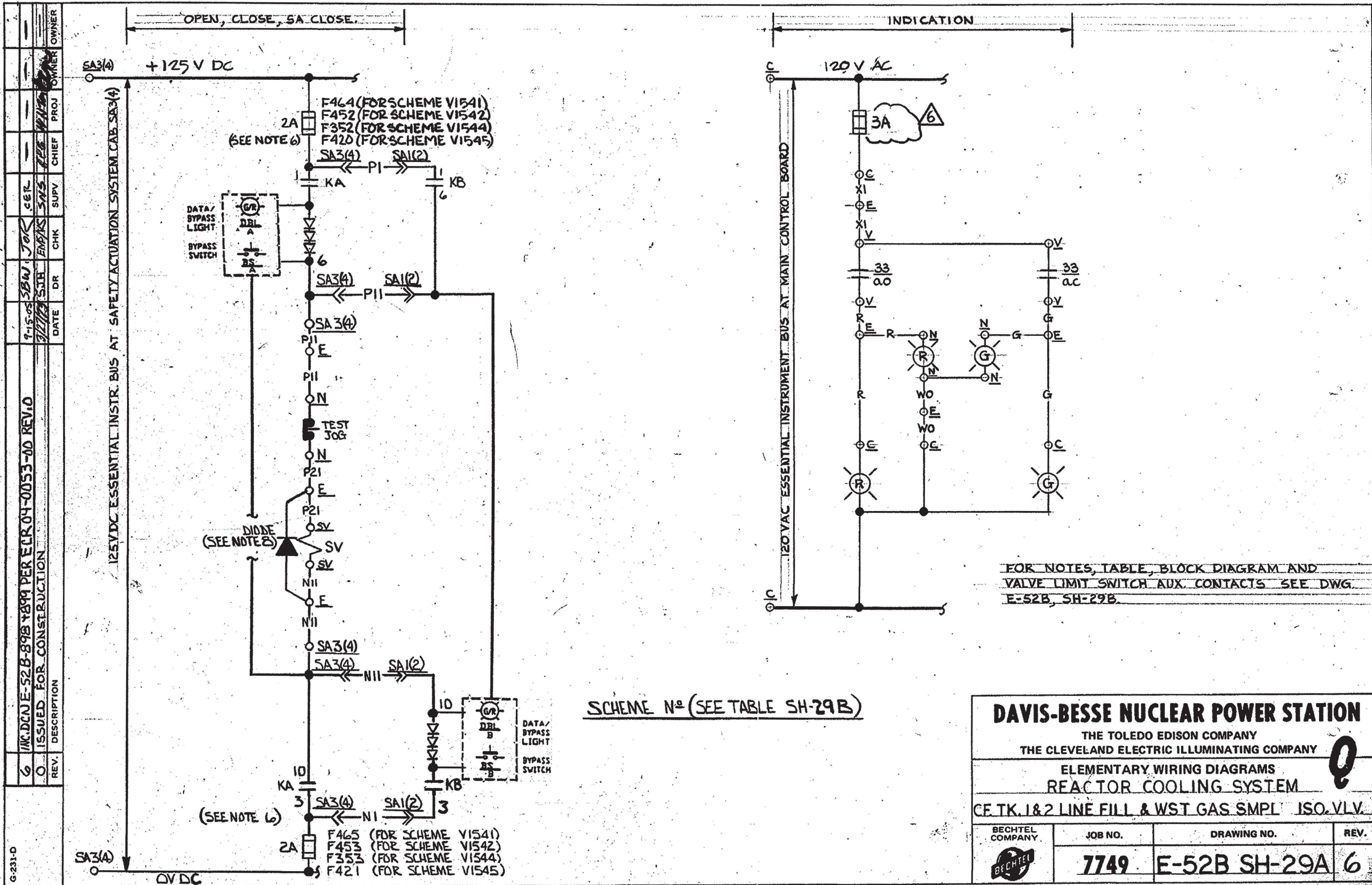
DFN F:/SCHEME/E52BS27A.DGN/CIT





<b>DAVIS-BESSE NUCLEAR POWER STATION</b>			
THE TOLEDO EDISON COMPANY			
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY			
ELEMENTARY WIRING DIAGRAMS			
REACTOR COOLING SYSTEM			
CF TK 1&2 SAMPLE & VENT VLVS			
BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH-28	11







INC. DOW'S E-52B-651, 685, 690, 694 PER MOD 90-0006  
SUBD. DOW E-52B-731 PER MOD 87-104A SUP. 1  
ISSUED FOR CONSTRUCTION

6

Q-231-0

DATE: 3/19/82  
BY: JAS  
CHK: JAS  
DR: JAS  
REV. DESCRIPTION

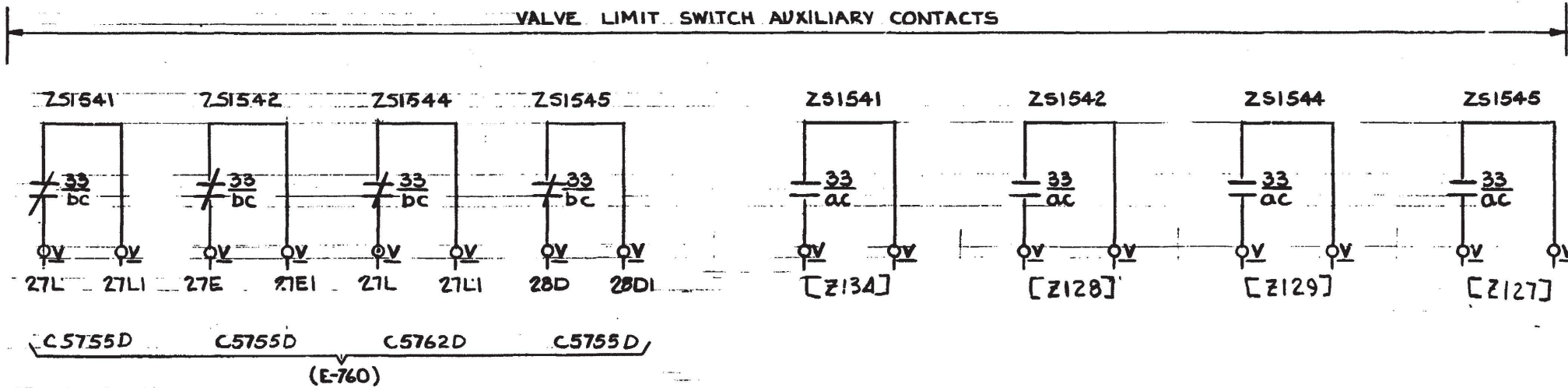
3/19/82

6

OWNER: DOW  
PROJ: 7749  
CHIEF: JAS  
SUPV: JAS  
CHK: JAS  
DR: JAS

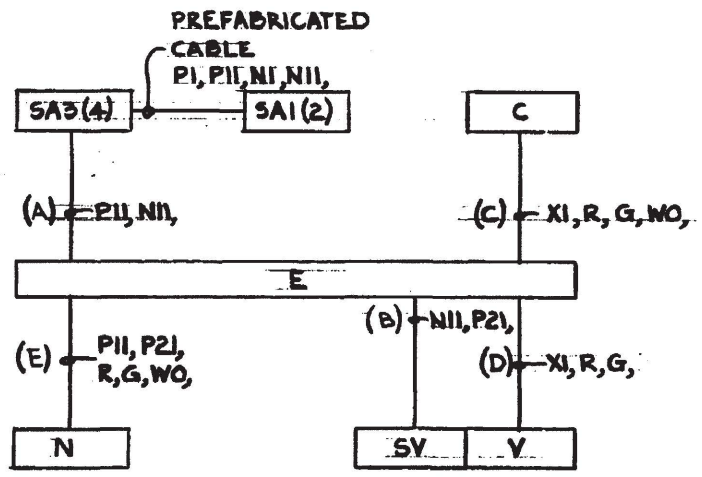
3/19/82

6



TABLE

SCHEME	SU	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBER									SA OUTPUT RELAY		DESCRIPTION
	N°				C	E	N	SV	SA1	SA2	SA3	SA4	V	KA	KB	
V1541	51	2	FB	HIS1541	C5716	EV1719B	NV1541	SV1541	—	C5755C	—	C5756D	V1541	K27L	K27L	CF. TK.2 H <sub>2</sub> & N <sub>2</sub> FILL ISO. VLV.
V1542	51	2	CGV	HIS1542	C5716	EV1545	NV1542	SV1542	—	C5755C	—	C5756D	V1542	K27E	K27E	CF. TK. VENT ISO. VLV.
V1544	51	1	FA	HIS1544	C5716	EV1544	NV1544	SV1544	C5762C	—	C5763D	—	V1544	K27L	K27L	CF. TK.1 H <sub>2</sub> & N <sub>2</sub> FILL ISO. VLV.
V1545	51	2	FS	HIS1545	C5716	EV1545	NV1545	SV1545	—	C5755D	—	C5756C	V1545	K28D	K28D	CF. TK. SMPL. VLV.



BLOCK DIAGRAM

NOTES (CONT'D):  
B. INSTALL "DIODE" IN ACCORDANCE WITH  
DWG. E-1037L-SH.17

NOTES

- FOR GENERAL NOTES SEE DRAWING INDEX E-52B
- FOR DETAILS OF LOCAL PUSH BUTTONS AND IND LIGHTS SEE DRAWING E-30B, SH-7, TYPE 4 & 6
- FOR DETAILS OF CONTROL SWITCH "CS" SEE DRAWING E-30B, SH-7, FIG. 7.
- FOR SCHEME SEE DWG. E-52B, SH.29A.
- SLIDING PLUG CONTACT
- FOR VENDOR DWG REFERTO E-17B. SEE VENDOR DWG FOR SFAS INTERNAL WIRING
- FOR REMOTE OPERATION FROM MAIN CONTROL BOARD (TYPICAL) SEE DWG. E30B, SH.4.

DAVIS-BESSE NUCLEAR POWER STATION

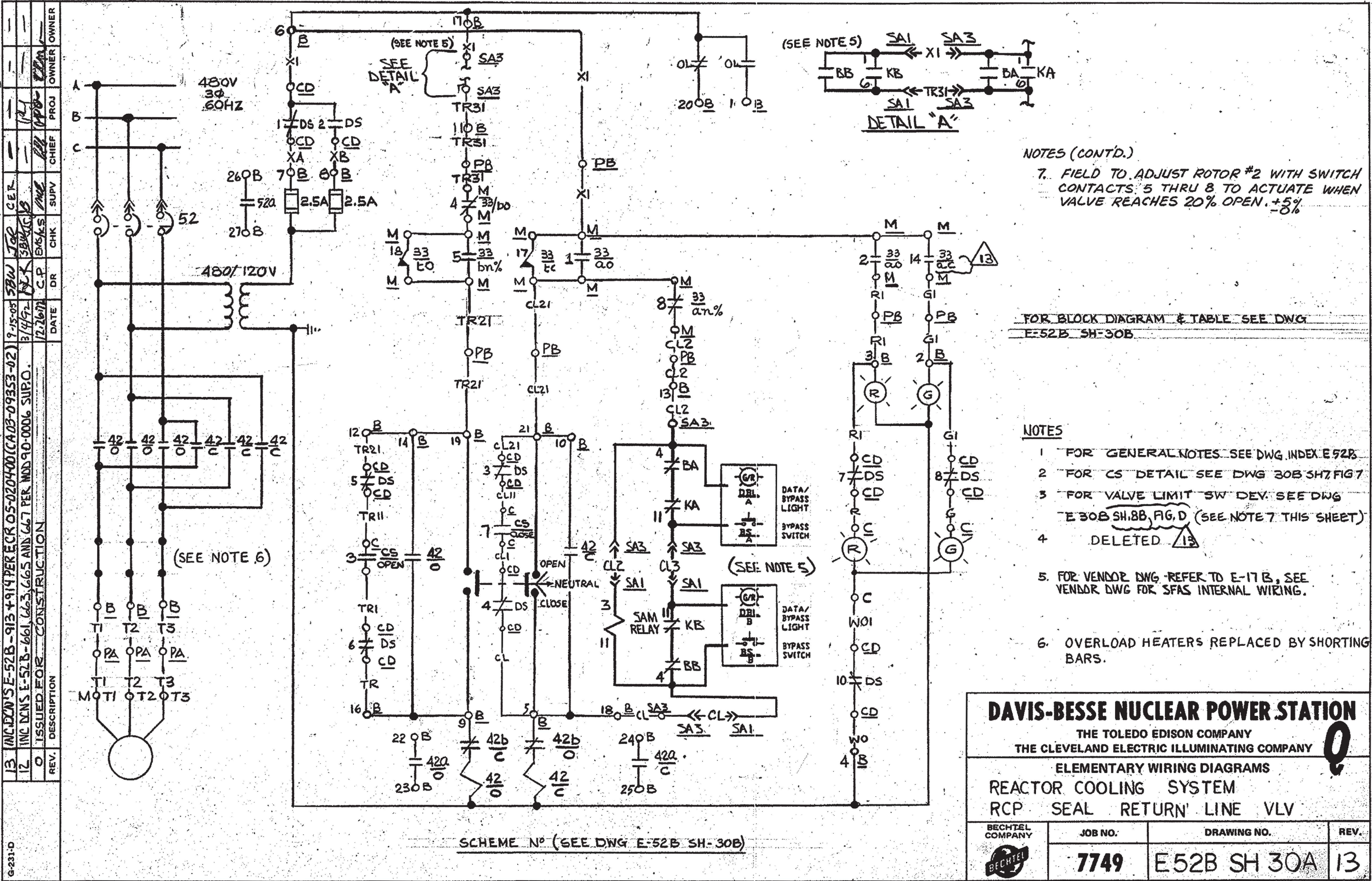
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM

CF. TK. 1 & 2 LINE FILL & WST GAS SMPL ISO. VLV.

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH-29B	6

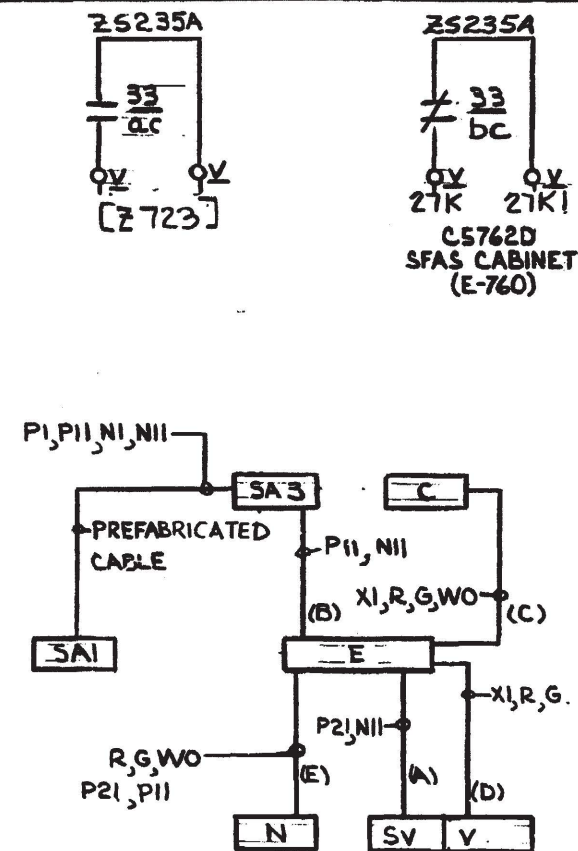
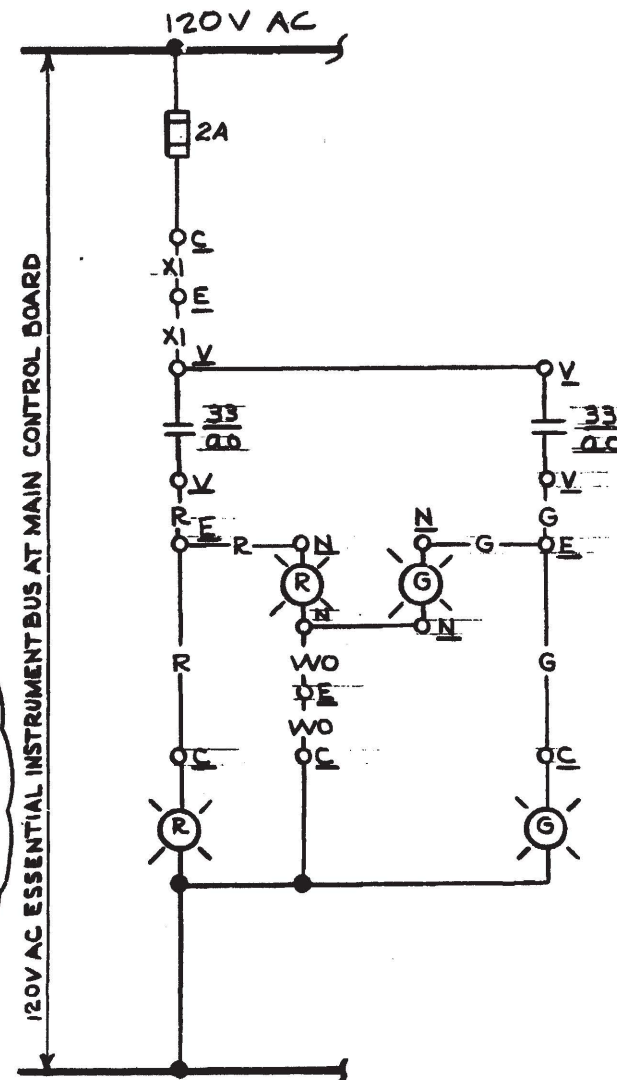












- ## NOTES
1. FOR GENERAL NOTES SEE DWG E52B INDEX.
  2. FOR DETAILS OF LOCAL PUSHBUTTONS & IND LIGHTS SEE DWG E30B SH-7 TYPE 4 & 6.
  3. FOR DETAILS OF CONTROL SW CS SEE DWG E30B SH-7, FIG 7
  - 4 FOR VALVE LIMIT SWITCH DESIGNATION SEE DWG E30B SH-8
- SLIDING (PLUG) CONTACT
- 5 FOR REMOTE & MANUAL OPERATION SEE E30B SH-4.
  - 6 FOR VENDOR DWG REFER TO E-17B. SEE VENDOR DWG. FOR SFAS INTERNAL WIRING.


SCHEME	SU NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBER								SA OUTPUT RELAY		
					C	V	E	N	SV	SA3	SA1			KA	KB
V235A	64	1	QS	HIS235A	C5717	V235A	EV607	NV235A	SV235A	C5763D	C5762C			K27K	K27K

NOTES (CONT.):  
7. INSTALL "NODE" IN ACCORDANCE WITH  
DWG. E-1037L SH.17.

## DAVIS-BESSE NUCLEAR POWER STATION

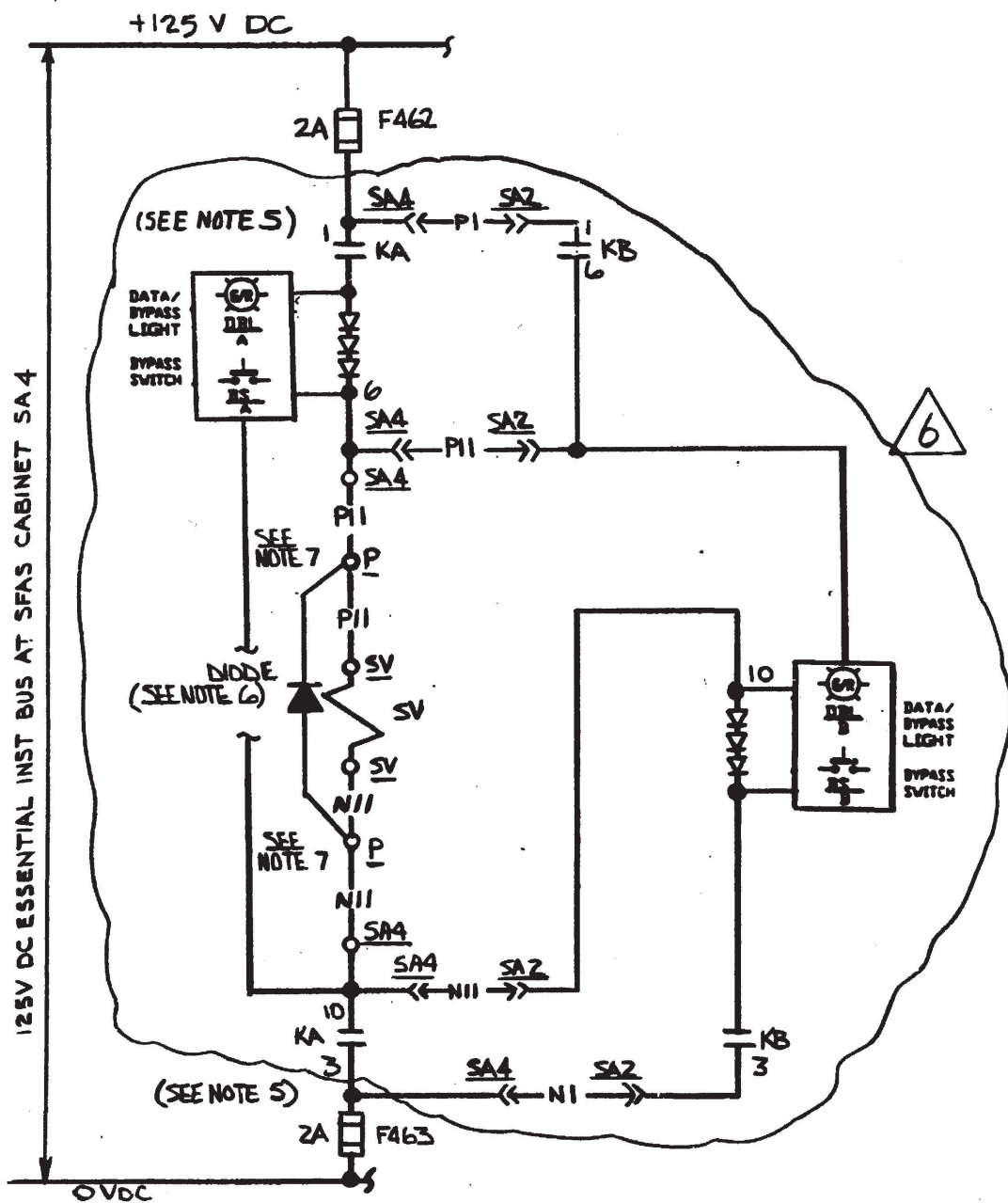
**THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY**

**ELEMENTARY WIRING DIAGRAMS**  
**REACTOR COOLING SYSTEM**  
PRZR QUENCH TK SMPL ISO VLV

 <b>BECHTEL</b> <b>COMPANY</b>	<b>JOB NO.</b>	<b>DRAWING NO.</b>	<b>REV.</b>
	<b>7749</b>	<b>E-52B SH-32</b>	<b>5</b>



