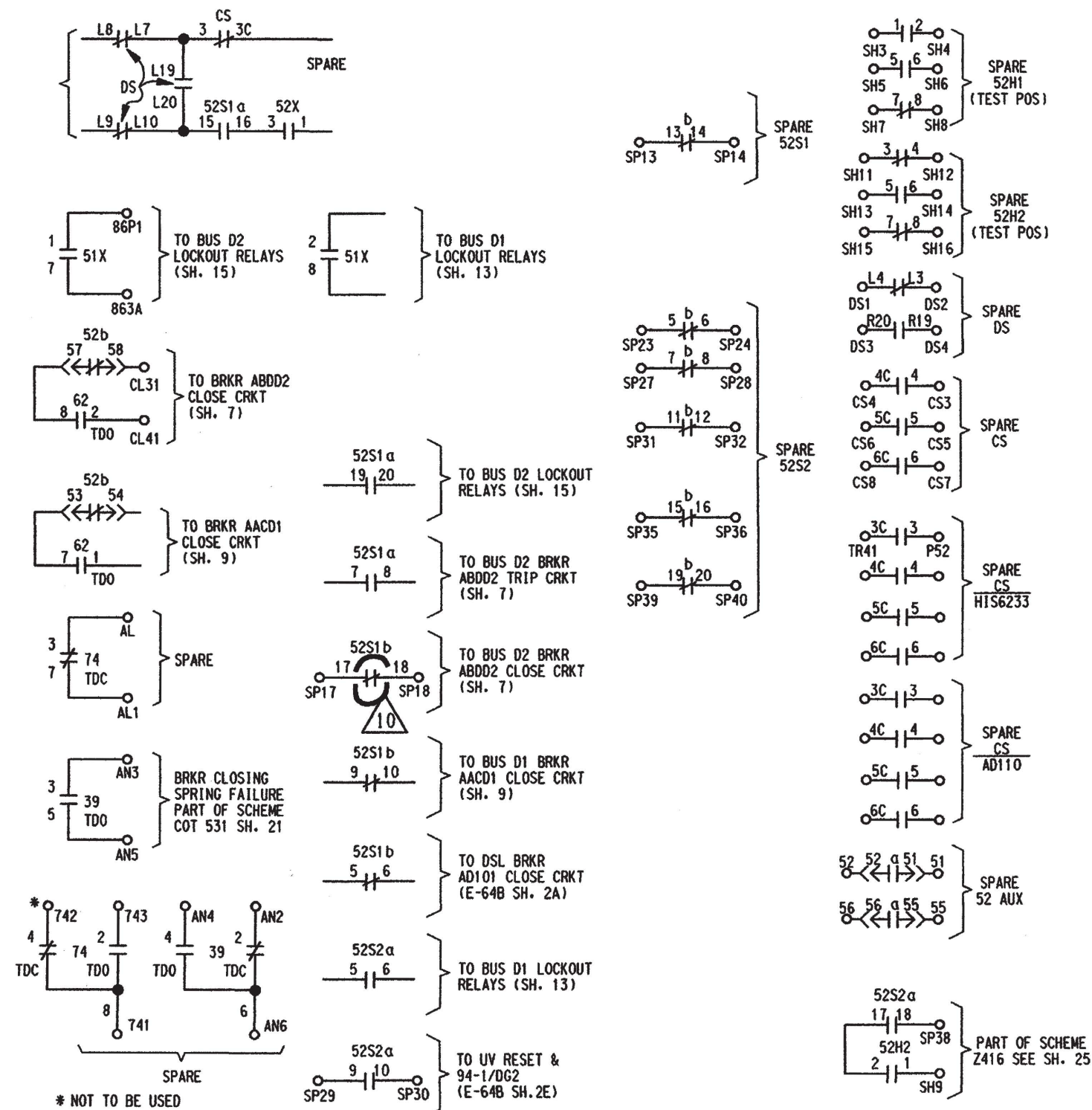


DFN=F /SCHEME /E34BSH1 0.DGN

10	5-7-92	INC. DUN 11-0592-001-002 REV.00	SBW	INITIALS ON FILE	ENGR. SUPV.
9	5-7-90	INC. DUN 01-0261-004-010 REV.00	SBW	INITIALS ON FILE	ENGR.
8	6-23-88	INC. DCN E-34B-155 PER MOD 95-0022-00	SBW	INITIALS ON FILE	BY
7	9-95	INC. DCN E-34B-141 PER MOD 95-0012 (REDRAWN)	SBW	INITIALS ON FILE	CH'K
NO.	DATE	REVISIONS	BY	ENGR.	ENGR. SUPV.



SWITCH DEVELOPMENT REFERENCE

- 1 - FOR CS AT SWGR, SEE FIG 2, SH 9A, DWG E-30B
- 2 - FOR REMOTE CS, SEE FIG 3, SH 9, DWG E-30B
- 3 - FOR REMOTE 25SD SEE FIG 4, SH 9A, DWG E-30B
- 4 - FOR DS SEE FIG 5, SH 10, DWG E-30B
- 5 - FOR REMOTE 25SD SEE FIG 1, SH 10, DWG E-30B

NOTES:

1. FOR GENERAL NOTES & LOCATION DESIGNATIONS SEE DWG. INDEX E-34B.

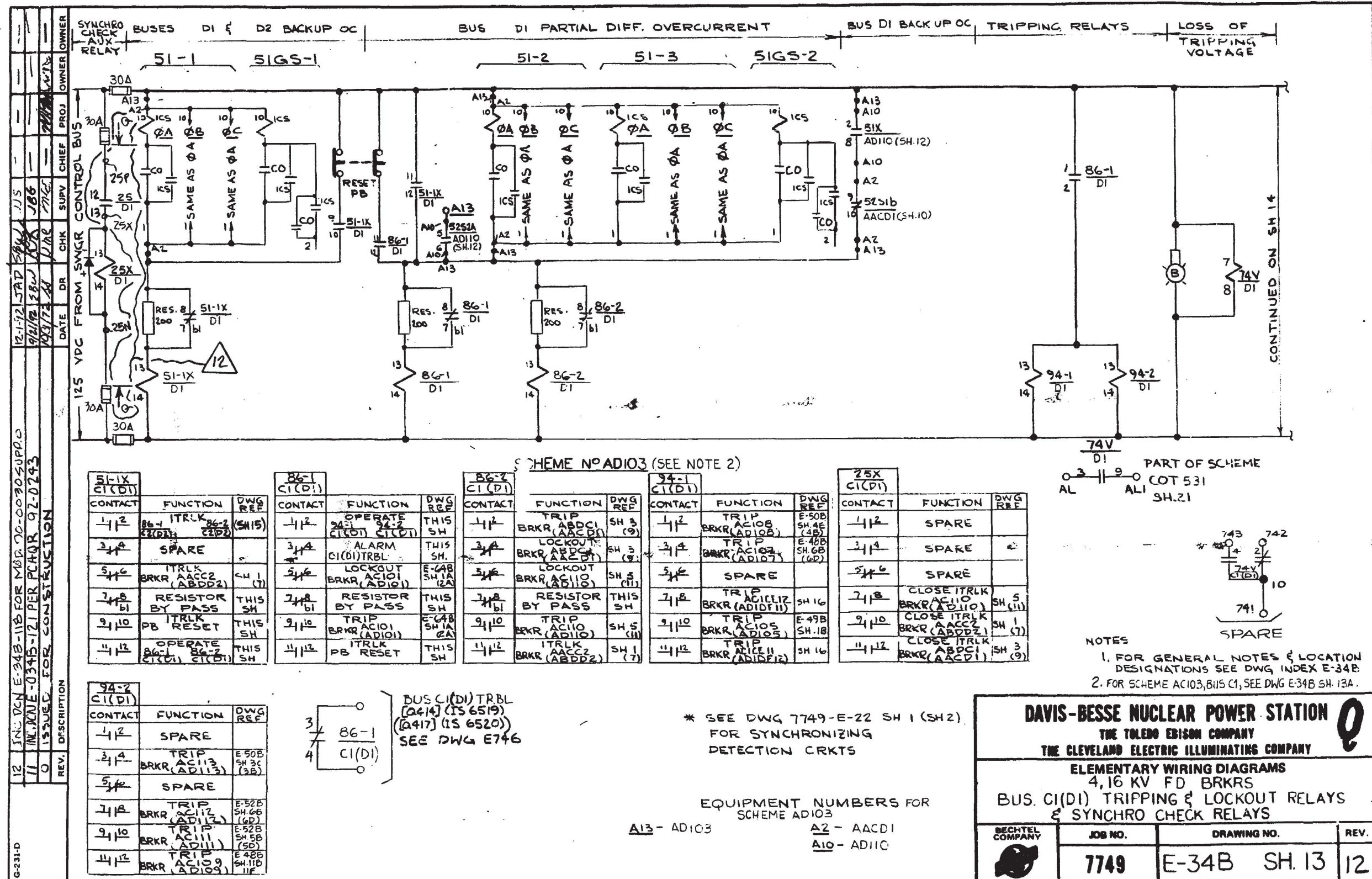
THIS DRAWING WAS REDRAWN ON CADD
AND SUPERSEDES REVISION 6

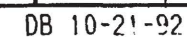
SCALE NONE	DESIGNED	DRAWN SBW	DATE 07-21-97
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS 4.16 KV FD BRKRS BUSES D1, D2 TIE BRKR AD110 CONTROL			
DRAWING NO. E-34B SH.12			REV. 10