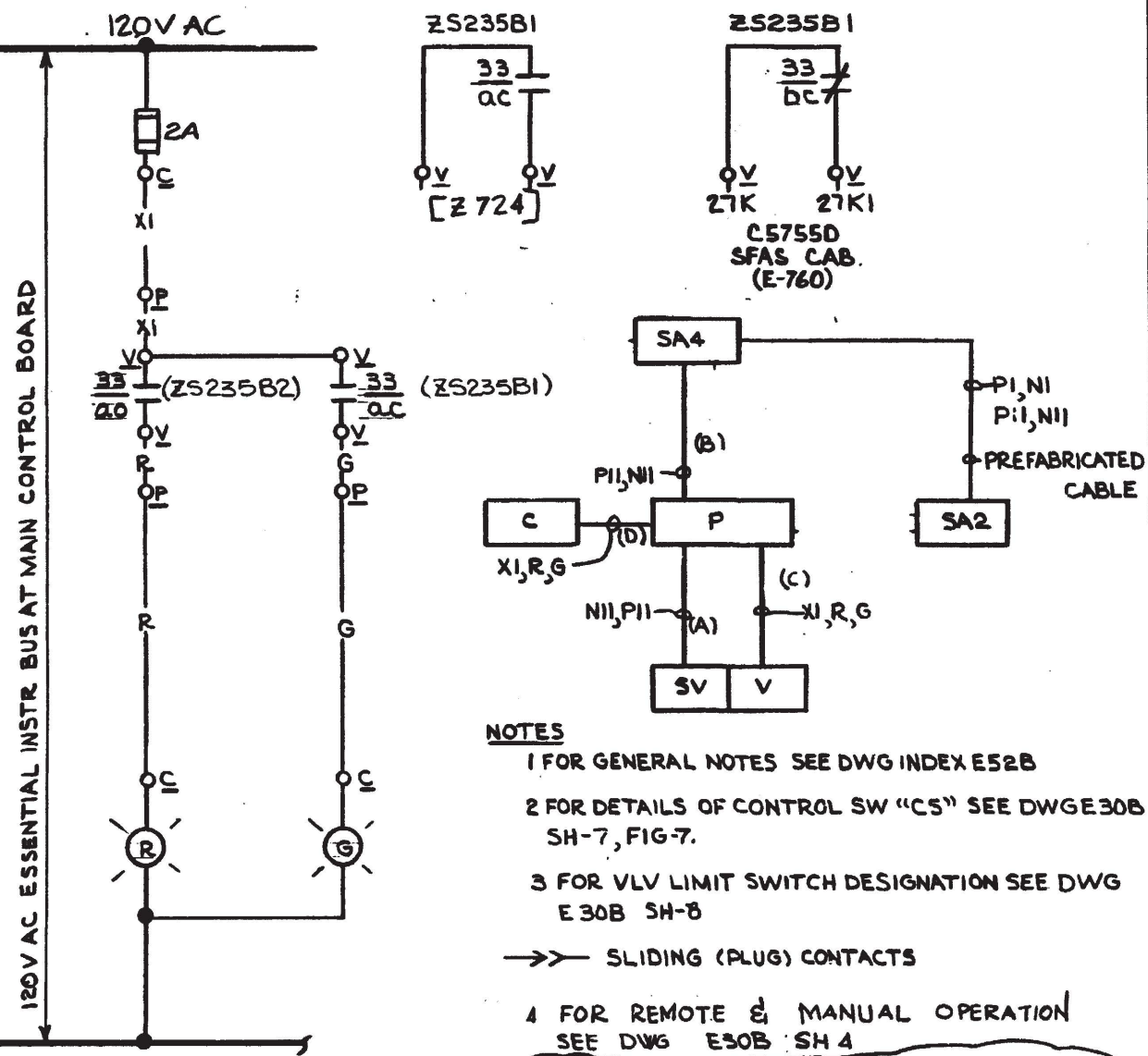
5	AS BUILT FOR FOR 85-316, SUP. 2, INC. DCN E-52B-472	REV.	DESCRIPTION	OWNER
6	INC. E-52B-472 PER WND-000, SUPD AND E-52B-729 PER WND-014 SUPD.	0	ISSUED FOR CONSTRUCTION	OWNER
7	DATE	DR	CHK	PROJ
8	DATE	DR	CHK	PROJ
9	DATE	DR	CHK	PROJ
10	DATE	DR	CHK	PROJ
11	DATE	DR	CHK	PROJ
12	DATE	DR	CHK	PROJ
13	DATE	DR	CHK	PROJ
14	DATE	DR	CHK	PROJ
15	DATE	DR	CHK	PROJ
16	DATE	DR	CHK	PROJ
17	DATE	DR	CHK	PROJ
18	DATE	DR	CHK	PROJ
19	DATE	DR	CHK	PROJ
20	DATE	DR	CHK	PROJ
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93	DATE	DR	CHK	PROJ
94	DATE	DR	CHK	PROJ
95	DATE	DR	CHK	PROJ
96	DATE	DR	CHK	PROJ
97	DATE	DR	CHK	PROJ
98	DATE	DR	CHK	PROJ
99	DATE	DR	CHK	PROJ
100	DATE	DR	CHK	PROJ



FOR SCHEME NO. SEE TABLE

SCHEME	SU NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBERS						RELAY	
					C	V	P	SV	SAE	SAZ	KA	KB
V235B	64	2	QSL	H15235B	C9717	V235B	P2C50	SV235B	C5755D	C5756C	K27K	K27K

NOTES (CONT'D):  
7. INSTALL DIODE IN PENETRATION TERMINAL  
BOX P2C50X, MODULE F T54,  
TERMINALS 17 (FOR WIRE P1) AND 18 (FOR  
N-11). REFER TO DWG E-531.



- NOTES
- 1 FOR GENERAL NOTES SEE DWG INDEX E52B
  - 2 FOR DETAILS OF CONTROL SW "CS" SEE DWGE30B SH-7, FIG-7.
  - 3 FOR VLV LIMIT SWITCH DESIGNATION SEE DWG E30B SH-8
  - SLIDING (PLUG) CONTACTS
  - 4 FOR REMOTE & MANUAL OPERATION SEE DWG E30B SH 4
  - 5 FOR VENDOR DWG. REFER TO E-17B, SEE VENDOR DWG FOR SFAS INTERNAL WIRING.
  - 6. INSTALL "DIODE" IN ACCORDANCE WITH DWG E-1037L-SM17.

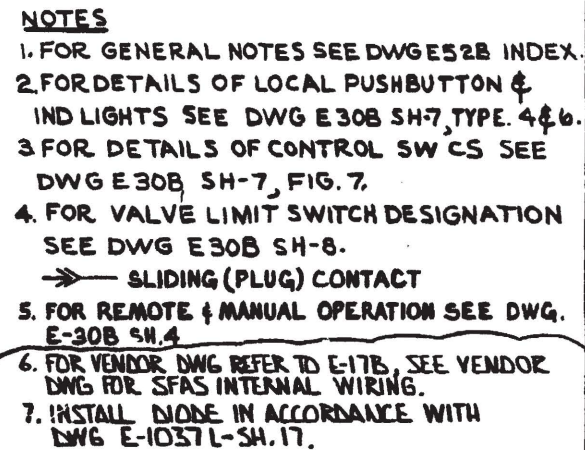
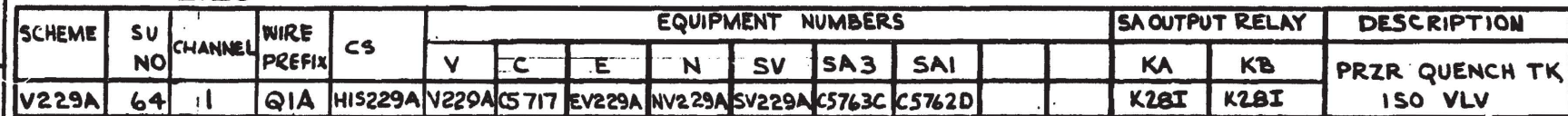
**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS

REACTOR COOLING SYSTEM  
PRZR QUENCH TK SMPL ISO VLV


BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E52B-SH-33	6





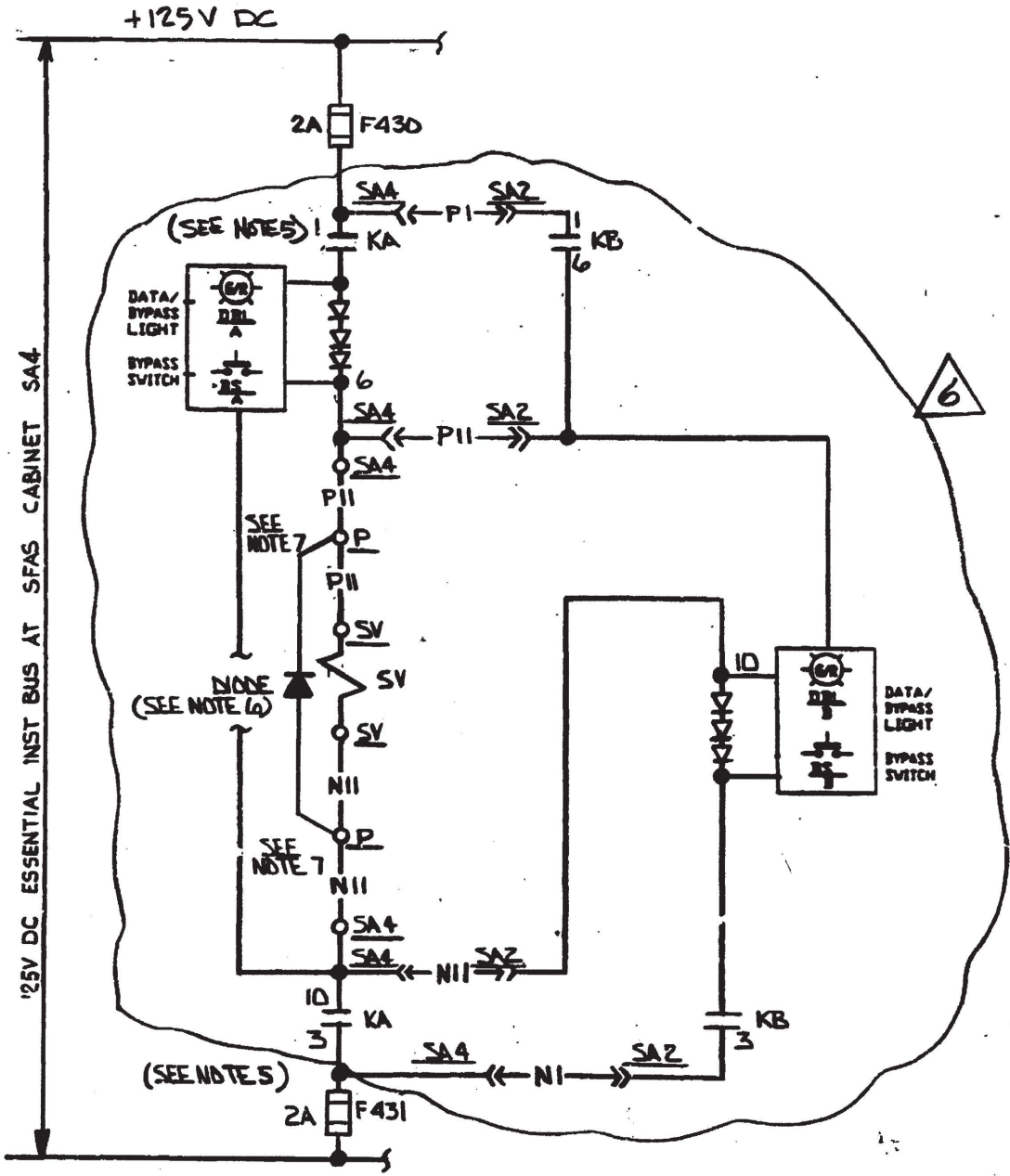
**THE TOLEDO EDISON COMPANY**  
**THE CLEVELAND ELECTRIC ILLUMINATING COMPANY**

**ELEMENTARY WIRING DIAGRAMS**  
**REACTOR COOLING SYSTEM**  
**PRZR QUENCH TK OUT ISO VLV**

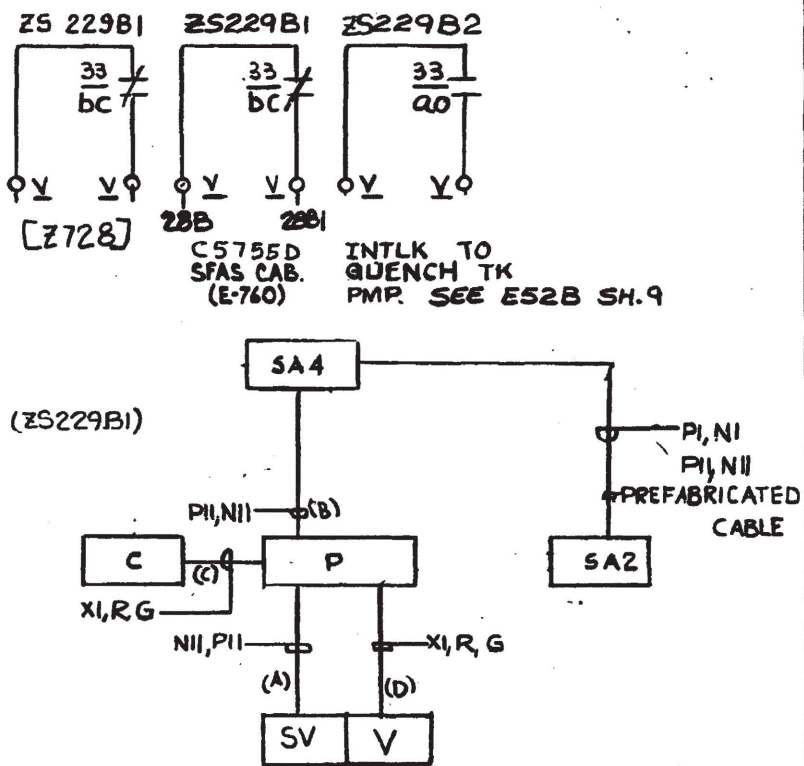
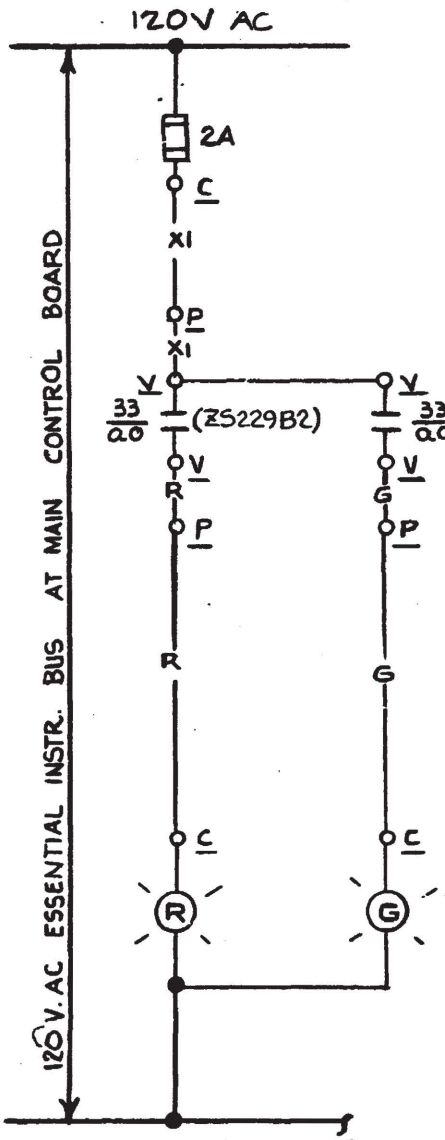
<b>BECHTEL COMPANY</b> 	<b>JOB NO.</b>	<b>DRAWING NO.</b>	<b>REV.</b>
	<b>7749</b>	<b>E-52B SH-34</b>	<b>5</b>



REV.	DESCRIPTION	DATE	CHK	SUPV	CHIEF	PROJ	OWNER
6	INC. NOTE E52B-733 PER MOD. 1404 SUP. E-52B-492 PER MOD. 90-0006 SUP. O	3/1/52	MR. J. C. WILSON	MR. J. C. WILSON	MR. J. C. WILSON	MR. J. C. WILSON	MR. J. C. WILSON
5	'AS BUILT' FOR PRZ 85-3% SUP. 2, INC. DCN E-52B-471	1/14/58	GFB	WILSON	MR. J. C. WILSON	MR. J. C. WILSON	MR. J. C. WILSON
0	ISSUED FOR CONSTRUCTION	2/27/52	C.P.	EMSKS	MR. J. C. WILSON	MR. J. C. WILSON	MR. J. C. WILSON



FOR SCHEME NO.  
SEE TABLE



- NOTES
- 1 FOR GENERAL NOTES SEE DWG INDEX E 52B
  - 2 FOR DETAILS OF CONTROL 6W "CS" SEE DWG E30B SH-7 FIG-7
  - 3 FOR VLV. LIMIT SWITCH DESIGNATION SEE DWG E30B SH-8
  - 4 FOR REMOTE & MANUAL OPERATION SEE DWG E30B SH-4
  - 5 FOR VENDOR DWG REFER TO E-17B SEE VENDOR DWG FOR SFAS INTERNAL WIRING.
  - 6 INSTALL "DIODE" IN ACCORDANCE WITH DWG E-1037L SH-17.
  7. INSTALL "DIODE" IN PENETRATION TERMINAL BOX P2C56X MODULE F; TB-4, TERMINALS 15 (FOR WIRE P-10) AND 16 (FOR WIRE N-11) REFER TO DWG E-531.

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

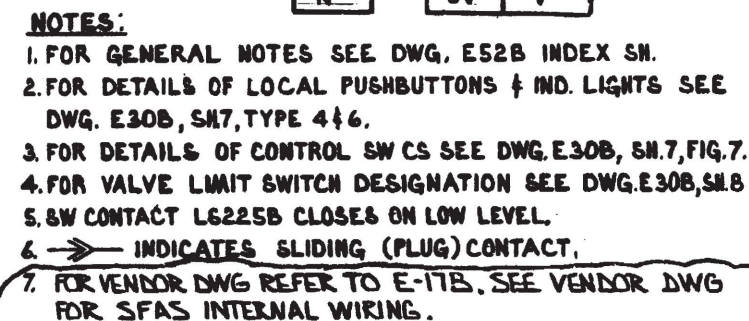
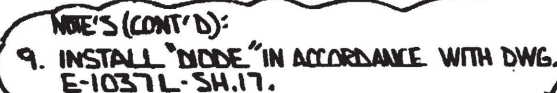
ELEMENTARY WIRING DIAGRAMS

REACTOR COOLING SYSTEM  
PRZR QUENCH TK OUT ISO VLV

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E52B SH35	6

SCHEME	SU NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBERS						SA OUTPUT RELAY	
					C	V	P	SV	SA2	SA4	KA	KB
V229B	64	2	Q1B	H5229B	C5717	V229B	P2C56	SV229B	C5755D	C6756C	K28B	K28B



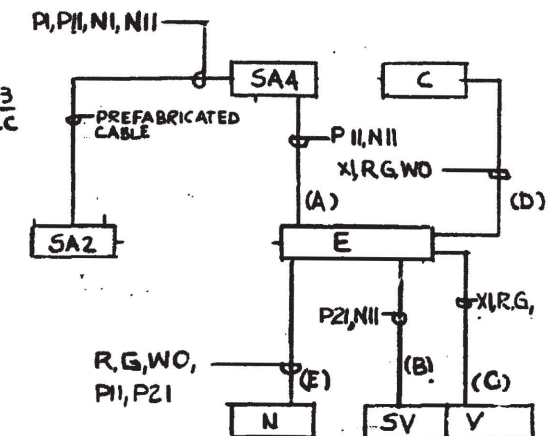
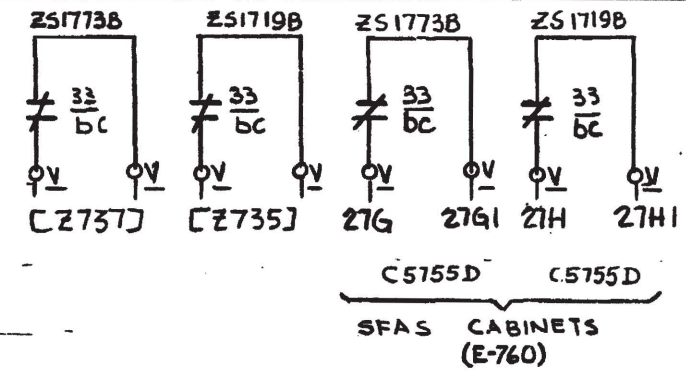
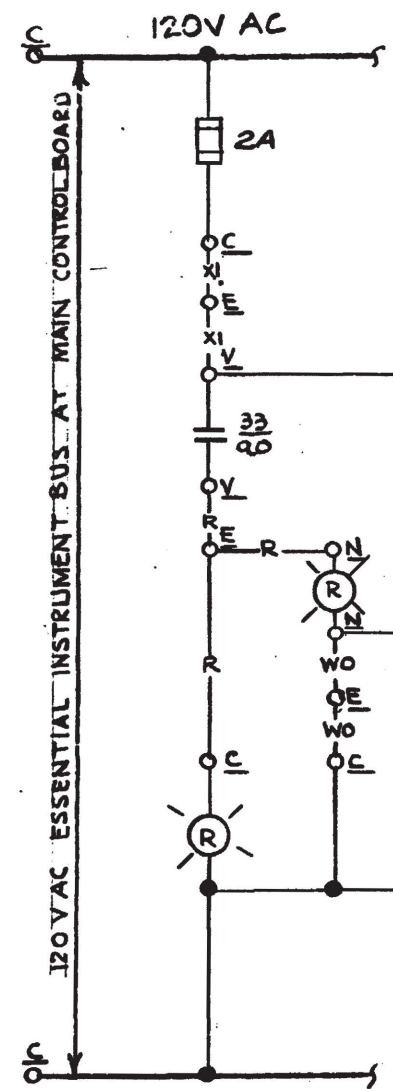



6










- NOTES:
1. FOR GENERAL NOTES SEE DWG. E52B INDEX.
  2. FOR DETAILS OF LOCAL PUSHBUTTONS & IND. LIGHTS SEE DWG. E30B SH.7, TYPE 4 & 6.
  3. FOR DETAILS OF CONTROL SW. CS SEE DWG. E30B, SH.7, FIG.7
  4. FOR VALVE LIMIT SWITCH DESIGNATIONS SEE DWG. E30B SH.8.
  5.  INDICATES SLIDING (PLUG) CONTACT.
  6. FOR VENDOR DWG. REFER TO E-17B. SEE VENDOR DWG. FOR SFAS INTERNAL WIRING
  7. FOR REMOTE OPERATION FROM MAIN CONTROL BOARD (TYPICAL) SEE DWG. E30B, SH.4.
  8. INSTALL WIRE IN ACCORDANCE WITH DWG E-1037L-SH.17.

**DAVIS-BESSE NUCLEAR POWER STATION**  
**THE TOLEDO EDISON COMPANY**  
**THE CLEVELAND ELECTRIC ILLUMINATING COMPANY**  
**ELEMENTARY WIRING DIAGRAMS**  
**REACTOR COOLING SYSTEM**  
**RC DT LIQUID & GAS VLV**

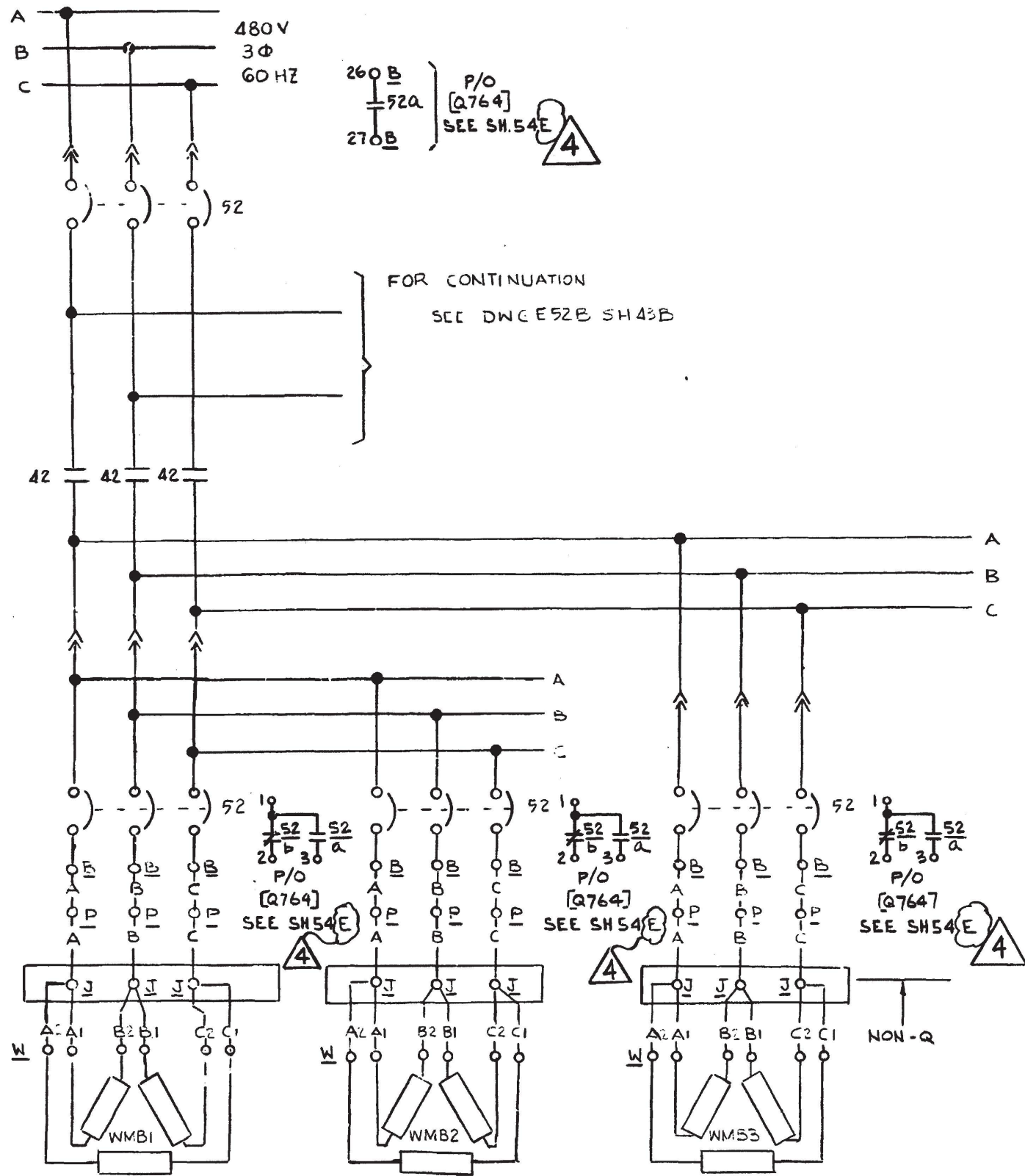
BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH-40	6

SCHEME NO. (SEE TABLE)

SCHEME	SU NO	CHANNEL	WIRE PREFIX	CS	EQUIPMENT NUMBERS							SA OUTPUT RELAY		DESCRIPTION
					C	V	E	N	SV	SA2	SA4	KA	KB	
VI773B	64	2	PPB	HIS1773B	C5717	VI773B	EV1773B	NV1773B	SV1773B	C5755D	C5756C	K27G	K27G	RC DT LIQUID ISO VLV
VI719B	64	2	VDB	HIS1719B	C5717	VI719B	EV1719B	NV1719B	SV1719B	C5755D	C5756D	K27H	K27H	RC DT GAS ISO VLV



G-231-D	4	INC. N. E-52B-542 PER MON. 88-0208 SUP. O	REV.	DESCRIPTION	OWNER
					PROJ.
					CHIEF
					SUPV.
G-231-D	3	"AS BUILT" FOR 84-060, INC. DCN E-52B-232	REV.	DESCRIPTION	OWNER
					PROJ.
					CHIEF
					SUPV.
G-231-D	0	ISSUED FOR CONSTRUCTION	REV.	DESCRIPTION	OWNER
					PROJ.
					CHIEF
					SUPV.
G-231-D	1	DATE	REV.	DESCRIPTION	OWNER
					PROJ.
					CHIEF
					SUPV.



NOTES

- 1) FOR GENERAL NOTES SEE DWG. E-52B INDEX SH.
- 2) THIS DWG REFERS TO THE FOLLOWING SCHEMES.  
SCHEME NO. PRZR HEATER BANK  
BE 1223 WMB1, WMB2, WMB3  
BF 1217 WLB11, WLB12, WLB13
- 3) FOR BLOCK DIAGRAM SEE DWG E-52B SH43C

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

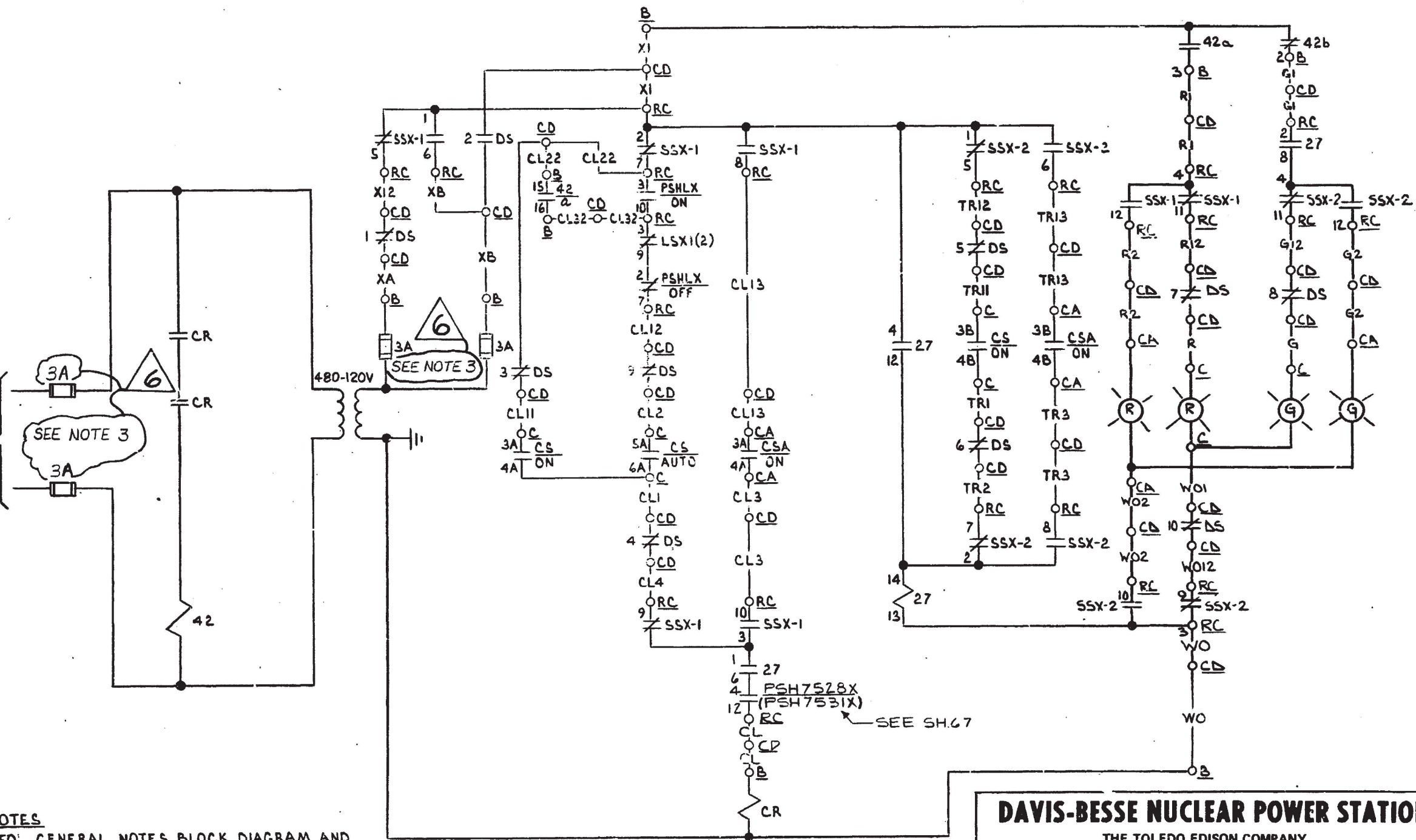
ELEMENTARY WIRING DIAGRAMS  
REACTOR COOLING SYSTEM  
PRZR HEATERS

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E 52B SH43A	4



6	REV.	DESCRIPTION	DATE	CHK	SUPV	CHIEF	PROJ	OWNER
6		ISSUED FOR CONSTRUCTION	6-21-74	CW	KS	SA/S	SA/S	SA/S
5		INCORPORATED SEN 270E	4-11-77	FUK	LEW	SA/ML	SA/S	SA/S
4		AT E-52B, 406 DCE, 65-0291, INC. DEN E-52E-504	5/2/81	GFB	WAT	SA/ML	SA/S	SA/S

FOR CONTINUATION SEE DWG E-52B SH43A



NOTES

- 1) FO: GENERAL NOTES, BLOCK DIAGRAM AND TABULATION SEE DWG. E52B, SH.43C.
- 2) FOR RELAY PSHLX & LSX CONTACT ASSIGNMENTS SEE DWG. E-52B, SH.42H.
- 3) FUSES SHALL BE FAST ACTING.

6

ORC  
3 27  
ORC  
SPARE

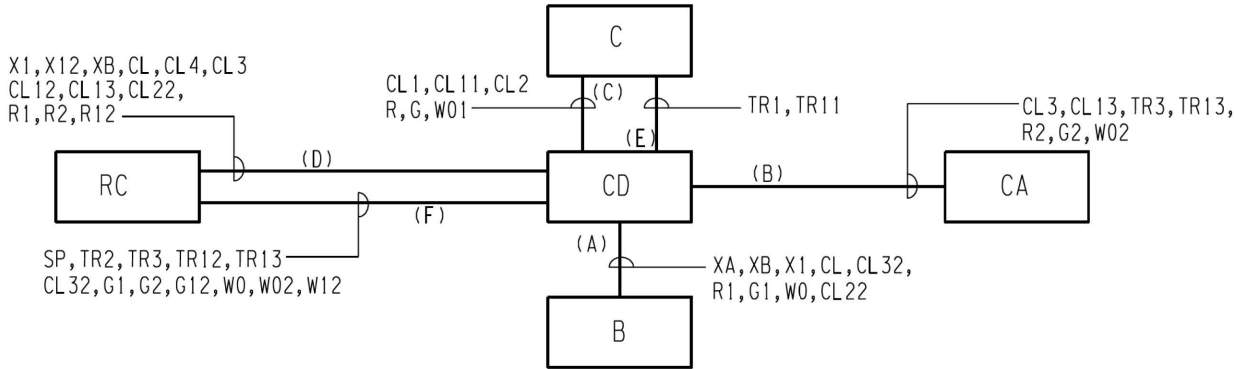
**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY  
**ELEMENTARY WIRING DIAGRAM**  
**REACTOR COOLING SYSTEM**  
**PRZR HEATERS**

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH-43B	6



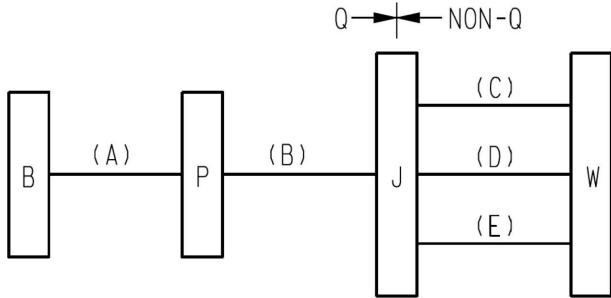
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	10	03-04-92	INC. DCN E-52B-617 PER DCR 90-0166	INITIALS ON FILE	INITIALS ON FILE
0	06-21-74	ISSUED FOR CONSTRUCTION	ENGR. SUPV.	CH'K	BY
NO.		DATE	REVISIONS		

SCHEME NO.	MCC	S.U. NO.	CHANNEL	WIRE PREFIX	CS	CSA	LSX	HEATER BANK	EQUIPMENT NUMBERS				
									B	C	CA	CD	RC
BE 1223	BE 12A	64	1	HA	HISRC2-A	HISRC2-5	LSX1	WMB1,2,3	BE1223	C5705	C3630	CDE12A-2	RC4604
BF 1217	BF 12A	64	2	HB	HISRC2-B	HISRC2-9	LSX2	WLB11,12,13	BF1217	C5705	C3630	CDF12A-1	RC4605

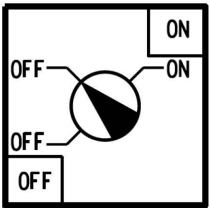


BLOCK DIAGRAM (SEE TABLE ABOVE)

SCHEME NO.	MCC	S.U. NO.	CHANNEL	HEATER BANK	EQUIPMENT NUMBERS				CABLE WIRE NUMBERS											
									NON-Q						NON-Q					
					B	P	J	W	A	B	C	A	B	C	C	D	E			
BE1213	BE12A	64	1	WMB1	BE1213	P1P3B	JT3953	WMB1	D01	D02	D03	D01	D02	D03	D01	D02	D02	D03	D03	D01
BE1214	BE12A	64	1	WMB2	BE1214	P1P3B	JT3953	WMB2	D04	D05	D06	D04	D05	D06	D04	D05	D05	D06	D06	D04
BE1215	BE12A	64	1	WMB3	BE1215	P1P3B	JT3953	WMB3	D07	D08	D09	D07	D08	D09	D07	D08	D08	D09	D09	D07
BF1213	BF12A	64	2	WLB11	BF1213	P2P5F	JT3954	WLB11	D01	D02	D03	D01	D02	D03	D01	D02	D02	D03	D03	D01
BF1214	BF12A	64	2	WLB12	BF1214	P2P5F	JT3954	WLB12	D04	D05	D06	D04	D05	D06	D04	D05	D05	D06	D06	D04
BF1215	BF12A	64	2	WLB13	BF1215	P2P5F	JT3954	WLB13	D07	D08	D09	D07	D08	D09	D07	D08	D08	D09	D09	D07



BLOCK DIAGRAM (SEE NOTE 4)



DETAIL 1

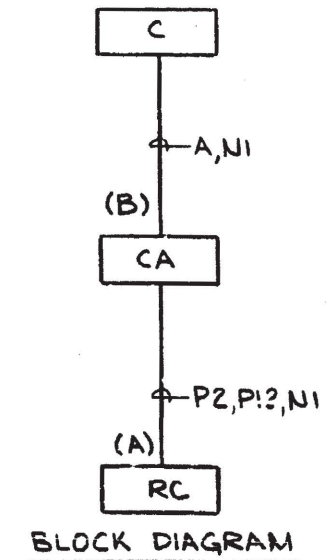
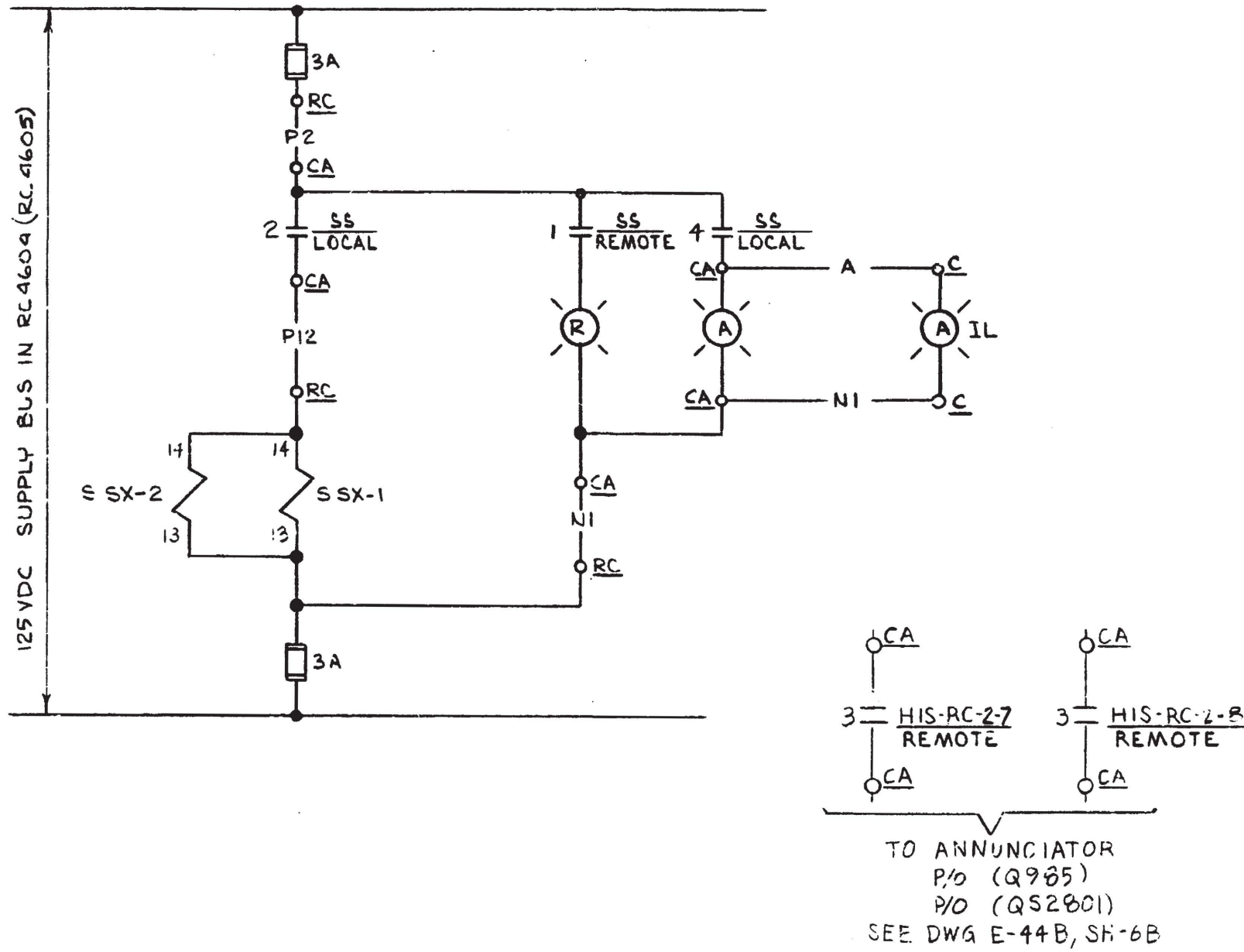
- NOTES:
- FOR GENERAL NOTES SEE E-52B INDEX SH.
  - FOR DETAILS OF CONTROL SWITCH (CS & CSA) SEE E-30B, SH.6A, FIG.7, ADD 2ND CONTACT BLOCK TYPE PTCC FOR BOTH SWITCHES CS & CSA. FOR SWITCH CSA ONLY CHANGE ENGRAVING OF LEGEND PLATE AS SHOWN (SEE DETAIL 1).
  - DETAIL OF SELECTOR SWITCH (SS) SEE E-30B, SH.11, FIG.4.
  - FOR WIRE NUMBERS SEE TABLE.
  - REFER TO DRAWING E-0784B SERIES FOR DETAILED PRESSURIZER HEATER WIRING CONNECTIONS AND DEFECTIVE HEATER INFORMATION.
  - THE PRESSURIZER HEATER MIDDLE AND LOWER BUNDLES HAVE HEATER ELEMENTS FABRICATED BY E.L. WEIGAND COMPANY. CONNECTED ELEMENTS SHALL HAVE AN ADAPTOR ASSEMBLY, BABCOCK & WILCOX PART NO. 1104702-100, INSTALLED BETWEEN THE HEATER RECEPTACLE AND POWER CABLE CONNECTOR. ANY REPLACEMENT CONNECTION SHALL BE MADE UTILIZING A POWER CABLE CONNECTOR, BABCOCK & WILCOX PART NO. 1118852D, WHICH WILL ELIMINATE THE NEED FOR AN ADAPTOR ASSEMBLY.

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REV.10

SCALE NONE	DESIGNED N/A	DRAWN SAP	DATE 04-10-20
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1			
ELEMENTARY WIRING DIAGRAM REACTOR COOLING SYSTEM PRZR HEATER			
energy harbor	DRAWING NO.	SHEET NO.	REV.
	E-52B	43C	11



G-231-0	4	REVISED AS NOTED	2.4.77	R.W.S	LEW	SHI/ini	SNS	—	—	—	OWNER
	3	DELETED NOTE 3 & REVISED AS NOTED	4-11-76	CW	LEW	SMS	SNS	—	—	—	OWNER
	0	ISSUED FOR CONSTRUCTION	6-21-74	CW	ESP	ES	SNS	—	—	—	OWNER
		REV. DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER	OWNER	



- NOTES**
- 1) FOR GENERAL NOTES SEE DWG E-52B INDEX SH.
  - 2) FOR DETAILS OF SELECTOR SWITCH (SS) SEE DWG E-30B SH11 FIG 4A

SCHEME NO	SU NO	CHANNEL	WIRE PREFIX	SS	IL	EQUIPMENT		
						RC	CA	C
SD05	64	1	HCA	HISRC2-7	ILRC2-5	RC 4604	C3630	C5705
SD06	64	2	HCB	HISRC2-8	ILRC2-9	RC 4605	C3630	C5705

4

**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TCLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAM  
REACTOR COOLING SYSTEM  
PRZR HEATERS

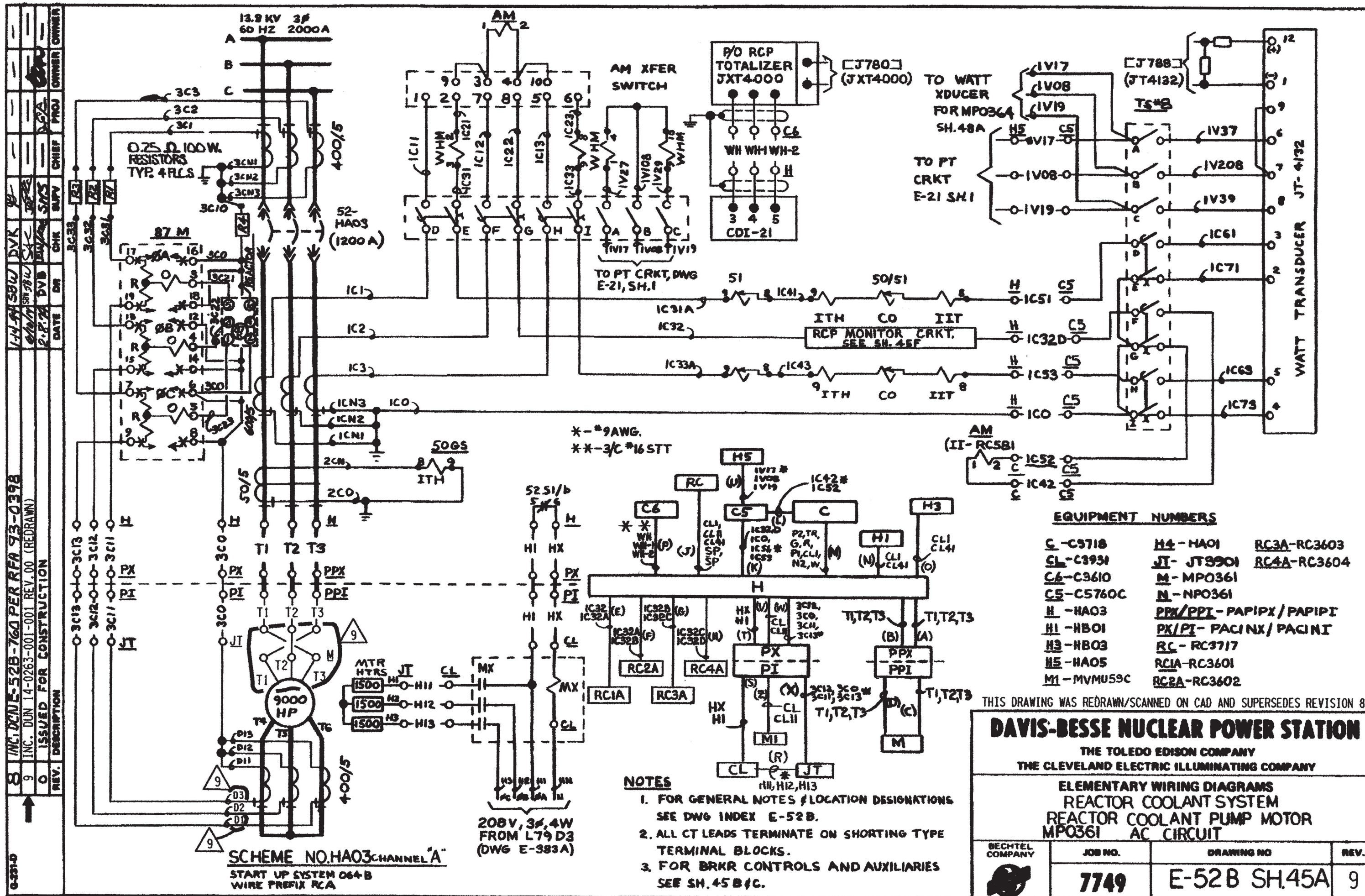
RECHTEL COMPANY

JOB NO.  
**7749**

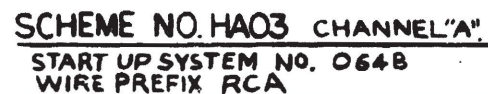
DRAWING NO.  
E-52B SH-43D

REV.  
4










70/51. PHASE, TIME, INSTANTANEOUS  
OVERCURRENT RELAY, W TYPE  
COM-5, SEE SH45A  
71. PHASE EXTREMELY INVERSE  
TIME OVERCURRENT RELAY, W TYPE  
CO-11, SEE SH45A  
50GS. GROUND SENSOR RELAY, W  
TYPE ITH, SEE SH45A