LEVELS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

DB 04-13-12

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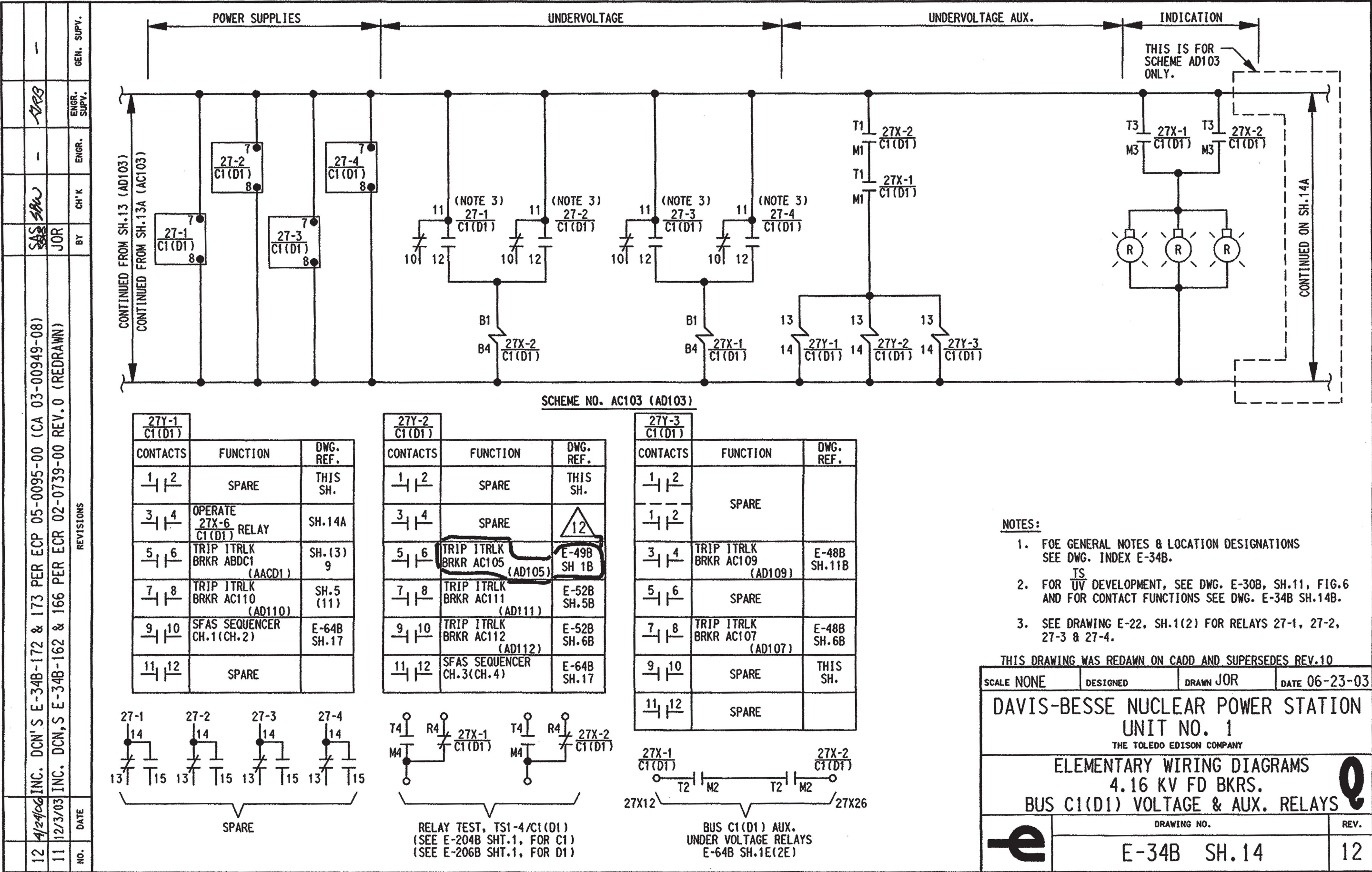




DFN=F:/ELEC/E34BS13A.DGN

DATE 9-12-92 OPERATOR S. K. S. S. S.

DATE 9-12-92 OPERATOR S. K. S. S. S.



NOTES:

1. FOF GENERAL NOTES & LOCATION DESIGNATIONS
SEE DWG. INDEX E-34B.

2. FOR UV DEVELOPMENT, SEE DWG. E-30B, SH.11, FIG.6
AND FOR CONTACT FUNCTIONS SEE DWG. E-34B SH.14B.

3. SEE DRAWING E-22, SH.1(2) FOR RELAYS 27-1, 27-2,
27-3 & 27-4.

THIS DRAWING WAS REDAWN ON CADD AND SUPERSEDES REV.10

SCALE NONE

DESIGNED

DRAWN JOR

DATE 06-23-03

DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1
THE TOLEDO EDISON COMPANY

ELEMENTARY WIRING DIAGRAMS
4.16 KV FD BKRS.
BUS C1(D1) VOLTAGE & AUX. RELAYS

DRAWING NO.

REV.

E-34B SH.14

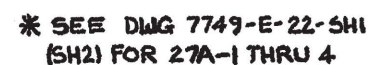
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DB 04-08-06

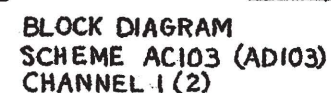
DFN=F:/SCHEME/E34BS14.DGN

NC32687

27X-5 C1(D1)			
CONTACTS		FUNCTION	DWG REF
1	1-7	BREAKER ABCD/AACD TRIP INT'L K	SH-3 (9)
2	1-5	BREAKER AC110 (AD110) TRIP INT'L K	SH-5 (11)
3	1-6	SPARE	
4	1-8	SPARE	
7	1-13	SPARE	
10	1-16	SPARE	



EQUIPMENT NUMBERS
FOR SCHEME ADIO3
A1-AD101
A13-AD103
C-C5715



NOTES:

1. DELETED
2. FOR OTHER NOTES SEE SH. 14.
3. FOR SCHEME AC103, BUS C1, SEE DWG. E-34B, SH. 14C.
4. FOR RELAY 27X-6/C1 COIL, SEE E-34B, SH. 14C.
5. NORMALLY OPEN CONTACTS CLOSE WHEN AC INPUT VOLTAGE IS BELOW SETPOINT (REFERENCE RELAY SETTING SHEET 1-02-018A FOR THE TIME DELAY SETTING).

THIS DWG. WAS REDRAWN/SCANNED
ON CAD AND SUPERSEDES REVISION 8.


DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS

4.16 KV FD BKRS

BUS C(10) VOLTAGE & AUX. RELAYS

BECHTEL COMPANY 	JOB NO 7749	DRAWING NO E-34 B SH 14A	REV 10
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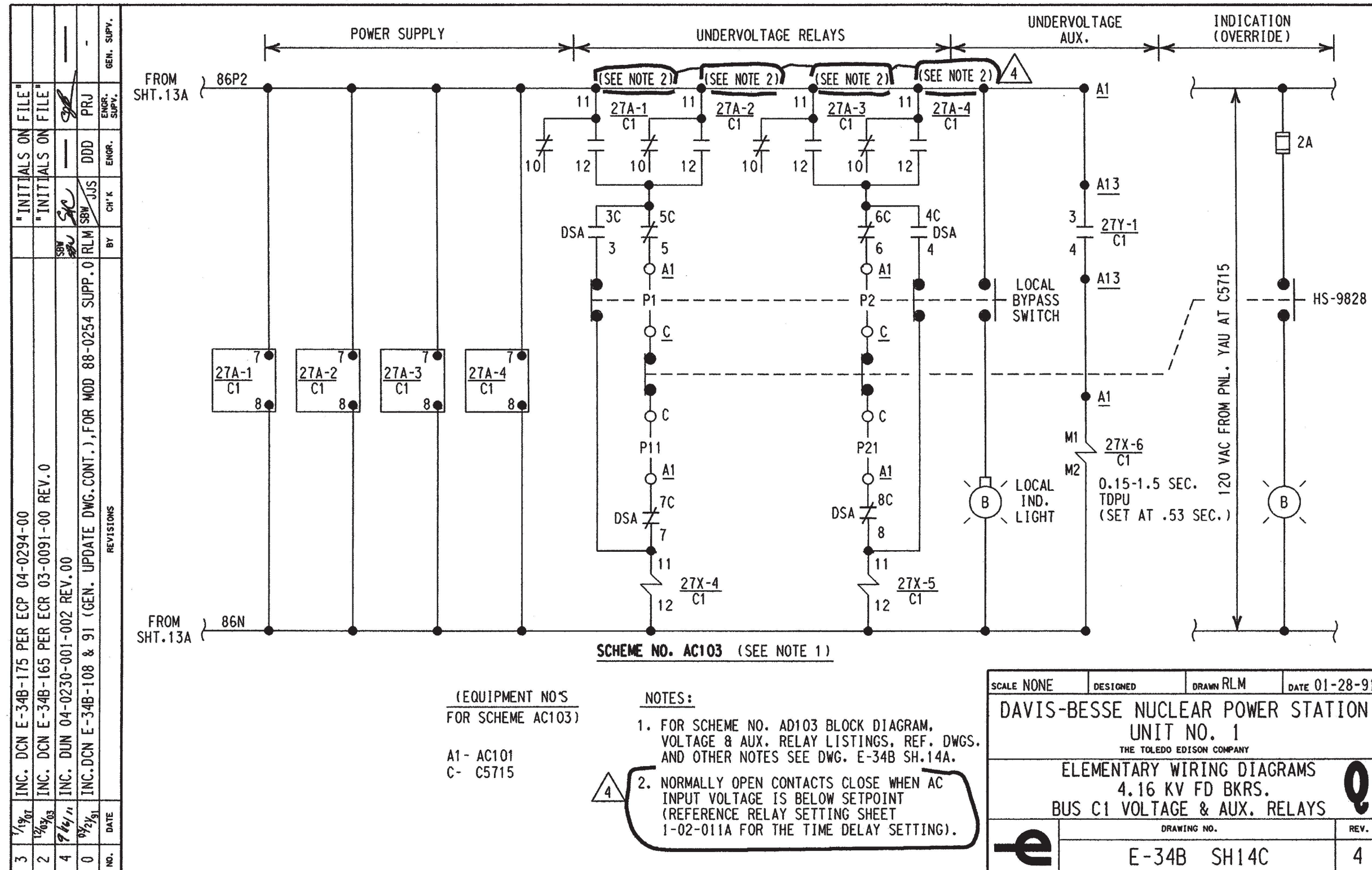
DB 06-21-11

DFN: F:/SCHEME:/E34BSH14A.DGN/TIF

TS/UV CI(DI)	FUNCTION	REF. DWG.
5 5C	SPARE	
6 6C	SPARE	
7 7C	SPARE	
8 8C	SPARE	
9 9C	SPARE	
10 10C	SPARE	
11 11C	SPARE	
12 12C	SPARE	
13 13C	SPARE	
14 14C	SPARE	
15 15C	SPARE	
16 16C	SPARE	
17 17C	SPARE	
18 18C	SPARE	
19 19C	SPARE	
20 20C	SPARE	
21 21C	CONNECTED TO TS1-4 PTS I & J FOR TESTING	E-204B, SH.1 (E-206B SH.1)
22 22C	SPARE	
23 23C	SPARE	
24 24C	SPARE	

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REV.0.

SCALE NONE	DESIGNED	DRAWN SAS	DATE 6-19-09
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1			
ELEMENTARY WIRING DIAGRAM 4.16KV FD BRKRS BUS C1 (D1) VOLTAGE & AUX RELAYS			
FENOC FENNER & SMITH ELECTRIC COMPANY	DRAWING NO.	SHEET NO.	REV
	E-34B	14B	1