87M. MOTOR DIFFERENTIAL  
RELAY WTYPE SA-1, SEE SH47A  
94-1. BUS PROTECTION LOCKOUT  
AND TRIPPING RELAY SEE E32B  
SH19  
MX. MOTOR HEATER CONTACTOR  
GETYPE CRI05J202 (BY CON-  
TRACTOR) SEE SH45A

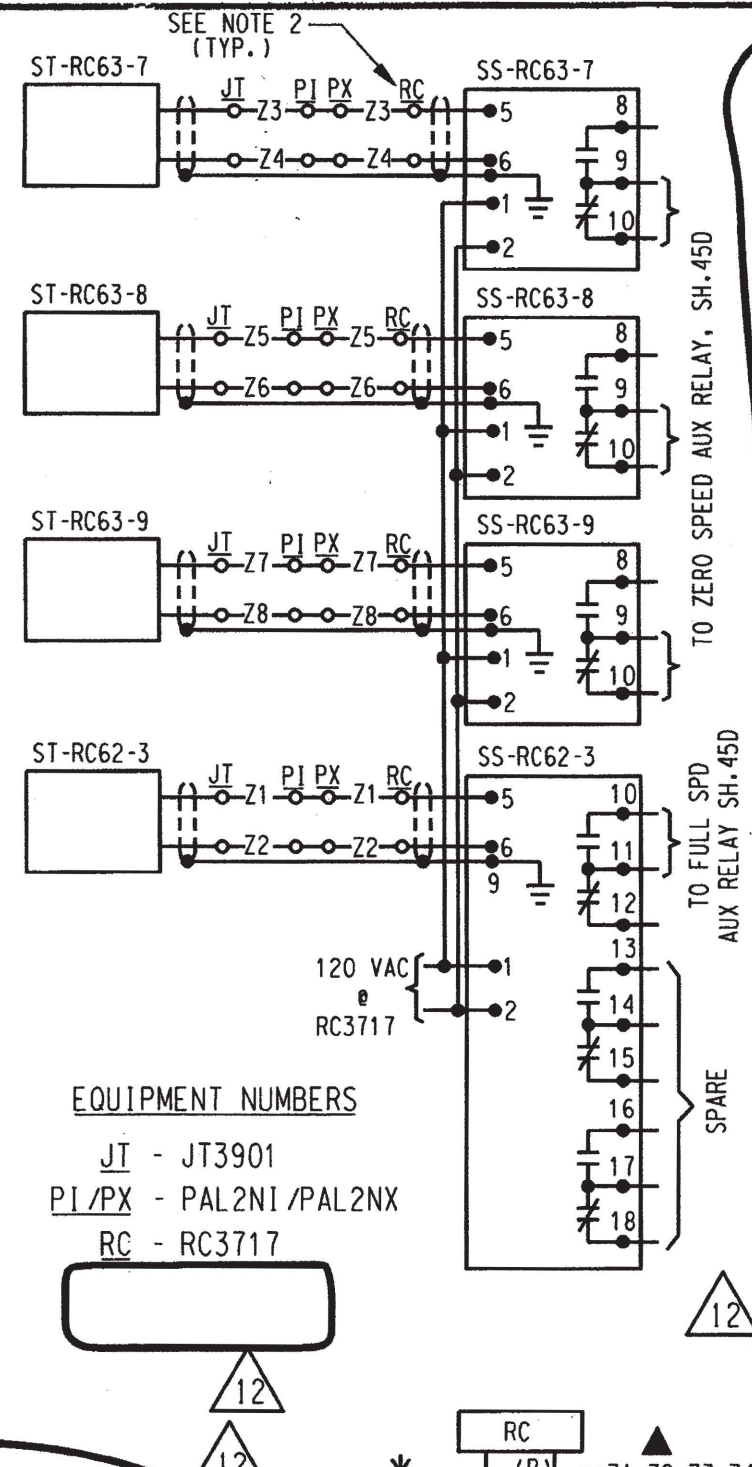
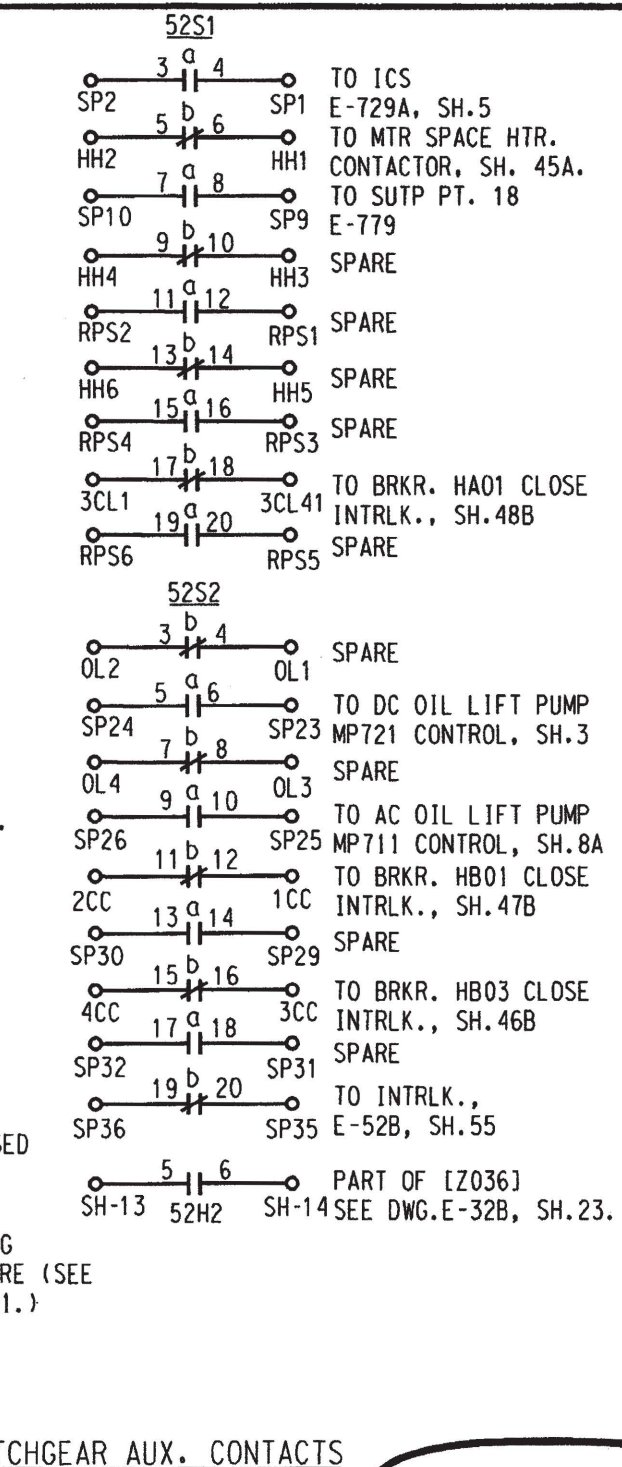
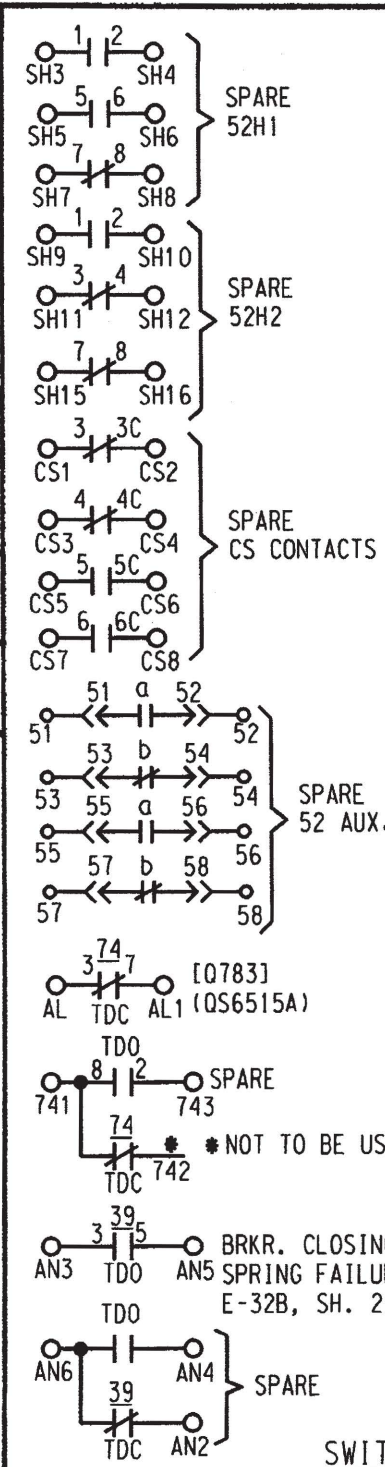
1. FOR GENERAL NOTES AND LOCATION DESIGNATIONS, SEE DWG INDEX E-52B.
2. FOR AC. CRKT, AUXILIARY SWCHS, & BLOCK DIAGRAM SEE SH. 45A/C.
3. FOR CONTROL SWITCH (CS) DEVELOPMENT, SEE DWG E-30B, SH. 9A, FIG. 3.
4. FOR CONTROL SWITCH (HIS-RC5B1) DEVELOPMENT, SEE DWG E-30B, SH. 9, FIG. 2.
5. FOR BREAKER INTERNALS SEE DWG. E-30B SHEET 16A.

**ELEMENTARY WIRING DIAGRAMS**  
**REACTOR COOLANT SYSTEM**  
**REACTOR COOLANT PUMP MOTOR MP0361**  
**CIRCUIT BREAKER CONTROL**

 BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52 B SH. 45 B	6

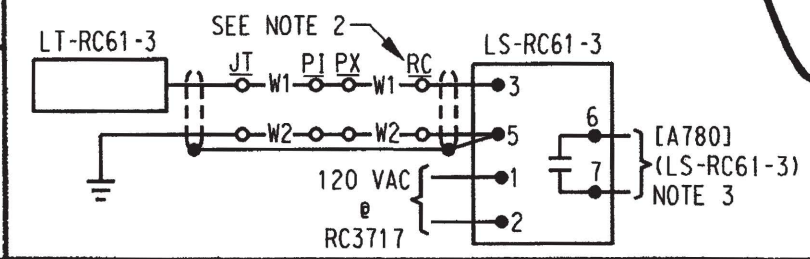


REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
12	INC. DUN 14-0588-001-007 REV. 0 & GEN. UPDATE THIS DWG. WAS ISSUED APPROVED IN FILENET AT REV. 11 WITHOUT SUPR. ENG. INITIAL. & DATED. WITH REV. 12 UPDATE, SCHEME HAO3L THAT WAS REVISED IN REV. 11 WAS DELETED. THIS GEN. UPDATE CONFIRMS THAT THE MISSING SUPVR ENG. INITIALS AND DATE AT REV. 11 UPDATE WAS FOUND AND RECORDED IN CR-2016-07451 & NOTIF. 601045509.	6-15-16	SAP	SMC				
Q	ISSUED FOR CONSTRUCTION							

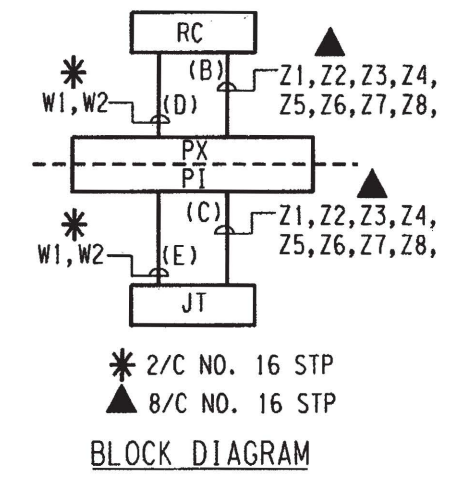


EQUIPMENT NUMBERS  
JT - JT3901  
PI/PX - PAL2N1/PAL2NX  
RC - RC3717

- NOTES:
1. FOR GENERAL NOTES AND LOCATION DESIGNATIONS, SEE DWG. INDEX E-52B.
  2. ZERO SPEED SWITCHES (3), FULL SPEED SWITCH AND LEVEL SWITCH ARE TO BE MOUNTED IN RELAY CABINET BY CONTRACTOR.
  3. COMPUTER POINTS A780, A800 (SH.46C), A820 (SH.47C), AND A840 (SH.48C) ARE COMBINED AT THE ANNUNCIATOR TO FORM ANNUNCIATOR WINDOW A780.
  4. DELETED



SCHEME NO. HAO3S CHANNEL "A"  
START UP SYSTEM 064C



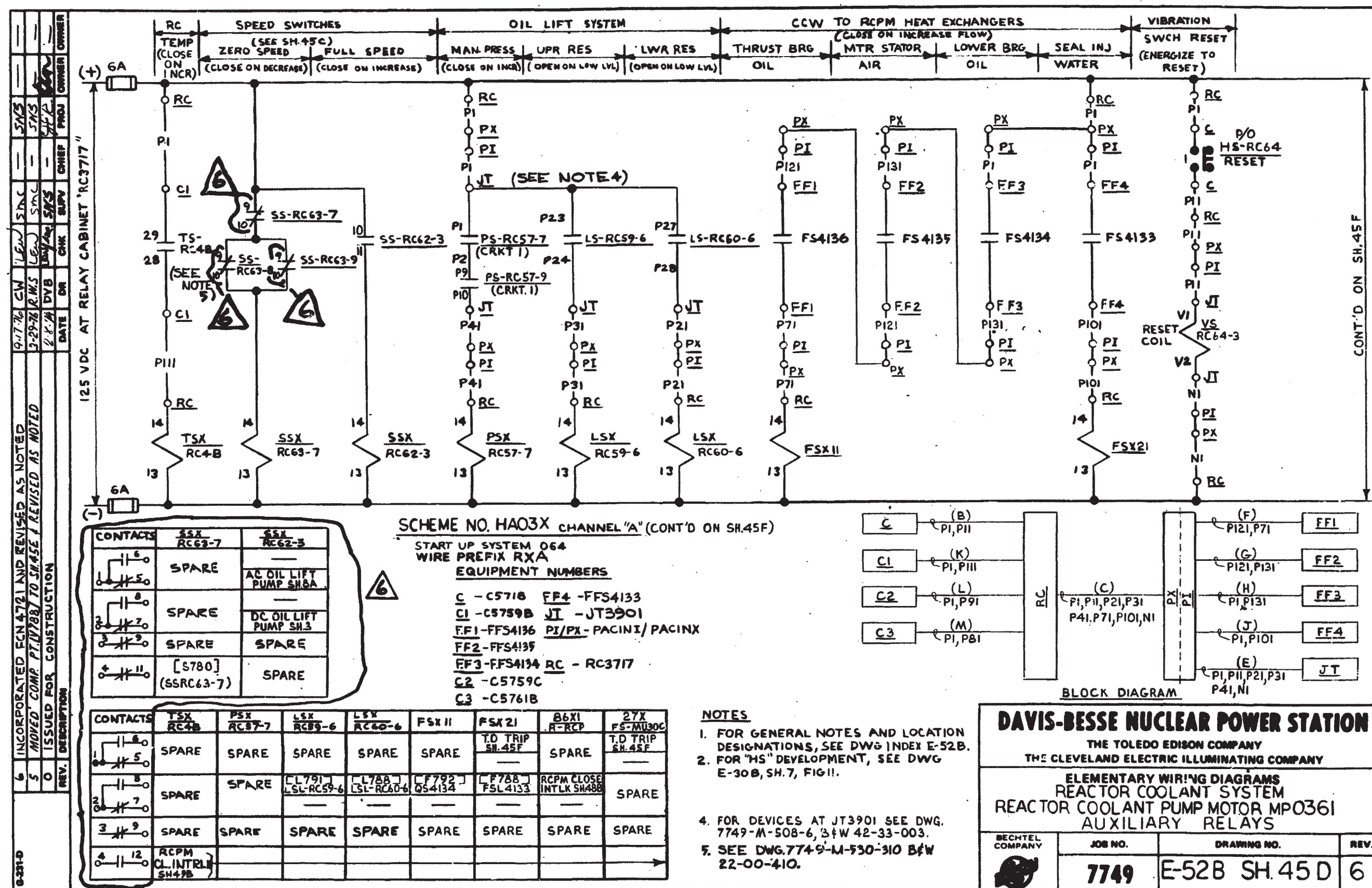
THIS DWG. WAS REDRAWN/SCANNED ON CADD AND SUPERSEDES REVISION 9.

**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

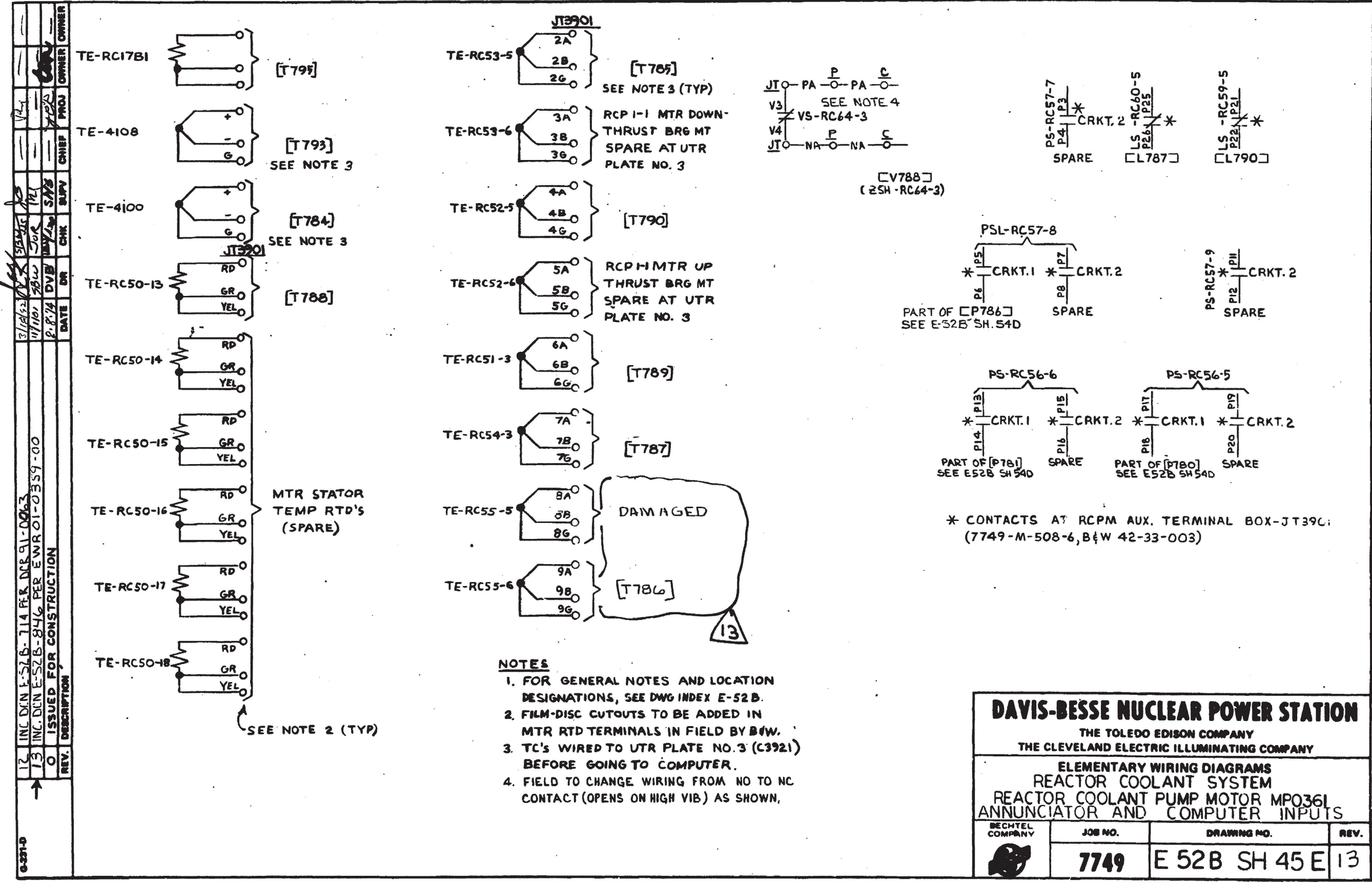
**ELEMENTARY WIRING DIAGRAMS**  
REACTOR COOLANT SYSTEM  
REACTOR COOLANT PUMP MOTOR MP0361  
AUXILIARIES

BECHTEL COMPANY	JOB NO	DRAWING NO.	REV.
	7749	E-52B SH.45 C	12

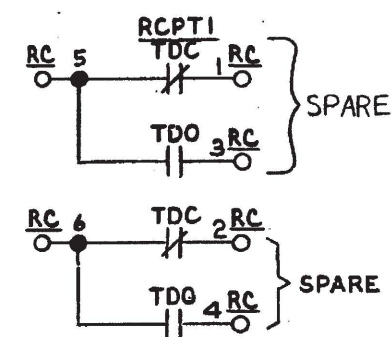













**NOTES:**

1. FOR BLOCK DIAGRAM ,NOTES AND EQUIPMENT LOCATIONS SEE:  
SCHEME HAO3X SH.45D  
SCHEME HAO3 SH.45A
2. FOR GENERAL NOTES SEE DWG.  
E-52B INDEX SH.1 OF 2
3. RCPT1 -AGA\$TAT MODEL 7022 PF  
(.5 TO 10MIN) TIME DELAY RELAY.

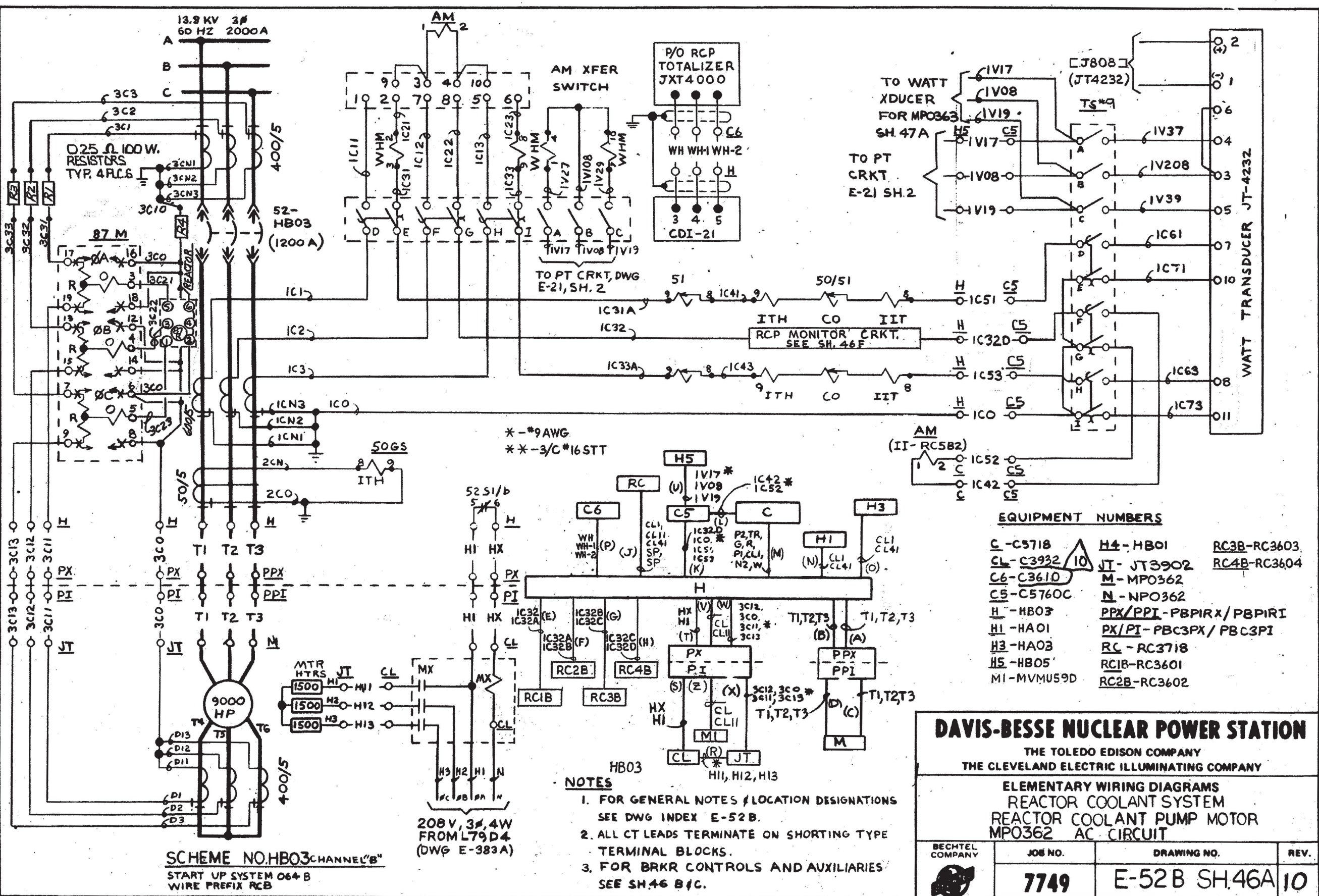
27,59 -ALARM, BAILEY METER CO. TYPE 745 DUAL ALARM  
UNIT (CONTACTS SHOWN WITH UNIT ENERGIZED -  
NO ET CURRENT)

**ELEMENTARY WIRING DIAGRAM  
REACTOR COOLANT SYSTEM  
REACTOR COOLANT PUMP MOTOR MP0361  
AUXILIARY RELAYS**

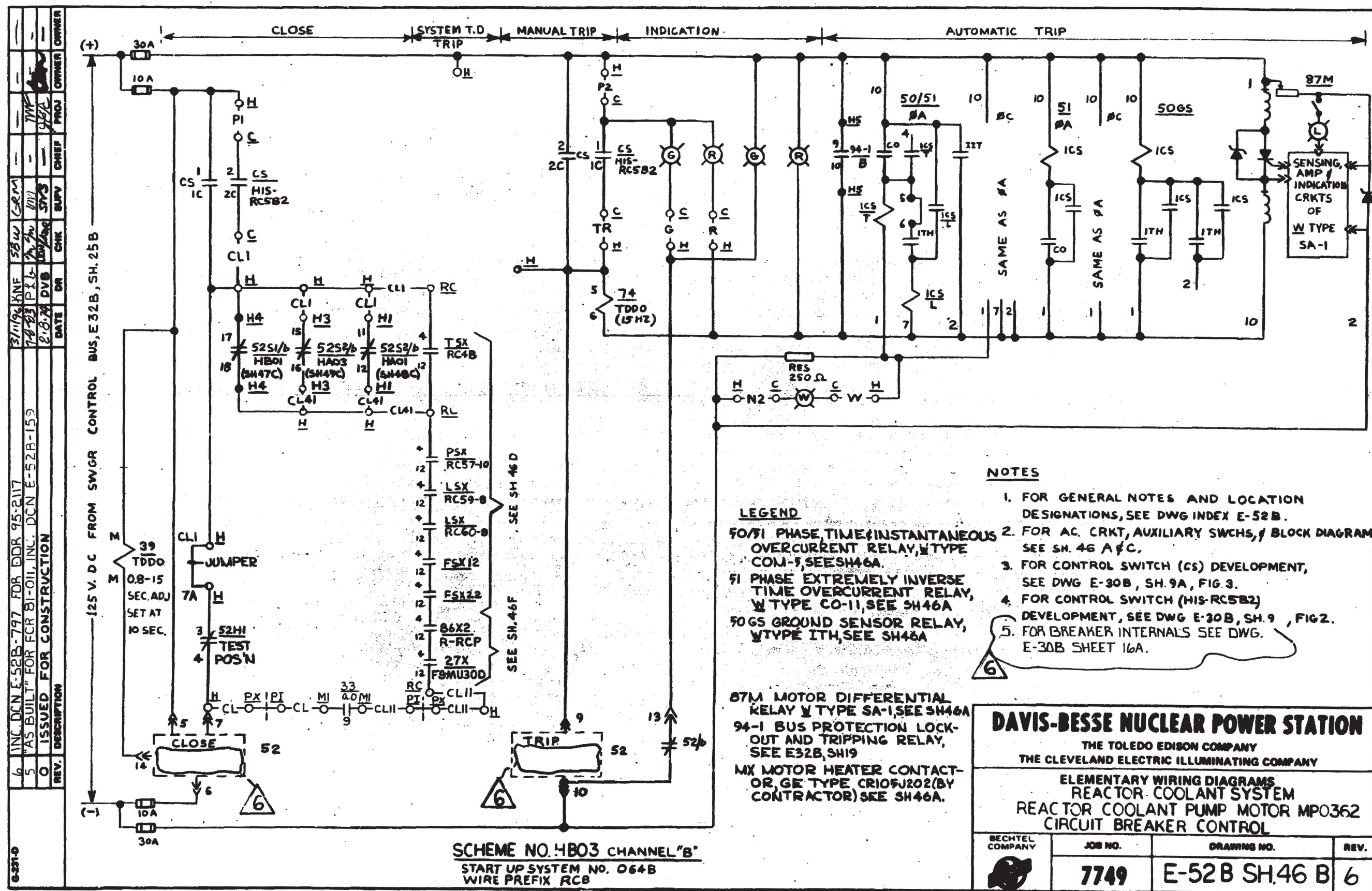
	JOB NO.	DRAWING NO.	REV
	7749	E-52B SH-45F	11



10	INC. DUN 12-0304-001-001 REV. 00	8/13/72	BBW	SAC	CH	OWNER
9	INC. DCNE-52B-757 FOR RFA 93-039B	7-14-74	SBW	DNK	CH	OWNER
0	ISSUED FOR CONSTRUCTION	2-8-74	DVB	BNV	CH	OWNER
	REV. DESCRIPTION					
		DATE	DR	CHK	SUPV	CHIEF



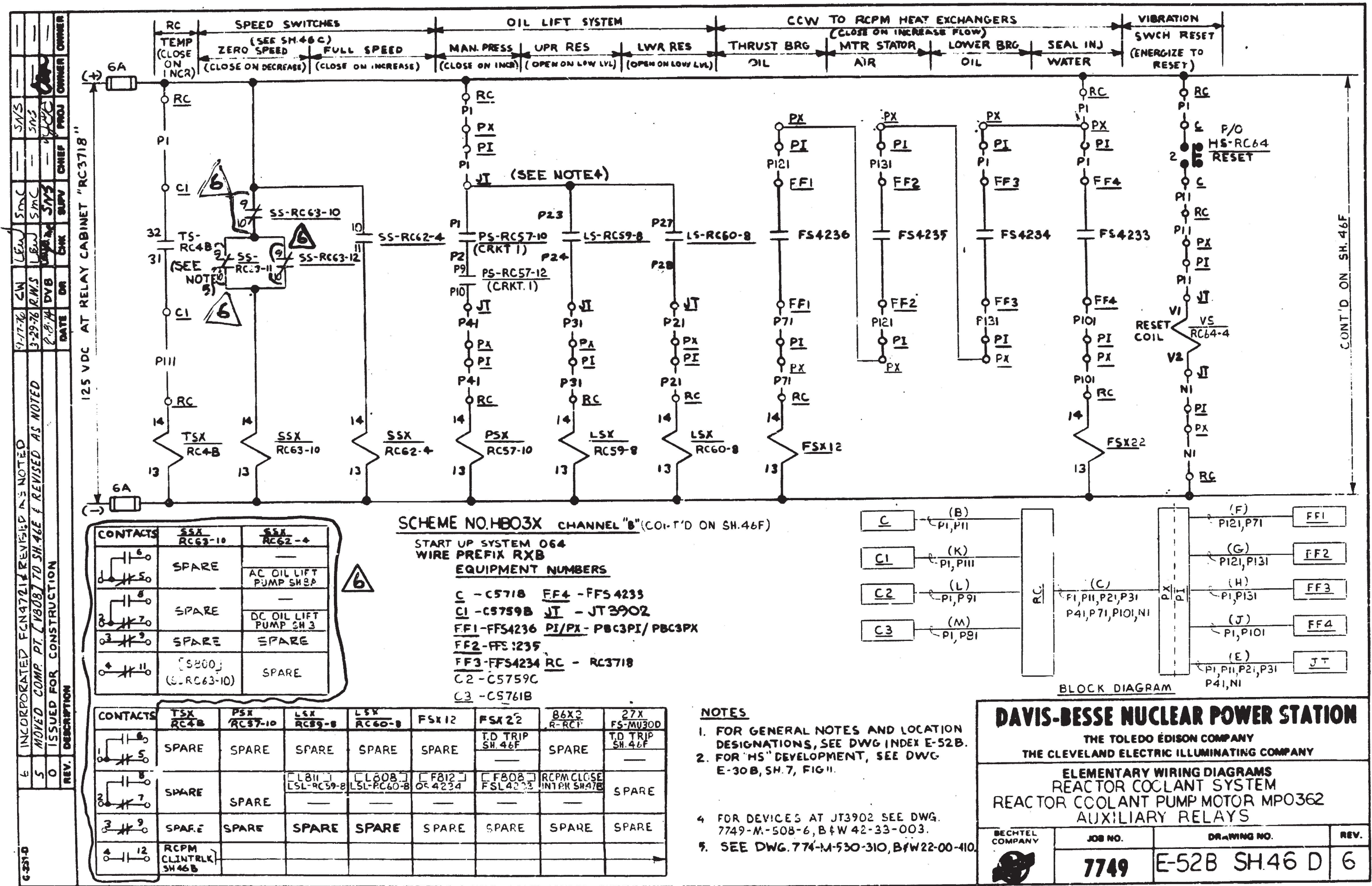




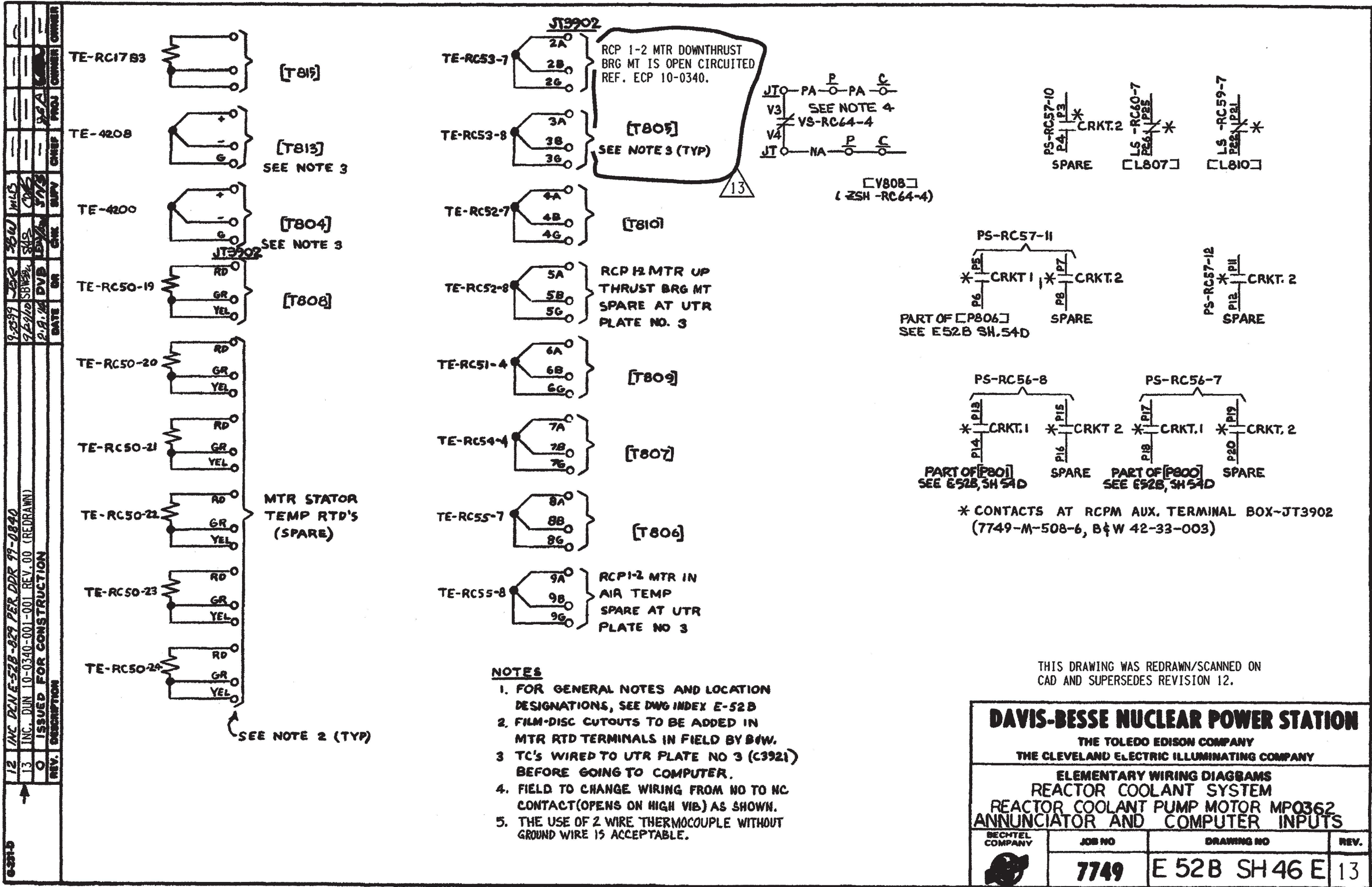




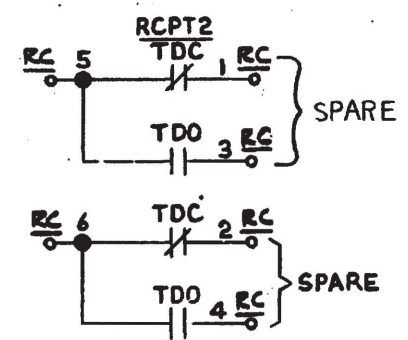














SCHEME N<sup>o</sup>. HB03  
CHANNEL "B"  
START UP SYSTEM "64B"

- NOTES:**
1. FOR BLOCK DIAGRAM, NOTES AND EQUIPMENT LOCATIONS SEE:  
SCHEME HBO3X SH.46D  
SCHEME HBO3 SH.46A
  2. FOR GENERAL NOTES SEE DWG. E-52B INDEX SH.1 OF 2.
  3. RCPT2-AGASTAT MODEL 7022PF  
(.5 TO 10 MIN.) TIME DELAY RELAY.

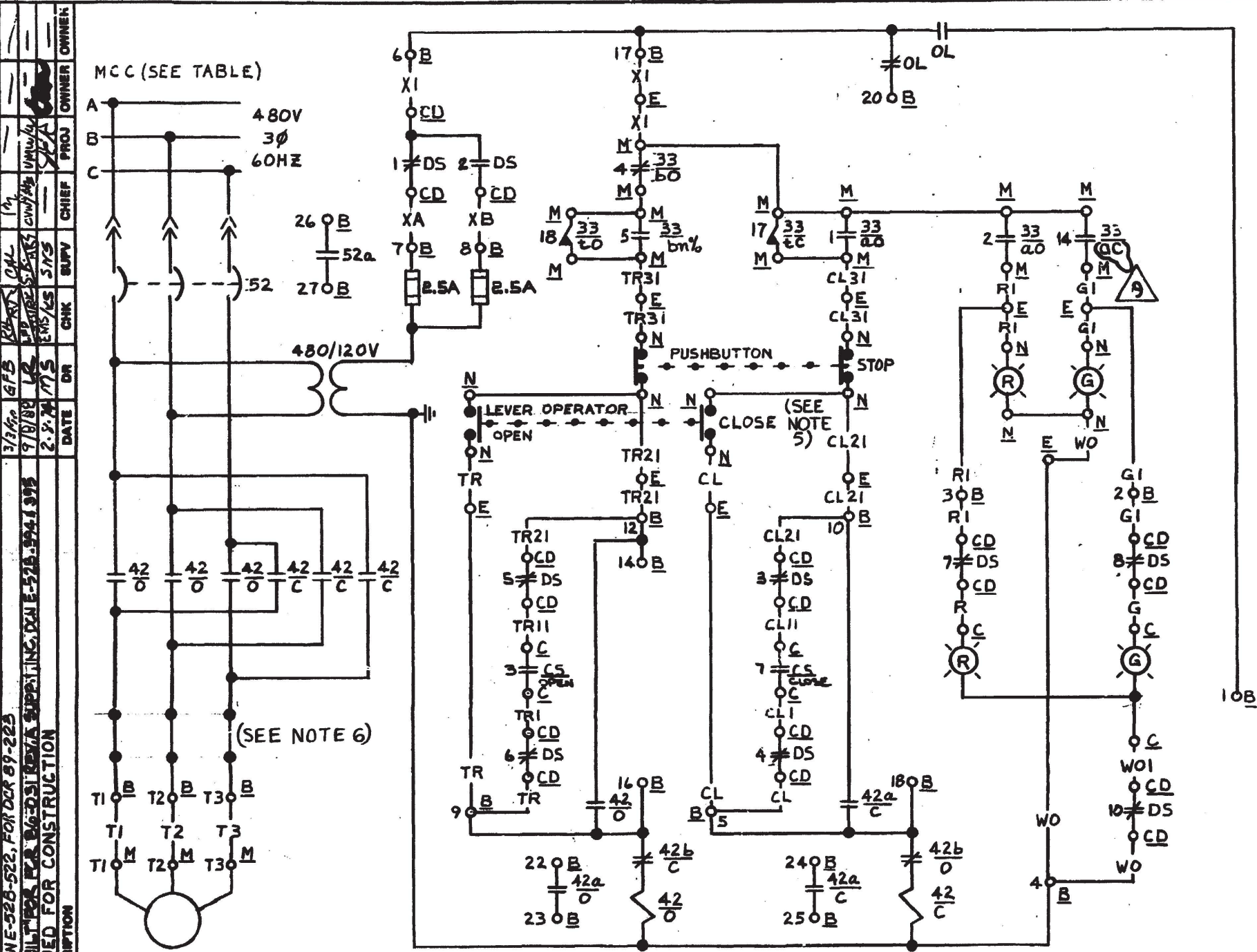
**LEGEND:**  
 TS-CURRENT TEST SWITCH WITH TEST JACK,  
 MULTI-AMP CORP. STATES TYPE MTS (STYLE C3-204P)  
 CURRENT XDCR - CURRENT TRANSDUCER, G.E. CAT. NR.  
 50-47220ITFDC  
 R-RESISTOR (5K.  $\sim \pm 1\%$ )  
 27,59-ALARM, BAILEY METER CO. TYPE 745 DUAL ALARM  
 UNIT (CONTACTS SHOWN WITH UNIT ENERGIZED -  
 NO CT CURRENT)

<h1>DAVIS-BESSE NUCLEAR POWER STATION</h1> <p>THE TOLEDO EDISON COMPANY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY</p>			
<p>ELEMENTARY WIRING DIAGRAM REACTOR COOLANT SYSTEM REACTOR COOLANT PUMP MOTOR MP0362 AUXILIARY RELAYS</p>			
<p>BECHTEL COMPANY</p> 	<p>JOB NO.</p> <p>7749</p>	<p>DRAWING NO.</p> <p>E-52B SH-46F</p>	<p>REV.</p> <p>11</p>

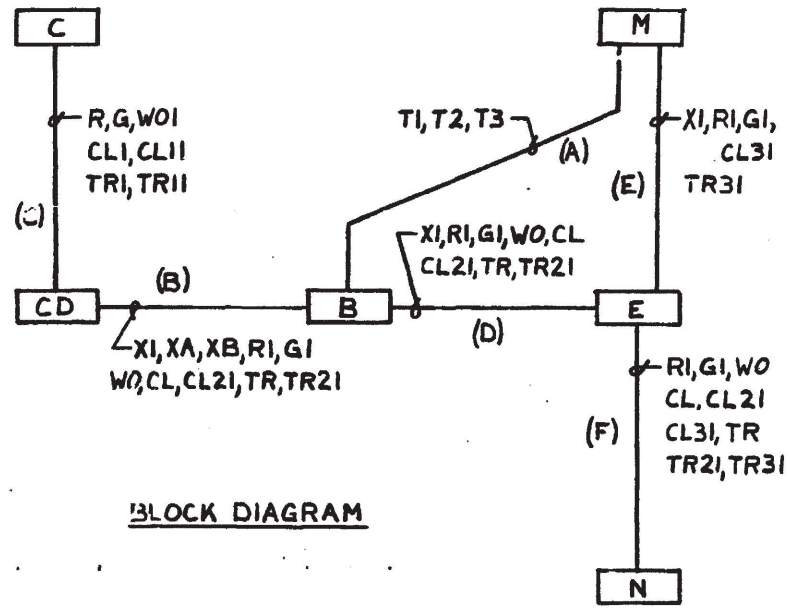








SCHEME NO. (SEE TABLE)



- NOTES**
- 1. FOR GENERAL NOTES SEE DWG. INDEX E-52E
  - 2. FOR LOCAL PUSHBUTTONS AND INDICATING LIGHTS DETAILS, SEE E-30B SH.7 TYPE 3, 4 & 6.
  - 3. FOR DETAILS OF CONTROL SWITCH SEE DWG. E-30B SH.7 FIG. 7.
  - 4. FOR VLV. LIMIT SW. DEVELOPMENT SEE DWG. E-30B SH. 8. FIG. A (SEE NOTE 7 THIS SHEET)
  - 5. FIELD TO INSTALL COVER PLATE WITH LOCK ON "OPEN-CLOSE" CONTROL STATION.
  - 6. OVERLOAD HEATERS REPLACED BY SHORTING BARS.
  - 7. FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN.  $\pm 5\%$