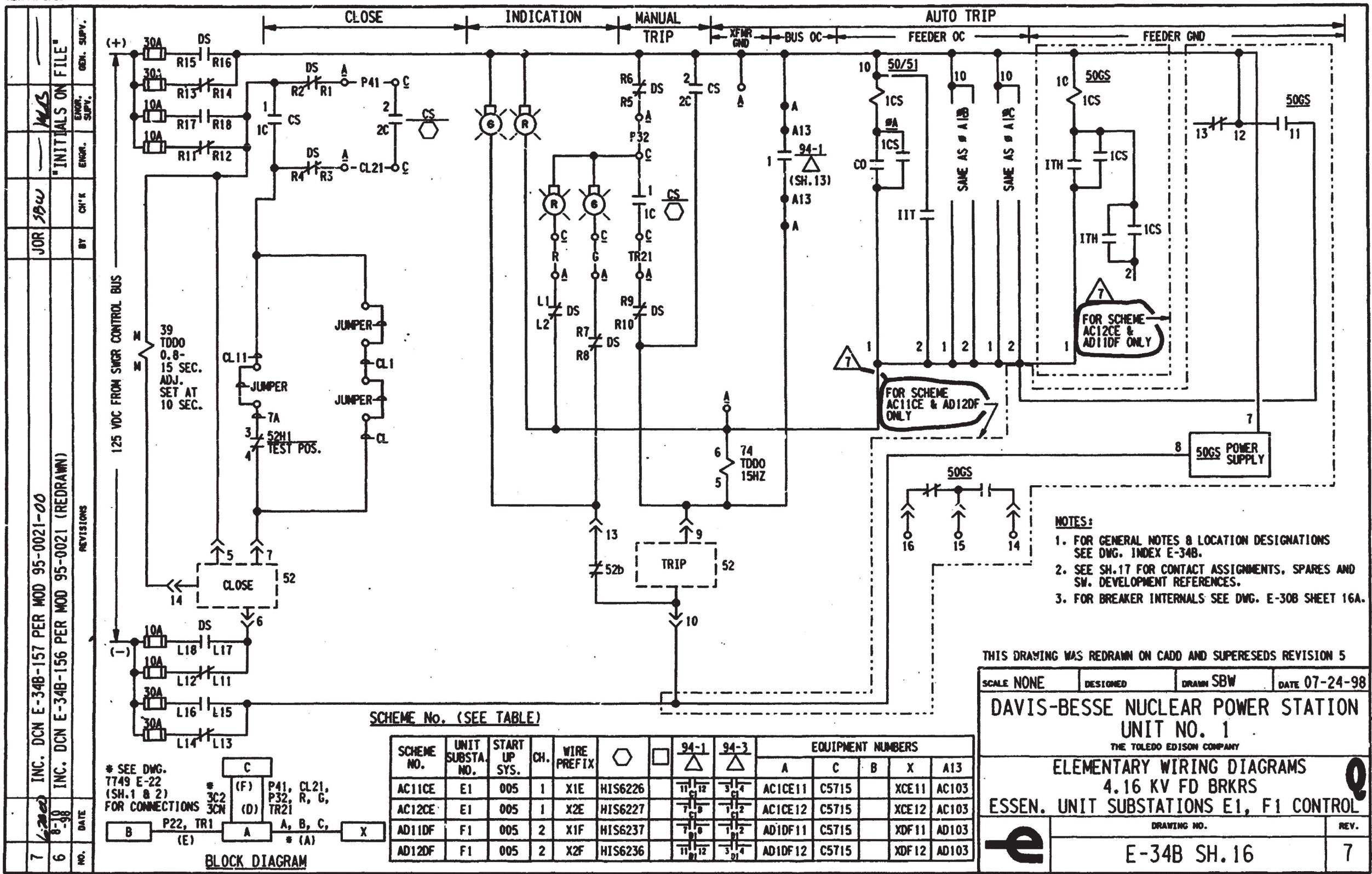


NO.	DATE	REVISIONS	BY	CHK	ENGR.	ENGR. SUPV.	GEN. SUPV.
3	1/19/87	INC. DCN E-34B-175 PER ECP 04-0294-00					
2	12/8/83	INC. DCN E-34B-165 PER ECR 03-0091-00 REV. 0					
4	9/4/91	INC. DUN 04-0230-001-002 REV. 00					
0	9/2/91	INC. DCN E-34B-108 & 91 (GEN. UPDATE DWG. CONT.), FOR MOD 88-0254 SUPP. 0	RLM	SBV	JJS	DDD	PRJ

SCALE NONE	DESIGNED	DRAWN RLM	DATE 01-28-91
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS 4.16 KV FD BKRS. BUS C1 VOLTAGE & AUX. RELAYS			
DRAWING NO. E-34B SH14C			REV. 4