**DAVIS-BESSE NUCLEAR POWER STATION**

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

**ELEMENTARY WIRING DIAGRAMS**

**REACTOR COOLING SYSTEM**

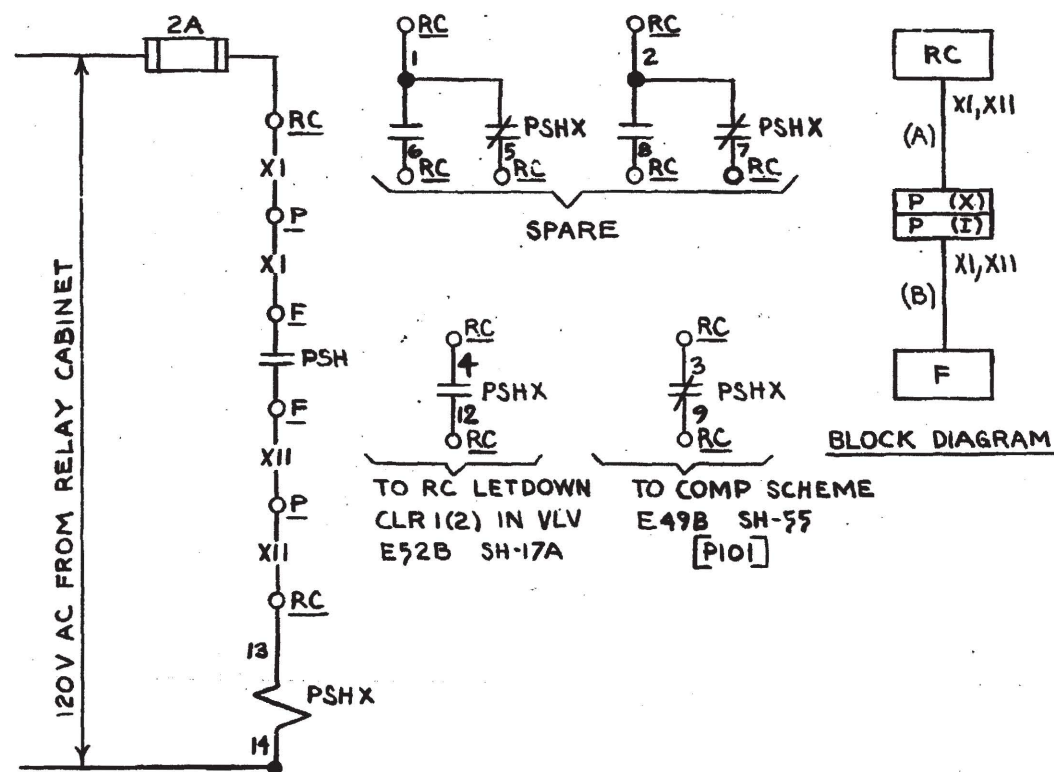
**DH. REMOVAL CLR1&2 OUT X OVER**

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-52B SH.53	9

SCHEME NO.	MCC	S.U. NO.	CHANNEL	WIRE PREFIX	CONT. SW CS	EQUIPMENT						DESCRIPTION
						C	CD	B	E	M	N	
BE1195	EIID	49	1	DXA	HIS831	C5704	CDEIID	BE1195	EV08310	MY08310	NV08310	DH. REMOVAL CLR-1 OUT X OVER
BF1185	FIID	49	2	DXB	HIS830	C5704	CDFIID	BF1185	EV08300	MY08300	NV08300	DH. REMOVAL CLR-2 OUT X OVER

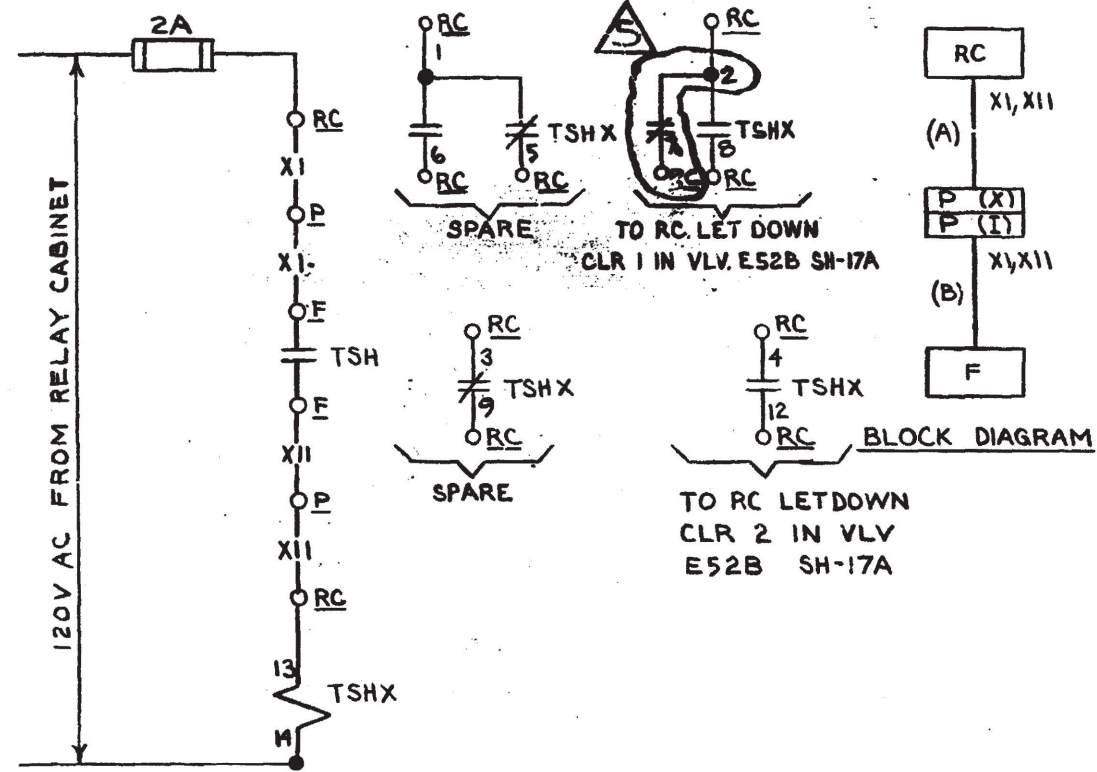
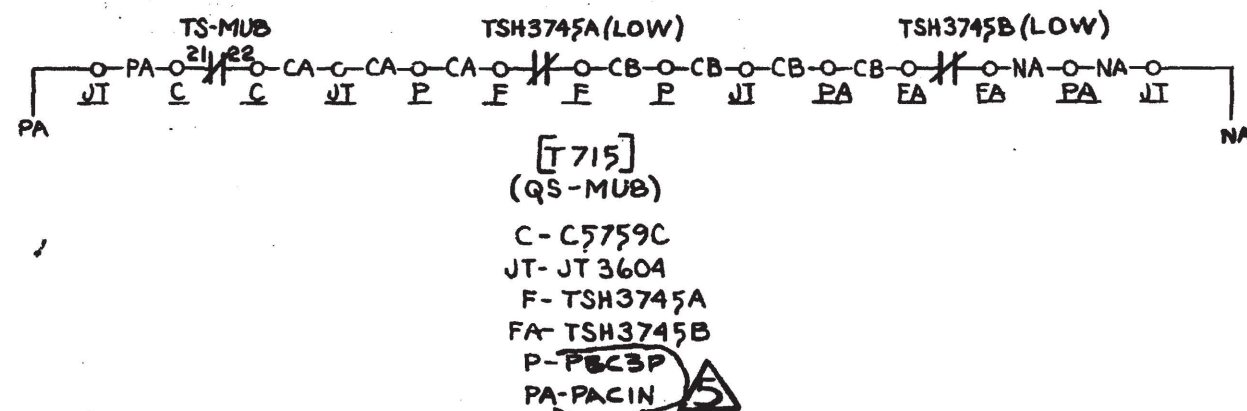


REV.	DESCRIPTION	DATE	CHK	SUPV	CHIEF	PROJ	OWNER
4	"AS BUILT" FOR FCR 78-285, INC. DCN E-52B-88	7/1/83	PLP	PLP	PLP	PLP	PLP
5	REVERTED DRAWING TO REV. 3 STATUS PER TED LRA83-2263D	7/1/83	PLP	PLP	PLP	PLP	PLP
0	ISSUED FOR CONSTRUCTION	5/22/83	TLP	PLP	PLP	PLP	PLP



SCHEME NO (SEE TABLE)

SCHEME NO	SU NO.	CH	EQUIPMENT			PSHX	DESCRIPTION
			RC	P	F		
PS3711	16P	2	RC4605	P2C5G	PSH3711	PSHX3711	PSH3711 AUX RELAY
PS3712	16P	2	RC4605	P2C5G	PSH3712	PSHX3712	PSH3712 AUX RELAY



TSH3745A AUX RELAY  
SCHEME NO TS3745  
RC-RC4605  
P-P2C5G  
F-TSH3745A (HIGH)  
TSHX-TSHX3745A  
SU NO-16P  
CHANNEL 2

**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY  
ELEMENTARY WIRING DIAGRAM  
TEMP & PRESS SWITCHES AUX  
RELAYS

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E52B SH 57	5



INDEX			
SHEET NO.	LATEST REV.	DESCRIPTION	Q
1A	5	TANK INLET VALVES (SOV'S)	
1B	3	TANK INLET VALVES (SOV'S)	
2A	7	CLEAN WASTE TANKS DISCHARGE VALVES (SOV'S)	
2B	6	CLEAN WASTE TANKS DISCHARGE VALVES (SOV'S)	
2C	5	CLEAN WASTE TANKS DISCHARGE VALVES (SOV'S)	
3A	11	CLEAN WASTE TANKS TRANSFER PUMPS	
3B	7	CLEAN WASTE TANKS TRANSFER PUMPS	
4A	61 12	MISCELLANEOUS WASTE PUMPS	
4B	9	MISCELLANEOUS WASTE PUMPS	
5	5	ZINC INJECTION SKID DB-S87	
6	3	DEGASIFIER STEAM INLET VALVE (SOV)	
7	7	CLEAN WASTE PRI DEMIN INLET VALVE (SOV)	
8A	7	MONITORED RADIOACTIVE WST DISCH VLV'S (SOV'S)	
8B	4	MONITORED RADIOACTIVE WST DISCH VLV'S (SOV'S)	
8C	4	MONITORED RADIOACTIVE WST DISCH VLV'S (SOV'S)	
9A	9	SPENT RESIN TK OVERFLOW PMP	
9B	4	SPENT RESIN TK OVERFLOW PMP	
10A	6	GASEOUS RADIOACTIVE WST VLV'S (SOV'S)	
10B	2	GASEOUS RADIOACTIVE WST VLV'S (SOV'S)	
11	5	CLN WST REC TK IN VLV'S (SOV'S)	
13	7	MISC WST MNTR TK 1-1 OUT VLV (SOV)	
14	5	BA EVAP STM IN VLV'S (SOV'S)	
15	7	MISC WST EVAP TK	
15A	0	CONC STRG TK HTR'S	
16	4	MISC WST MNTR TK 1-1 IN VLV (SOV)	
17A	9	WST GAS COMPRESSORS 1-1	
17B	6	WST GAS COMPRESSORS 1-2	
17C	8	WST GAS COMPRESSORS 1-1 & 1-2	

43	3-19-90	REVISED SH.8B (REV.4),ADDED SH'S 41C,54,55,56 (REV.0). REMOVED 28C DESCRIPTION,DWG NOT AS-BUILT. REMOVED 48A & 48B DWG'S VOIDED NEVER AS-BUILT
REV	DATE	DESCRIPTION

INDEX			
SHEET NO.	LATEST REV.	DESCRIPTION	Q
18A	4	WST GAS DECAY TK IN FRM CMPSR VLV'S (SOV'S)	
18B	1	WST GAS DECAY TK IN FRM CMPSR VLV'S (SOV'S)	
19A	61 9	ECCS SUMP PUMPS	Q
19B	11	ECCS SUMP PUMPS	Q
19C	1	ECCS SUMP 1-2 PUMP A	Q
19D	2	ECCS SUMP 1-2 PUMP B	Q

BLOCK DIAGRAM DESIGNATIONS:

B - 480V SYSTEM MOTOR CONTROL CENTER

C - MAIN CONTROL BOARD

CA - LOCAL CONTROL CABINET

E - LOCAL DISTRIBUTION TERMINAL BOX

M - MOTOR

N - LOCAL CONTROL STATION

RC - AUXILIARY RELAY CABINET

REFERENCE DRAWINGS:

E-5 SH.1 THRU 5 - 480V MCC (NON-ESSENTIAL) ONE LINE DIAGRAM

E-10A - STANDARD NOTES AND SYMBOLS


E-14B - SOLENOID VALVE LIST

E-30B - GENERAL GUIDES - ELEMENTARY DIAGRAM

FOR CONTINUATION OF INDEX SEE SH.2

- GENERAL NOTES:
- FOR EXPLANATION OF EQUIPMENT, WIRING AND SCHEME NUMBERS SEE E-11A, SCE 3.0 ELECT. NUMBERING SYSTEMS.
  - FOR MOTOR INFORMATION SEE E-12B, ELECT. MOTOR LIST.
  - FOR CONTROL PANEL, JUNCTION BOX & TERMINAL BOX DESCRIPTIONS SEE E-13B ELECT. EQUIPMENT LIST.
  - WIRE NUMBER PREFIX MUST BE ADDED TO FORM COMPLETE WIRE NUMBER FOR THOSE WIRES AT CONTROL PANEL.
  - FOR SOLENOID VALVE INFORMATION SEE E-14B SOLENOID VALVE LIST.
  - NUMBER IN BRACKETS [ ] REPRESENTS COMPUTER INPUT NUMBER. NUMBER IN PARENTHESIS ( ) REPRESENTS COMPUTER INPUT SOURCE NUMBER.
  - AUX. CONTROL RELAY IN SOLENOID OPERATED VALVE CONTROL CIRCUIT TO BE COUCH RELAY TYPE 4AP44-AF.

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 42.

SCALE NONE	DESIGNED	DRAWN JLH	DATE 12-18-89
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 <small>THE TOLEDO EDISON COMPANY</small>			
ELEMENTARY WIRING DIAGRAMS RADIOACTIVE WASTE SYSTEM DRAWING INDEX			Q
			
DRAWING NO. E-56B SH.1		REV. 61	



INDEX


SHEET NO.	LATEST REV.	DESCRIPTION	Q
20	4	AUX BLDG SUMP PUMPS	
21	6	WST GAS SURGE TK XFER PMP 1-1	
22A	7	CMPSR 1 IN FRM SURGE TK (SOV)	
22B	3	CMPSR 1 IN FRM SURGE TK (SOV)	
22C	6	CMPSR 1 IN FRM SURGE TK (SOV)	
23A	7	CMPSR 2 IN FRM SURGE TK (SOV)	
23B	5	CMPSR 2 IN FRM SURGE TK (SOV)	
24A	12	CTMT NORMAL SUMP ISO VLV- INSIDE CTMT (MOV)	Q
24B	7	CTMT NORMAL SUMP ISO VLV- INSIDE CTMT (MOV)	Q
25A	10	CTMT NORMAL SUMP ISO VLV - OUTSIDE CTMT (MOV)	Q
25B	5	CTMT NORMAL SUMP ISO VLV - OUTSIDE CTMT (MOV)	Q
26A	6	N2 IN TO CMPSR 1 (SOV)	
26B	5	N2 IN TO CMPSR 1 (SOV)	
27A	6	N2 IN TO CMPSR 2 (SOV)	
27B	1	N2 IN TO CMPSR 2 (SOV)	
27C	5	N2 IN TO CMPSR 2 (SOV)	
28A	8	CTMT BLDG SUMP PUMPS	
28B	9	CTMT BLDG SUMP PUMPS	
28C			
29A	3	CNDS DEMIN HOLD-UP TK RM SUMP PUMPS	
29B	3	CNDS DEMIN HOLD-UP TK RM SUMP PUMPS	
30A	7	MISC WST EVAP STRG TK PMP'S (DWG. VOID)	
30B	7	MISC WST EVAP STRG TK PMP'S (DWG. VOID)	
31	5	DELETED	
32	1	DELETED	
33	2	DEGASIFIER DISCHARGE PUMPS	
34	3	WST EVAP & DEGASIFIER DRN PMP'S	
35	5	CLEAN WASTE BOOSTER PUMPS	
36	7	CLN WST BOOSTER PMP'S SUCTION & BYPASS VLV'S (SOV'S)	
37A	11	CLN WST CONC XFER PMPS	
37B	6	CLN WST CONC XFER PMPS	
38	4	WST EVAP PKG STM IN VLV	
39A	4	CLN WST & MISC WST SYS OUT FLOW VLV'S	
39B	3	CLN WST & MISC WST SYS OUT FLOW VLV'S	
40A	11	MN ANNUC & COMP INPUTS	
40B	6	MN ANNUC & COMP INPUTS	
40C	9	MN ANNUC & COMP INPUTS	
41A	7	LOCAL ANNUC	

SHEET NO.	LATEST REV.	DESCRIPTION	Q
41B	10	LOCAL ANNUC	
41C	7	LOCAL ANNUC	
41D	1	LOCAL ANNUC	
41E	0	LOCAL ANNUC	
41F	1	LOCAL ANNUC	
41G	0	RDWST SYS. LOCAL ANNUN. & AUX RELAY	
42A	4	EVAP RECIPC	
42B	2	EVAP RECIPC	
43A	2	DELETED	
43B	2	DELETED	
43C	2	DELETED	
44	2	ANTIFOAM INJECTION PMP	
45	2	DWDT INLET & DWDT HOLD-UP TK OUTLET VLV	
46	1	DWDT HOLD-UP TANK INLET VLV	
47			
47A	2	ISOLATION VALVES	
47B	2	ACC SAMPLE VALVE	Q
47C	3	SAMPLE VALVES	
47D	3	DELETED	
47E	1	ISOLATION VALVES	
47F	0	DEMIN WTR TO SMPL COOLER	
47G	1	DEMIN WTR TO SMPL SYSTEM	
47H	0	SAMPLE VLV AND CYLINDER ASSEMBLY	
47J	1	DELETED	
47K	1	DELETED	
47L	2	DEMIN WTR AND SAMPLE VALVES	
47M	3	MISC INSTRUMENTATION	
47N	2	DELETED	

FOR GENERAL NOTES AND REFERENCE DRAWINGS  
SEE DRAWING E-56B DRAWING INDEX SH. 1

FOR CONTINUATION OF INDEX SEE SH.3

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 42.

SCALE NONE	DESIGNED	DRAWN JLH	DATE 12-19-89
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 <small>THE TOLEDO EDISON COMPANY</small>			
ELEMENTARY WIRING DIAGRAMS RADIOACTIVE WASTE SYSTEM DRAWING INDEX			Q
			
DRAWING NO. E-56B SH.2			REV. 61




INDEX CONTINUED			
SHEET NO.	LATEST REV.	DESCRIPTION	Q
47P	0	ISOLATION VALVE	
47Q	1	SAMPLE VALVE	
49			
50	2	SEAL WATER VALVE	
52	1	RADIOACTIVE WST. SYS. BORIC ACID EVAP. PMPS SEAL WTR. VLV.	
54	1	RADIOACTIVE WST. SYS. LIQIUD WST. DEMIN. BOOSTER PUMP (DWG. VOID)	
55	1	RADIOACTIVE WST. SYS. DURATEK LVL. CNTRL. PANEL	
56	1	RADIOACTIVE WST. SYS. MISC. RADIOACTIVE WST. VALVE	

61	04/28/20	REVISED SH.4A (REV.12), SH.19B (REV.11) & SH.37A (REV.11)	SAP	<i>SAP</i>	<i>M</i>	—	JHR	<i>JHR</i>	—
60	05-06-12	INC. DUN 10-0490-001-039 REV.00 & REVISED SH. 5 (REV.5)	"	INITIALS	ON	FILE	"		
59	7-14-09	REVISED SHT.19C (REV.1), & SHT. 19D (REV. 2)	"	INITIALS	ON	FILE	"		
58	3-16-06	REVISED SHT.19D (REV.1), SHT. 24A (REV.12), SHT.25A (REV.10) & SHT. 47B (REV. 2)	"	INITIALS	ON	FILE	"		
57	05-07-04	REVISED SHT.19A (REV.9), SHT.19B & 41B (REV.10), SHT.30A & 30B (REV.7) (DWG. VOID), SHT.39A (REV.4) & GEN. UPDATE: ADDED SHT'S. 19C & 19D (REV.0) TO INDEX PER DWG. SPLIT FOR DCN UPDATE.	"	INITIALS	ON	FILE	"		
56	10-11-03	REVISED SHT.19A (REV.8) AND SHT.19B (REV. 9)	"	INITIALS	ON	FILE	"		
55	7/24/01	REVISED SHT.47G (REV.1)	"	INITIALS	ON	FILE	"		
54	09/11/98	REVISED SHT. 28A (REV.8); SHT.28B (REV.9); SHT.37A (REV.10); AND SHT. 54 (REV.1, DWG. VOID)	"	INITIALS	ON	FILE	"		
53	04/17/96	REVISED SHEET 1A (REV.5); SHEET 19A (REV. 7); SHEET 19B (REV.8); SHEET 37A (REV. 9); AND SHEET 47E (REV. 1)	"	INITIALS	ON	FILE	"		
52	1-14-94	REVISED SH.40A (REV.11)	"	INITIALS	ON	FILE	"		
51	6-24-93	REVISED SH.18A (REV.4) AND SH. 36 (REV.7)	"	INITIALS	ON	FILE	"		
REV	DATE	DESCRIPTION	BY	CH'K	ENGR.	ENGR. SUPV.	GEN. SUPV.		

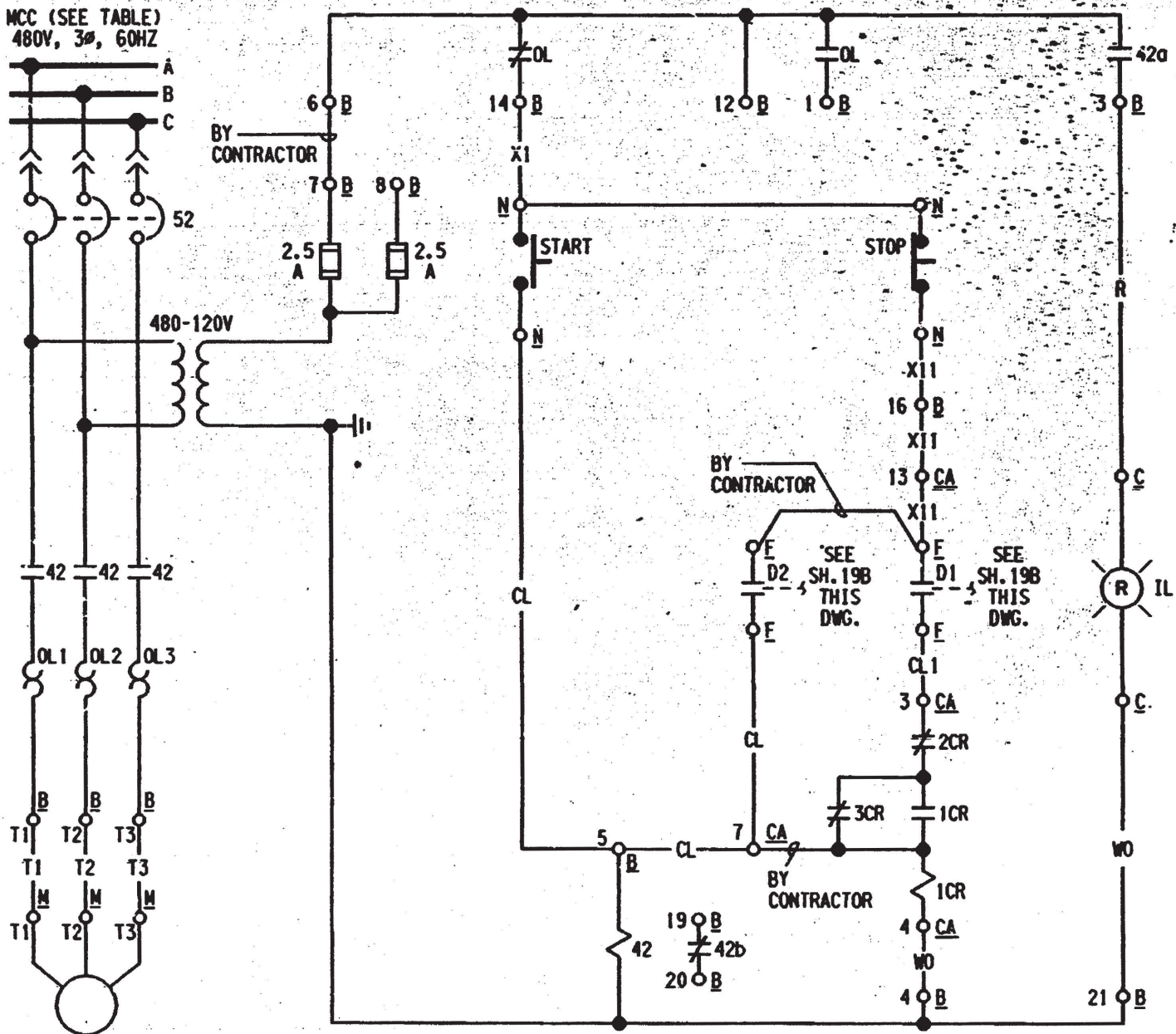
FOR GENERAL NOTES AND REFERENCE DRAWINGS  
SEE DRAWING E-56B DRAWING INDEX SH. 1

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 42.