NEW FAX 3/85 N58313

ED 7489

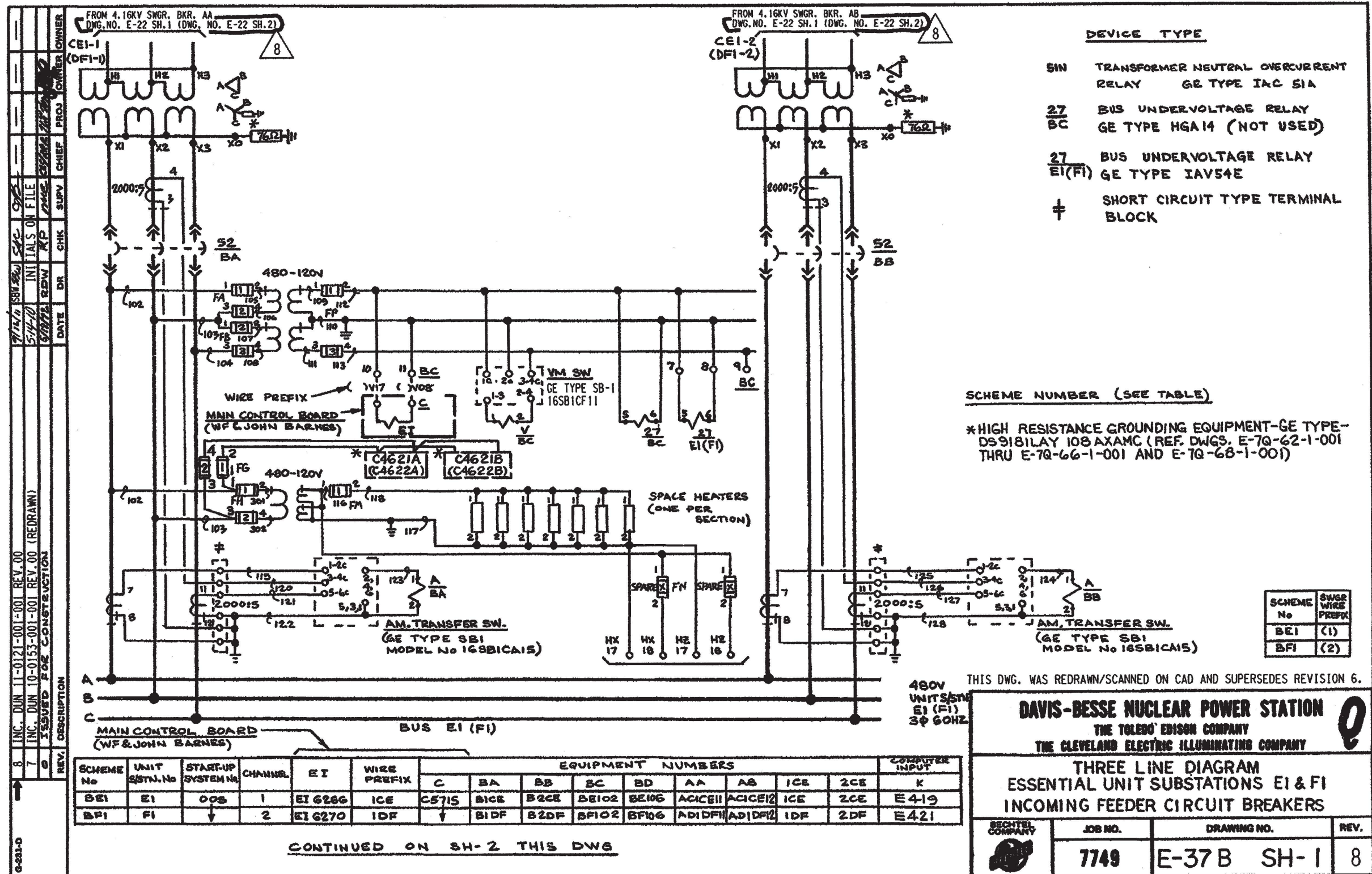


DB 06-07-00

DFN=F/SCHEME/E34BSH16.DGN

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S)

DATE

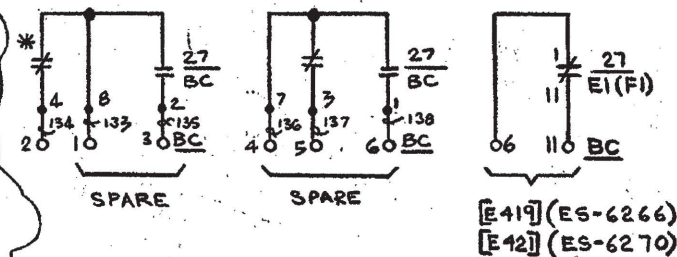


REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
8	INC. DUN 11-0121-001-REV.00							
7	INC. DUN 10-0153-001-REV.00 (REDRAWN)							
6	ISSUED FOR CONSTRUCTION							

REV.	DESCRIPTION	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
4	REVISED AS NOTED	11/19/78	RS	ML	ML	ML	ML	ML
5	INC. DUN E-37B-22 FOR FOR 85-0063, SH-2	6/28/80	GF	GF	GF	GF	GF	GF
0	ISSUED FOR CONSTRUCTION	5/1/78	RD	RD	RD	RD	RD	RD

G-231-D

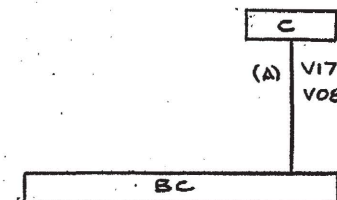
AUXILIARY CONTACTS



* NOT TO BE USED

5

CONTINUED FROM SHEET 1 THIS DWG



BLOCK DIAGRAM
SCHEME NO (SEE TABLE)

MISCELLANEOUS DETAILS

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

THREE LINE DIAGRAM
ESSENTIAL UNIT SUBSTATIONS EI&FI
INCOMING FEEDER CIRCUIT BREAKERS

BECHTEL
COMPANY

JOB NO.

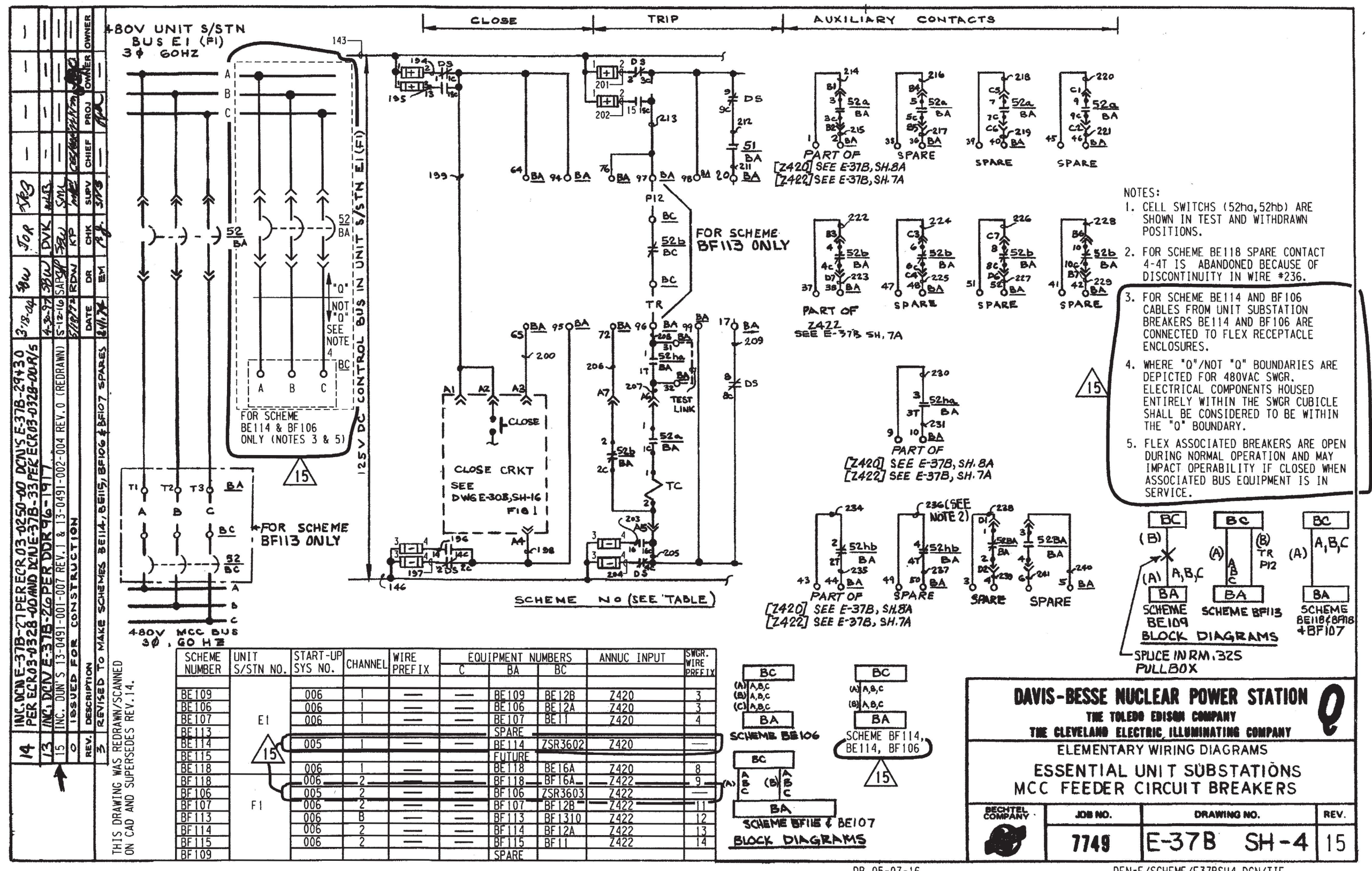
DRAWING NO.

REV.

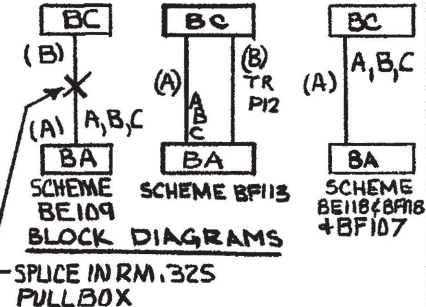
7749

E-37B SH-2

5

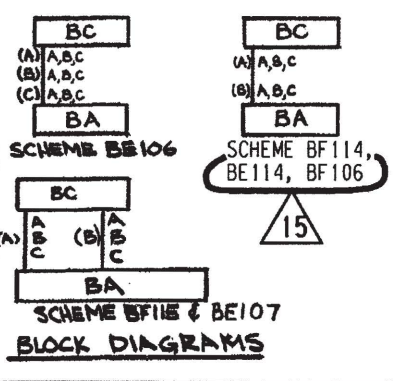


- NOTES:
1. CELL SWITCHES (52ha, 52hb) ARE SHOWN IN TEST AND WITHDRAWN POSITIONS.
 2. FOR SCHEME BE118 SPARE CONTACT 4-4T IS ABANDONED BECAUSE OF DISCONTINUITY IN WIRE #236.
 3. FOR SCHEME BE114 AND BE106 CABLES FROM UNIT SUBSTATION BREAKERS BE114 AND BE106 ARE CONNECTED TO FLEX RECEPTACLE ENCLOSURES.
 4. WHERE "O"/NOT "O" BOUNDARIES ARE DEPICTED FOR 480VAC SWGR. ELECTRICAL COMPONENTS HOUSED ENTIRELY WITHIN THE SWGR CUBICLE SHALL BE CONSIDERED TO BE WITHIN THE "O" BOUNDARY.
 5. FLEX ASSOCIATED BREAKERS ARE OPEN DURING NORMAL OPERATION AND MAY IMPACT OPERABILITY IF CLOSED WHEN ASSOCIATED BUS EQUIPMENT IS IN SERVICE.



REV.	DESCRIPTION	DATE	BY	CHK	APP	OWNER
14	INC. DUN E-37B-27 PER ECR 03-0250-00 DGN E-37B-29430 PER ECR 03-0328-00 AND DUNE-37B-33 PER ECR 03-0328-00 R/S	3-18-04	JOP	JOP	JOP	JOP
13	INC. DUN E-37B-26 PER DOR 96-1917	4-2-97	DVK	DVK	DVK	DVK
12	INC. DUN E-37B-25 PER DOR 96-1917	5-12-96	SAR	SAR	SAR	SAR
11	ISSUED FOR CONSTRUCTION	5-17-96	RDW	RDW	RDW	RDW
10	REVISED TO MAKE SCHEMES BE114, BE115, BE106 & BE107 SPARES	8-11-94	EM	EM	EM	EM

SCHEME NUMBER	UNIT S/STN NO.	START-UP SYS NO.	CHANNEL	WIRE PREFIX	EQUIPMENT NUMBERS			ANNUC INPUT	SWGR. WIRE PREFIX
					C	BA	BC		
BE109	E1	006	1	---	BE109	BE12B	Z420	3	---
BE106	E1	006	1	---	BE106	BE12A	Z420	3	---
BE107	E1	006	1	---	BE107	BE11	Z420	4	---
BE113	E1	005	1	---	SPARE	---	---	---	---
BE114	E1	005	1	---	BE114	ZSR3602	Z420	---	---
BE115	E1	005	1	---	FUTURE	---	---	---	---
BE118	F1	006	1	---	BE118	BE16A	Z420	8	---
BF118	F1	006	2	---	BF118	BF16A	Z422	9	---
BF106	F1	005	2	---	BF106	ZSR3603	Z422	---	---
BF107	F1	006	2	---	BF107	BF12B	Z422	11	---
BF113	F1	006	8	---	BF113	BF1310	Z422	12	---
BF114	F1	006	2	---	BF114	BF12A	Z422	13	---
BF115	F1	006	2	---	BF115	BF11	Z422	14	---
BF109	F1	006	2	---	SPARE	---	---	---	---