SCALE NONE	DESIGNED	DRAWN JLH	DATE 12-19-89
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 <small>THE TOLEDO EDISON COMPANY</small>			
ELEMENTARY WIRING DIAGRAMS RADIOACTIVE WASTE SYSTEM DRAWING INDEX			<b>Q</b>
			
DRAWING NO. E-56B SH.3		REV. 61	

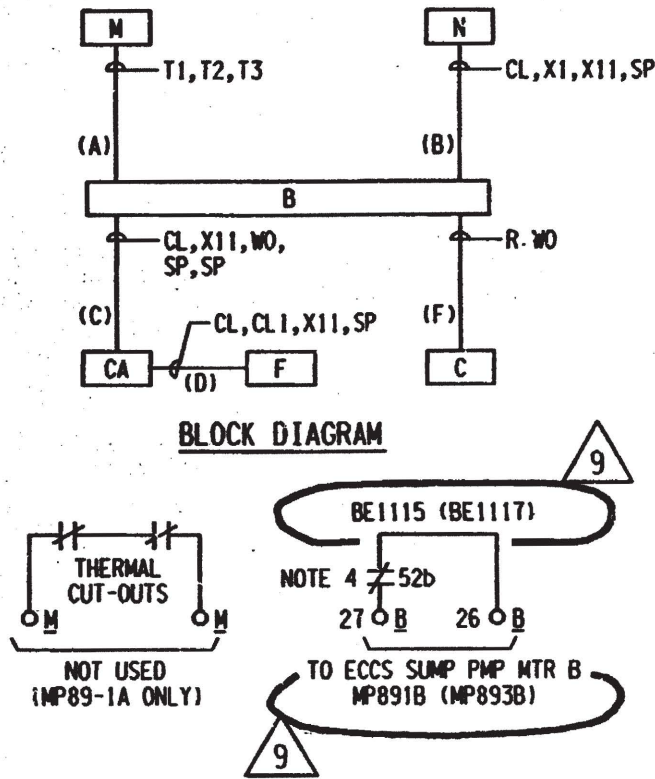


INC. DCN E-56B-287 PER ECR 03-0507-00 (NO DWG. CHANGE). GEN. UPDATE: REMOVE INFO FOR SCHEME BF1153 FROM DWG. (BF1153 IS LOCATED ON DWG. E-56B SH.19C) AND ADDED NOTE 5 (REDRAWN)	GEN. SUPV.	
	ENGR. SUPV.	
	ENGR.	
	CHK	
	BY	JOR
5/2/04	DATE	
9	NO.	



SCHEME NO. (SEE TABLE BELOW)

SCHEME NO.	MCC	S.U. NO.	CHANNEL	WIRE PREFIX AT MAIN CONT. PNL	EQUIPMENT						DESCRIPTION	
					C	B	M	N	CA	F		RC
BE1115	E11A	20	1	ESA	C5703 (IL4625A)	BE1115	MP891A	NP891A	C1801	FLS4625		ECCS SUMP 1-1 PUMP A
BE1117	E11A	20	1	ESE	C5703 (IL4623A)	BE1117	MP893A	NP893A	C2711	FLS4623		ECCS SUMP 1-3 PUMP A



NOTES

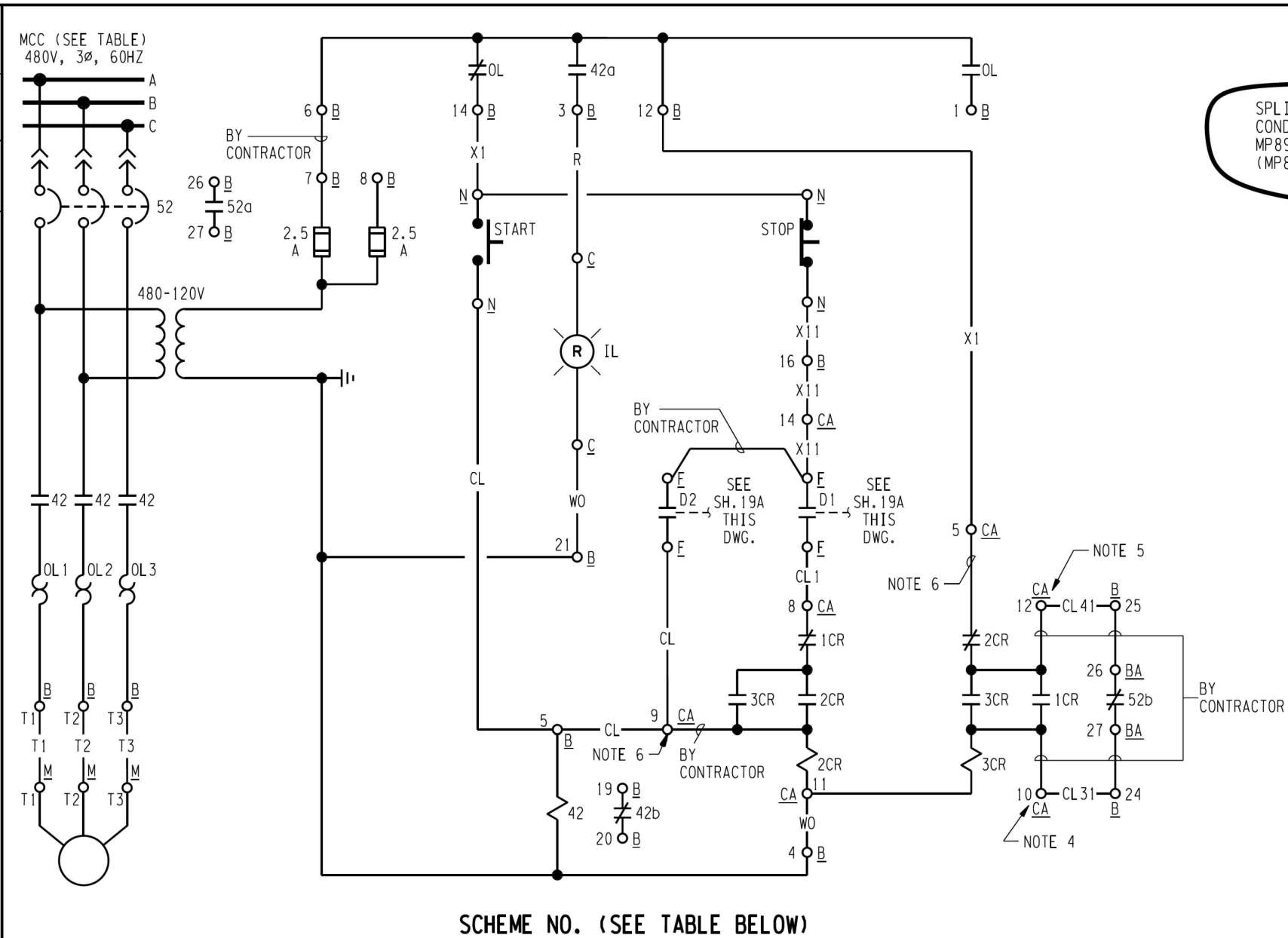
1. FOR GENERAL NOTES SEE DWG. E-56B INDEX SH.
2. FOR DETAILS OF LOCAL PUSHBUTTONS SEE DWG. E-308, SH.7 TYPE 1.
3. CONTACT D1 CLOSES ON HIGH WATER LEVEL. CONTACT D2 CLOSES ON HIGH HIGH WATER LEVEL.
4. CONTRACTOR TO WIRE-IN THE N.C. BRKR. AUX. CONTACT (52b) INSTEAD OF THE N.O. CONTACT (52a) TO STARTER TERMINALS 26 & 27.
5. FOR SCHEME NO. BF1153 "ECCS SUMP 1-2 PUMP A" SEE DWG. E-56B SH.19C.

THIS DRAWING WAS REDRAWN ON CADD AND SUPERSEDES REVISION 8

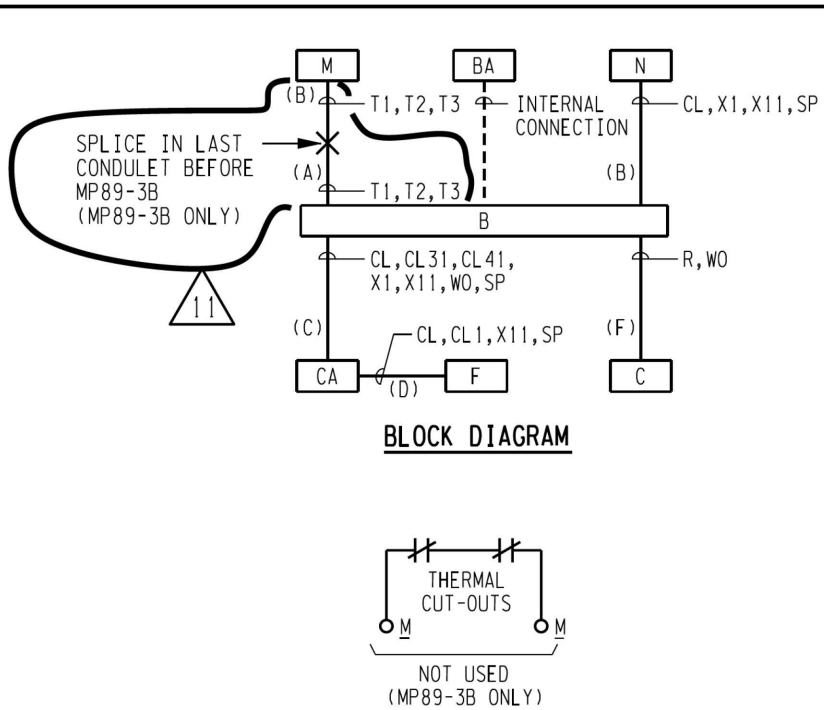
SCALE NONE	DESIGNED	DRAWN JOR	DATE 04-13-04
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAM RADIOACTIVE WASTE SYSTEM ECCS SUMP PUMPS			
DRAWING NO. E-56B SH.19A			REV. 9



11	04/28/20	INC. PDJUN 10-0517-002-015 REV.0	JHR	BY	CH'K	ENGR. SUPV.
10	05-07-04	INC. DCN E-56B-288 PER ECR 03-0507-00 (NO DWG. CHANGE). GEN. UPDATE: REMOVE INFO FOR SCHEME BF1154 FROM DWG. E-56B SH.19D) AND ADDED NOTE 7 (REDRAWN)	SAP	BY	CH'K	ENGR. SUPV.



SCHEME NO.	MCC	S.U. NO.	CHANNEL	WIRE PREFIX AT MAIN CONT. PNL	EQUIPMENT							DESCRIPTION	
					C	B	M	N	CA	F	BA		RC
BE1116	E11A	20	1	ESB	C5703 (IL4625B)	BE1116	MP891B	NP891B	C1801	FLS4625	BE1115		ECCS SUMP 1-1 PUMP B
BE1118	E11A	20	1	ESF	C5703 (IL4623B)	BE1118	MP893B	NP893B	C2711	FLS4623	BE1117		ECCS SUMP 1-3 PUMP B



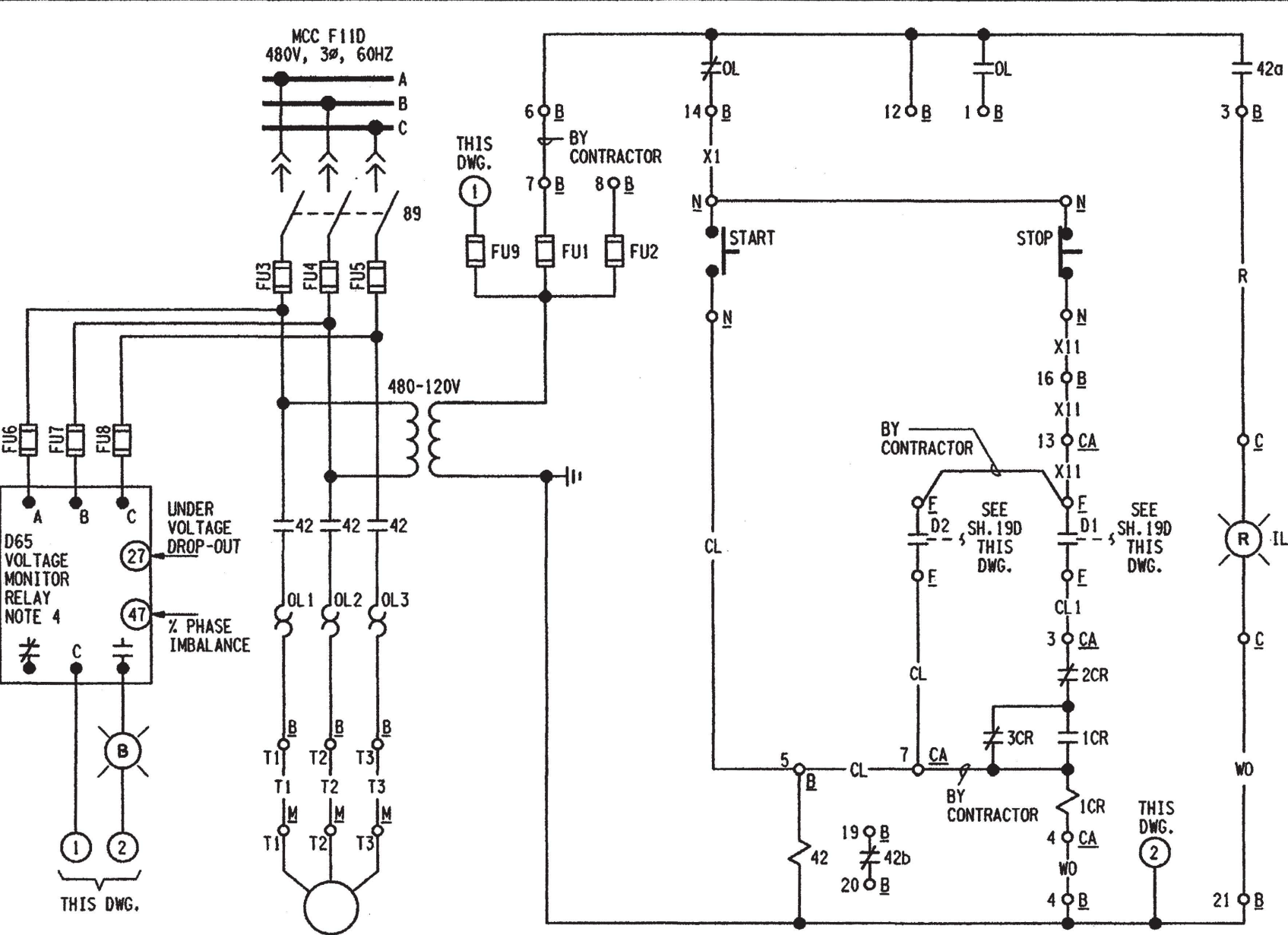
- NOTES**
- FOR GENERAL NOTES SEE DWG. E-56B INDEX SH.
  - FOR DETAILS OF LOCAL PUSHBUTTONS SEE DWG. E-30B, SH.7 TYPE 1.
  - CONTACT D1 CLOSES ON HIGH WATER LEVEL. CONTACT D2 CLOSES ON HIGH HIGH WATER LEVEL.
  - CONTRACTOR TO REMOVE JUMPER BETWEEN AUTOMATIC ALTERNATOR TERM. 10 & 2CR COIL TERMINAL.
  - CONTRACTOR TO REMOVE JUMPER BETWEEN AUTOMATIC ALTERNATOR TERM. 5 (POS.5) & 5 (POS.6). POSITION 6 TO BE MARKED TERMINAL 12.
  - CONTRACTOR TO DISCONNECT WIRE TERMINATED AT TERM.9 & CONNECT INSTEAD TO TERM. 5 (POS.5). TERMINAL 9 TO BE USED AS SHOWN.
  - FOR SCHEME NO. BF1154 "ECCS SUMP 1-2 PUMP B" SEE DWG. E-56B SH.19D.

THIS DRAWING WAS REDRAWN ON CADD AND SUPERSEDES REVISION 9

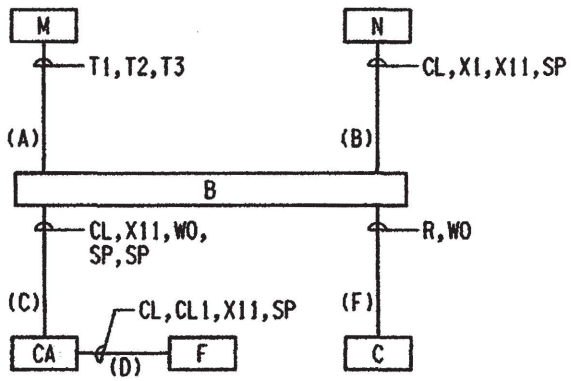
SCALE NONE	DESIGNED	DRAWN JOR	DATE 04-13-04
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAM RADIOACTIVE WASTE SYSTEM ECCS SUMP PUMPS			
DRAWING NO. E-56B SH.19B			REV. 11



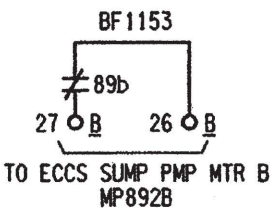
NO.	DATE	REVISIONS	BY	CHK	ENGR.	ENGR. SUPV.	GEN. SUPV.
1	7/14/04	INC. DUN 08-0709-001-007 REV.00					
0	5-7-04	GENERAL UPDATE PER ECR 03-0507-00, REF. DCN E-56B-287 & ADD NOTE 4 REF. IN D65 VOLTAGE MONITOR RELAY BOX FOR CLARITY	SAB	SBW			



SCHEME NO. BF1153



BLOCK DIAGRAM



NOTES

1. FOR GENERAL NOTES SEE DWG. E-56B INDEX SH.
2. FOR DETAILS OF LOCAL PUSHBUTTONS SEE DWG. E-30B, SH.7 TYPE 1.
3. CONTACT D1 CLOSES ON HIGH WATER LEVEL. CONTACT D2 CLOSES ON HIGH HIGH WATER LEVEL.
4. VOLTAGE MONITOR RELAY CONTACTS ARE SHOWN IN SHELF (DE-ENERGIZED) STATE. SEE RELAY SETTING MANUAL FOR SET POINTS. (ECR 03-0507-00)
5. 42 DEVICES CONTAIN CONTACTS WHICH MAY CHATTER DURING A SEISMIC EVENT (SEE ECP 08-0709 FOR DETAILS).

SCHEME NO.	MCC	S.U. NO.	CHANNEL	WIRE PREFIX AT MAIN CONT. PNL	EQUIPMENT						DESCRIPTION
					C	B	M	N	CA	F	
BF1153	F11D	20	2	ESC	C5703 (1L4621A)	BF1153	MP892A	NP892A	C2710	FLS4621	ECCS SUMP 1-2 PUMP A

SCALE NONE	DESIGNED	DRAWN JOR	DATE 04-13-04
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAM RADIOACTIVE WASTE SYSTEM ECCS SUMP 1-2 PUMP A			
DRAWING NO. E-56B SH.19C			REV. 1



SCHEME NO.	NCC	S.U. NO.	CHANNEL	WIRE PREFIX AT MAIN CONT. PNL	EQUIPMENT								DESCRIPTION
					C	B	M	N	CA	F	BA	RC	
BF1154	F11D	20	2	ESD	C5703 (JL4621B)	BF1154	MP892B	NP892B	C2710	FLS4621	BF1153		ECCS SUMP 1-2 PUMP B

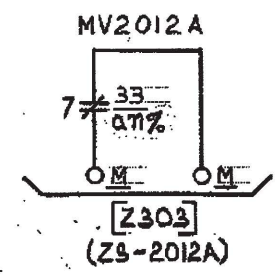
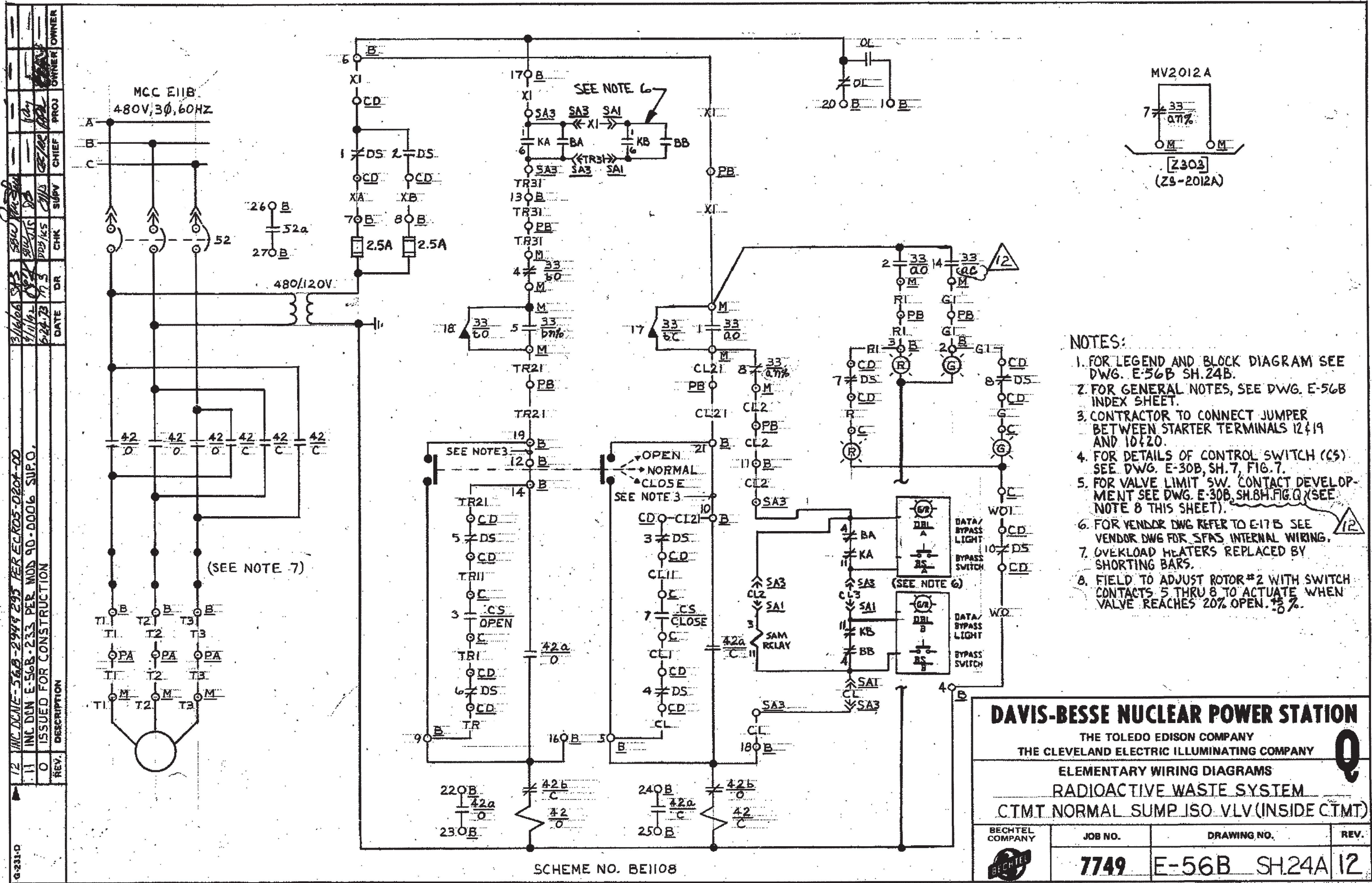


## NOTES

1. FOR GENERAL NOTES SEE DWG. E-568 INDEX SH.
2. FOR DETAILS OF LOCAL PUSHBUTTONS SEE DWG. E-30B, SH.7 TYPE 1.
3. CONTACT D1 CLOSSES ON HIGH WATER LEVEL. CONTACT D2 CLOSSES ON HIGH HIGH WATER LEVEL.
4. CONTRACTOR TO REMOVE JUMPER BETWEEN AUTOMATIC ALTERNATOR TERM. 10 & 2CR COIL TERMINAL.
5. CONTRACTOR TO REMOVE JUMPER BETWEEN AUTOMATIC ALTERNATOR TERM. 5 (POS.5) & 5 (POS.6). POSITION 6 TO BE MARKED TERMINAL 12.
6. CONTRACTOR TO DISCONNECT WIRE TERMINATED AT TERM.9 & CONNECT INSTEAD TO TERM. 5 (POS.5). TERMINAL 9 TO BE USED AS SHOWN.
7. VOLTAGE MONITOR RELAY CONTACTS ARE SHOWN IN SHELF (DE-ENERGIZED) STATE. SEE RELAY MANUAL FOR SET POINTS. (ECR 03-0507-00)
8. 42 DEVICES CONTAIN CONTACTS WHICH MAY CHATTER DURING A SEISMIC EVENT (SEE ECP 08-0709 FOR DETAILS).

SCALE NONE	DESIGNED	DRAWN JOR	DATE 04-14-04
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAM RADIOACTIVE WASTE SYSTEM ECCS SUMP 1-2 PUMP B			
	DRAWING NO.		REV.
	E-56B SH.19D		2





**DAVIS-BESSE NUCLEAR POWER STATION**

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

**ELEMENTARY WIRING DIAGRAMS**

**RADIOACTIVE WASTE SYSTEM**

**CTMT NORMAL SUMP ISO VLV (INSIDE CTMT)**

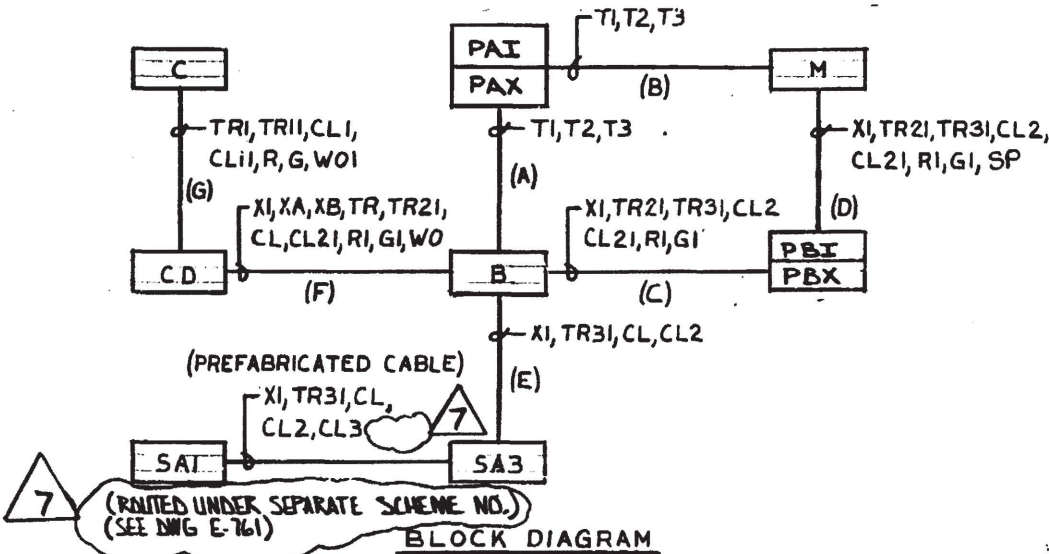
BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-56B SH.24A	12



6	AS BUILT FOR ECR 86-0031, REV. A, INC. DCN E-56B-121	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
7	INC DCN E-56B-134 PER MOD 90-0006 SUP.O.	6/13/92						
0	ISSUED FOR CONSTRUCTION	6/14/92						
REV.	DESCRIPTION							

LEGEND

SCHEME NO.	MCC	S.U. NO.	CHANNEL NO.	WIRE PREFIX AT MAIN CTRL. BD.	C.S.	EQUIPMENT								SA OUTPUT RELAY		DESCRIPTION
						C	CD	B	PAX(I)	PBX(I)	M	SAI	SA3	KA	KB	
BE1108	E11B	20	1	NSA	HIS 2012A	C5717	CDE11B-1	BE1108	PIF2MX(I)	PIK2LX(I)	MV2012A	C5762D	C5763C	K27D	K27D	CTMT NORMAL SUMP ISO. VALVE, 2012A



DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS  
RADIOACTIVE WASTE SYSTEM  
CTMT NORMAL SUMP ISO VLV (INSIDE CTMT)

BECHTEL  
COMPANY

JOB NO.

DRAWING NO.

REV.

7749

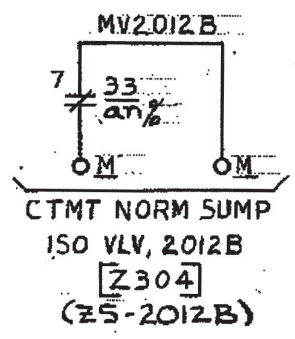
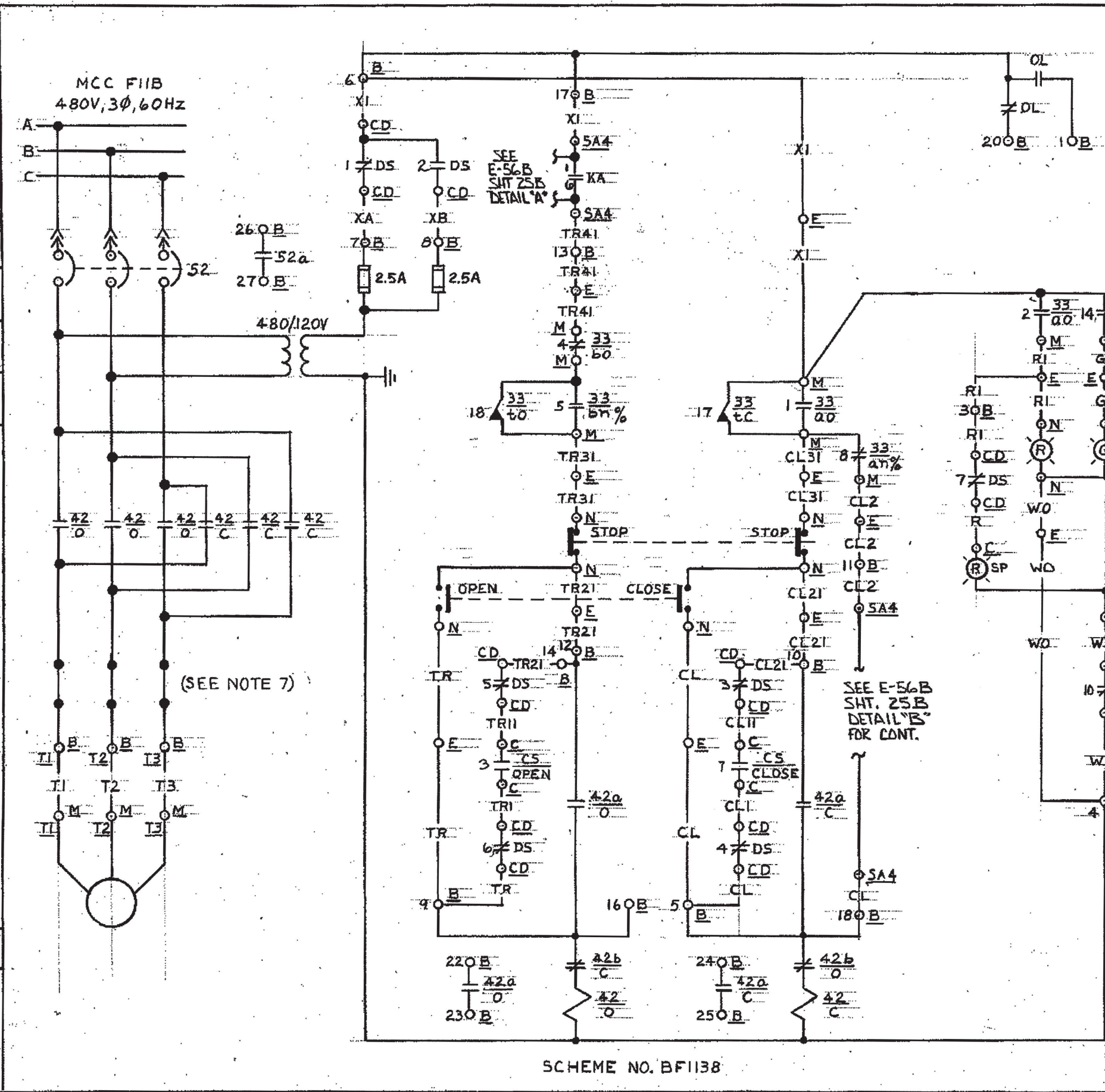
E-56B

SH.24B

7



REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	OWNER
10	INC DN E-56B-296 & 297 PER ECR 05-0204-00	3/16/66	SH	3/16/66	SH	3/16/66	SH
9	INC DN E-56B-235 PER MOD 90-0006 SUP O	11/15/61	SH	11/15/61	SH	11/15/61	SH
0	ISSUED FOR CONSTRUCTION	6/24/73	MS	6/24/73	MS	6/24/73	MS



- NOTES**
1. FOR LEGEND AND BLOCK DIAGRAM SEE DWG E-56B SH. 29B.
  2. FOR GENERAL NOTES SEE DWG E-56B INDEX SHEET.
  3. FOR DETAILS OF LOCAL PUSHBUTTONS AND IND. LIGHTS, SEE DWG E-30B SH. 7, TYPES 3, 4, E.G.
  4. FOR DETAILS OF CONTROL SWITCH (C.S.) SEE DWG E-30B, SH. 7, FIG. 7.
  5. FOR VLV LIMIT SW. CONTACT DEVELOPMENT, SEE DWG E-30B SH. 8, FIG. 8 (SEE NOTE 8 THIS SHEET).
  6. FOR VENDOR DWG REFER TO E-17B. SEE VENDOR DWG FOR SFA'S INTERNAL WIRING.
  7. OVERLOAD HEATERS REPLACED BY SHORTING BARS.
  8. FIELD TO ADJUST ROTOR #2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN  $\pm 3\%$ .

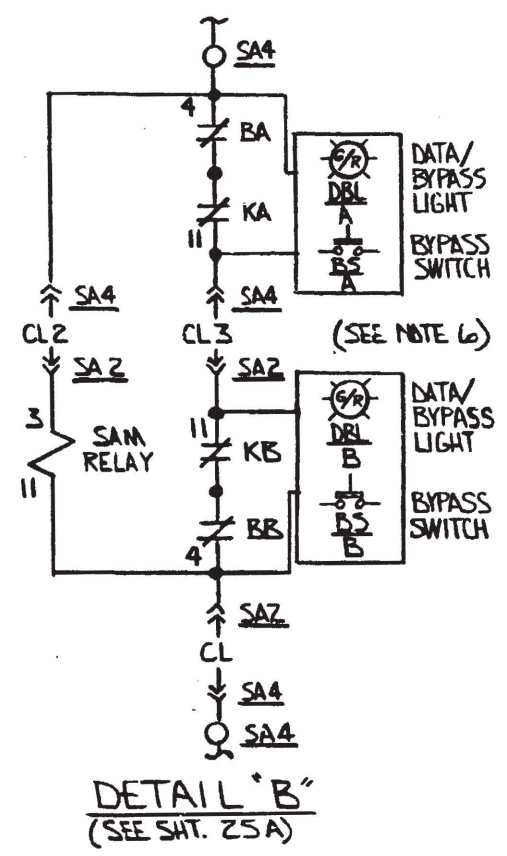
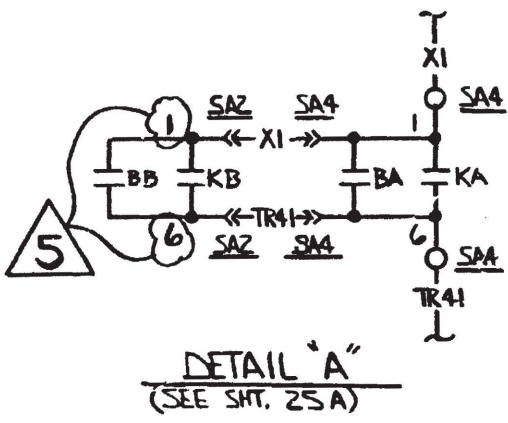
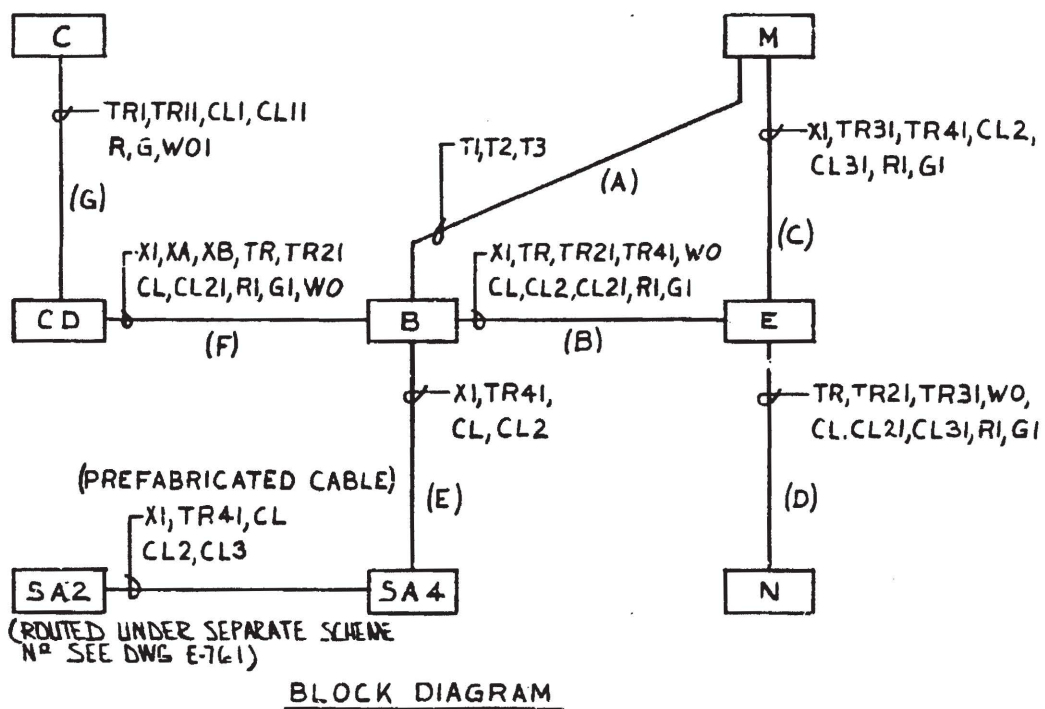
SCHEME NO. BF1138

<b>DAVIS-BESSE NUCLEAR POWER STATION</b>			
THE TOLEDO EDISON COMPANY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY			
<b>ELEMENTARY WIRING DIAGRAMS</b>			
<b>RADIOACTIVE WASTE SYSTEM</b>			
<b>CTMT NORMAL SUMP ISO VLV(OUTSIDE CTMT)</b>			
BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	<b>7749</b>	<b>E-56B SH.25A</b>	<b>10</b>



G-231-D	5	INC. DCN E-56B-247 PER MOD 90-0006 SUPD	4/1/92	DATE	DR	CHK	SDPV	CHIEF	PROJ	OWNER
	0	ISSUED FOR CONSTRUCTION	6-26-73	DATE	DR	CHK	SDPV	CHIEF	PROJ	OWNER
		DESCRIPTION								

SCHEME NO.	MCC	S.U. NO.	CHANNEL NO.	WIRE PREFIX AT MAIN CTRL. BD.	C.S.	EQUIPMENT								SA OUTPUT RELAY		DESCRIPTION
						C	CD	B	E	M	N	SA2	SA4	KA	KB	
BF1138	F11B	20	2	NSB	HIS2012B	C5717	CDF11B	BF1138	EY2012B	MV2012B	NV2012B	C5753D	C5756C	K271C	K271C	CTMT NORMAL SUMP ISO. VALVE, 2012 B



**DAVIS-BESSE NUCLEAR POWER STATION**  
THE TOLEDO EDISON COMPANY  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

**ELEMENTARY WIRING DIAGRAMS**  
**RADIOACTIVE WASTE SYSTEM**  
**CTMT NORMAL SUMP ISO VLV(OUTSIDE CTMT)**

BECHTEL COMPANY

JOB NO.  
**7749**

DRAWING NO.  
**E-56B SH.25B**

REV.  
**5**



INDEX			
SHEET NO.	LATEST REV.	DESCRIPTION	
1A	15	CTMT CLR FAN 1	Q
1B	11	CTMT CLR FAN 1	Q
1C	3	CTMT CLR FAN 2	Q
1D	0	CTMT CLR FAN 2	Q
2A	15	CTMT CLR FAN 3	Q
2B	10	CTMT CLR FAN 3	Q
2C	13	CTMT CLR FAN 3	Q
2D	10	CTMT CLR FAN 3	Q
3	11	CTMT RECIRC	--
4	6	H <sub>2</sub> DILUTION SYS BLOWER	Q
5A	9	H <sub>2</sub> DILUTION SYS MOV'S	Q
5B	12	H <sub>2</sub> DILUTION SYS MOV'S	Q
6	8	PURGE IN AND OUT ISO VLV	Q
7A	6	MECH PENT RM & CTMT PURGE VLV	Q
7B	5	MECH PENT RM & CTMT PURGE VLV	Q
8	10	EMER VENTL FAN 1 & 2	Q
8A	0	EMER VENTL FAN 1 & 2/ELAPSED TIME METER	--
9	5	INCORE INSTRUMENT TANK VENTILATION	--
10A	9	CTMT VACM RELIEF VLV PENT	Q
10B	8	CTMT VACM RELIEF VLV PENT	Q
11A	9	FUEL HAND AREA BYPASS VLV	Q
11B	9	FUEL HAND AREA BYPASS VLV	Q
12	6	EMER VENT FAN INLET DAMPER	Q
13	6	MODULATING DAMPERS	Q
14A	11	CTMT AIR SMPL ISO VLV	Q
14B	8	CTMT AIR SMPL ISO VLV	Q
14C	5	CTMT AIR SMPL ISO VLV	Q

GENERAL NOTES:

1. FOR EXPLANATION OF EQUIPMENT, WIRING, AND SCHEME NUMBERS, SEE E-11A ELECTRICAL NUMBERING SYSTEMS.
2. FOR MOTOR INFORMATION SEE E-12B ELECTRICAL MOTOR LIST.
3. FOR CONTROL PANEL, MCC, JUNCTION BOX AND TERMINAL BOX DESCRIPTIONS SEE E-13B ELECTRICAL EQUIPMENT LIST.
4. WIRE NUMBER PREFIX MUST BE ADDED TO FORM COMPLETE WIRE NUMBER FOR THOSE WIRES AT THE MAIN CONTROL BOARD. EXAMPLE: WIRE NO. X1 WILL BECOME HFX1, MSX1, TGX1, ETC.
5. AUXILIARY CONTROL RELAY IN SOLENOID OPERATED VALVE CONTROL CIRCUIT TO BE COUCH RELAY TYPE 4AP44-AF.
6. NUMBERS SHOWN IN BRACKETS [ ] REPRESENT COMPUTER INPUT NUMBER. NUMBERS IN PARENTHESIS ( ) REPRESENT COMPUTER INPUT SOURCE NUMBER.

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 53.

FOR REVISION  
DESCRIPTION  
SEE INDEX SHT.3

SCALE NONE	DESIGNED	DRAWN SBW	DATE 05-23-05
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1			
ELEMENTARY WIRING DIAGRAMS CONTAINMENT VENTILATION SYS. DRAWING INDEX			Q
	DRAWING NO.		REV.
	E-58B INDEX SH. 1		59



INDEX			
SHEET NO.	LATEST REV.	DESCRIPTION	
15A	12	CTMT AIR SMPL ISO VLV	Q
15B	7	CTMT AIR SMPL ISO VLV	Q
16	7	CROSS TIE DUCTWORK DAMPER	Q
17	2	-DELETED-	Q
18A	7	CTMT ISO VLV'S	Q
18B	5	CTMT ISO VLV'S	Q
19	4	-DELETED-	Q
20	6	CRDM VENT FANS	--
21	8	ALARMS	--
22	3	-DELETED-	Q
23	2	-DELETED-	Q
24	3	FUEL HANDLING AREA VENTALATION DAMPER AIR	Q
25	0	LOCAL ALARMS	--
26	0	RADIATION MNTR AUX RELAYS	--

FOR GENERAL NOTES AND REFERENCE DWGS. SEE E-58B INDEX SH.1

FOR REVISION  
DESCRIPTION  
SEE INDEX SHT.3

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 53.



SCALE NONE	DESIGNED	DRAWN SBW	DATE 05-23-05
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1			
ELEMENTARY WIRING DIAGRAMS CONTAINMENT VENTILATION SYS. DRAWING INDEX			Q
	DRAWING NO. E-58B INDEX SH. 2		
			REV. 59




INDEX			
SHEET NO.	LATEST REV.	DESCRIPTION	
27	2	CTMT VENTL SYS POST ACCIDENT GAS SAMPLE	
28A	1	CONTAINMENT VENTALATION SYSTEM	
28B	1	CONTAINMENT VENTALATION SYSTEM	
29	2	INTEGRATED HEAD ASSEMBLY COOLING FANS	

59

FOR GENERAL NOTES AND REFERENCE DWGS. SEE E-58B INDEX SH.1

59	REVISED SH.1A (REV.15), SH.1C (REV.3) & SH.29 (REV.2)			Jarrod Nolan	<div>Digitally signed by Jarrod Nolan Date: 2020.08.06 12:19:51 -04'00'</div>	
58	12-04-11	REVISED SH.1A (REV.14), SH.1C (REV.2), SH.2A (REV.15), SH.20 (REV.6) & GEN. UPDATE ADD SH.29 (REV.1) TO INDEX SHT.3 PER REVIEW OF FILENET P8.		INITIALS ON FILE		
57	9-16-11	REVISED SH.2A (REV.14), SH.2B (REV.10), SH.2C (REV.13), SH.2D (REV.10), & SH.20 (REV.5).		INITIALS ON FILE		
56	4-2-10	REVISED SH.1A (REV.13), SH.1C (REV.1), SH.2A (REV.13), SH.2C (REV.12) SH.14A (REV.11), SH.14B (REV.8) & SH.20 (REV.4).		INITIALS ON FILE		
55	3-16-06	REVISED SHEET 14C (REV.5).		INITIALS ON FILE		
54	05/24/05	REVISED SHS.1A (REV.12), SH.1B (REV.11), SH. 24 (REV.3) AND SH's 28A AND 28B (REV.1) & GEN. UPDATE; ADD SH's 1C AND 1D (REV.0) REVISE DWG. TITLE SH's 1A AND 1B TO FAN 1 ONLY, BOTH PER DWG SPLIT FOR SH's 1A AND 1B AND REVISED DWG. TITLES SH's 28A AND 28B PER DCN 243 & 244 FOR THOSE SHT's (REMOVE HYDROGEN RECOMBINATION) (REDRAWN)		INITIALS ON FILE		
REV	DATE	DESCRIPTION	DRAWN BY	CH'K BY	FINAL APPROVAL	

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 53.			
SCALE NONE	DESIGNED	DRAWN SBW	DATE 05-23-05
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1			
ELEMENTARY WIRING DIAGRAMS CONTAINMENT VENTILATION SYS. 			
	DRAWING NO.		REV.
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