DAVIS-BESSE NUCLEAR POWER STATION
THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
ELEMENTARY WIRING DIAGRAMS
ESSENTIAL UNIT SUBSTATIONS
MCC FEEDER CIRCUIT BREAKERS

RECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-37B SH-4	15

INDEX			
SHEET NO.	LATEST REV.	TITLE	
1A	11	MOTOR DRIVEN FEEDWATER PUMP	
1B	8	MOTOR DRIVEN FEEDWATER PUMP	
2	5	FEEDWATER DISCHARGE VALVES	
3A	5	FEEDWATER HEATER MOV'S	
3B	5	FEEDWATER HEATER MOV	
4A	15	MAIN FEEDWATER 1 STOP VALVE	Q
4B	12	MAIN FEEDWATER 2 STOP VALVE	Q
4C	13	AUXILIARY FEEDWATER ISOLATION VALVES	Q
4D	17	AUXILIARY FEEDWATER ISOLATION VALVES	Q
4E	1	DELETED	Q
5	62 12	FEEDWATER ISOLATION VALVES	
6A	13	AFP SUCTION VALVES	Q
6B	14	AFP SUCTION VALVES	Q
7	3	MFP 1-1 & 1-2 RECIRCULATING VALVES	
8	7	FEEDWATER ANNUNCIATOR & COMPUTER INPUTS	
9	10	MAIN FEEDWATER CONTROL VALVE SOLENOID VALVES	
10	13	SUPERSEDED	Q
11A	11	DELETED	
11B	13	DELETED	
12	5	MFP WARM-UP VALVES	
13	3	S.G. WET LAYUP RECIRCULATING PUMPS: MP1821, MP1822	
14A	11	AFP DISCHARGE TO STEAM GENERATOR	Q
14B	62 11	AFP DISCHARGE TO STEAM GENERATOR	Q
15	15	AFP DISCHARGE TO STEAM GENERATOR	Q
16	2	FEEDWATER ANNUNCIATOR & COMPUTER INPUTS	
17	6	DELETED	

REVISIONS

NO.

DATE

BY

CHK

ENGR.

ENGR. SUPV.

GEN. SUPV.

FOR NEXT REVISION SEE INDEX SHEET 2

GENERAL NOTES:

1. FOR EXPLANATION OF EQUIPMENT & WIRING NUMBERS SEE E-11A ELECTRICAL NUMBERING SYSTEM.
2. FOR MOTOR INFORMATION SEE E-12B ELECTRICAL MOTOR LIST.
3. FOR CONTROL PANEL M.C.C. DESCRIPTIONS SEE E-13B ELECTRICAL EQUIPMENT LIST.
4. FOR SOLENOID VALVE INFORMATION SEE E-14B SOLENOID VALVE LIST.
5. WIRE NUMBER PREFIX MUST BE ADDED TO FORM COMPLETE WIRE NUMBER FOR THOSE WIRES AT MAIN CONTROL BOARD.
6. AUXILIARY CONTROL RELAY IN SOLENOID OPERATED VALVE CONTROL CIRCUITS TO BE G.E. TYPE CR120J.
7. NUMBER IN [] REPRESENTS THE COMPUTER INPUT NUMBER. NUMBER IN () REPRESENTS COMPUTER INPUT SOURCE NUMBER.
8. ALL G.E. EQUIPMENT IS SHOWN WITH G.E. AND BECHTEL DESIGNATIONS WHERE APPLICABLE.

REFERENCE DRAWINGS:

E-5 - 480V M.C.C. (NON-ESSENTIAL) ONE LINE DIAGRAM.
E-6 - 250/125VDC & 480V M.C.C. (ESSENTIAL) ONE LINE DIAGRAM.
E-10A - STANDARD NOTES & SYMBOLS.
E-30B - GENERAL GUIDES FOR ELEMENTARY DIAGRAM.

THIS DRAWING WAS REDRAWN ON CADD
AND SUPERSEDES REVISION 57

SCALE NONE	DESIGNED	DRAWN BT	DATE 04-12-04
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAM FEEDWATER SYSTEM DRAWING INDEX			
DRAWING NO. E-44B DRAWING INDEX SH.1			REV. 62

DB 02-13-14 DFN=F:/SCHEME/E44BIND.DGN

INDEX CONT.				INDEX CONT.			
SHEET NO.	LATEST REV.	TITLE		SHEET NO.	LATEST REV.	TITLE	
17A	2	DELETED		28B	2	FEEDWATER SYSTEM STARTUP FEED PUMP MOTOR	
17B	2	DELETED		28C	0	FEEDWATER SYSTEM STARTUP FEED PUMP MOTOR	
17C	2	DELETED		30A	2	VOID	
17D	2	DELETED		30B	2	VOID	
18	5	AFP SUCTION VALVE TRANSFER RELAY	Q	32	2	BLOCK DIAGRAM FEEDWATER SYSTEM FLOW RATE (CALDON)	
19A	6	DELETED					
19B	5	DELETED					
20	12	AFP DISCH TO SG					
21A	2	MN FW SU CTRL VLV SV					
21B	2	MN FW SU CTRL VLV SV					
21C	2	MN FW SU CTRL VLV SV					
21D	2	MN FW SU CTRL VLV SV					
22	1	DELETED					
23	1	DELETED					
23A	1	DELETED					
24	3	SG AUTO ESSEN LVL CONTROL	Q				
25	1	MDFP AUXILIARY LUBE OIL PUMP					
26A	1	DELETED					
26B	1	DELETED					
27	1	VOID					
28A	2	FEEDWATER SYSTEM STARTUP FEED PUMP MOTOR					

THIS DRAWING WAS REDRAWN ON CADD AND SUPERSEDES REVISION 57

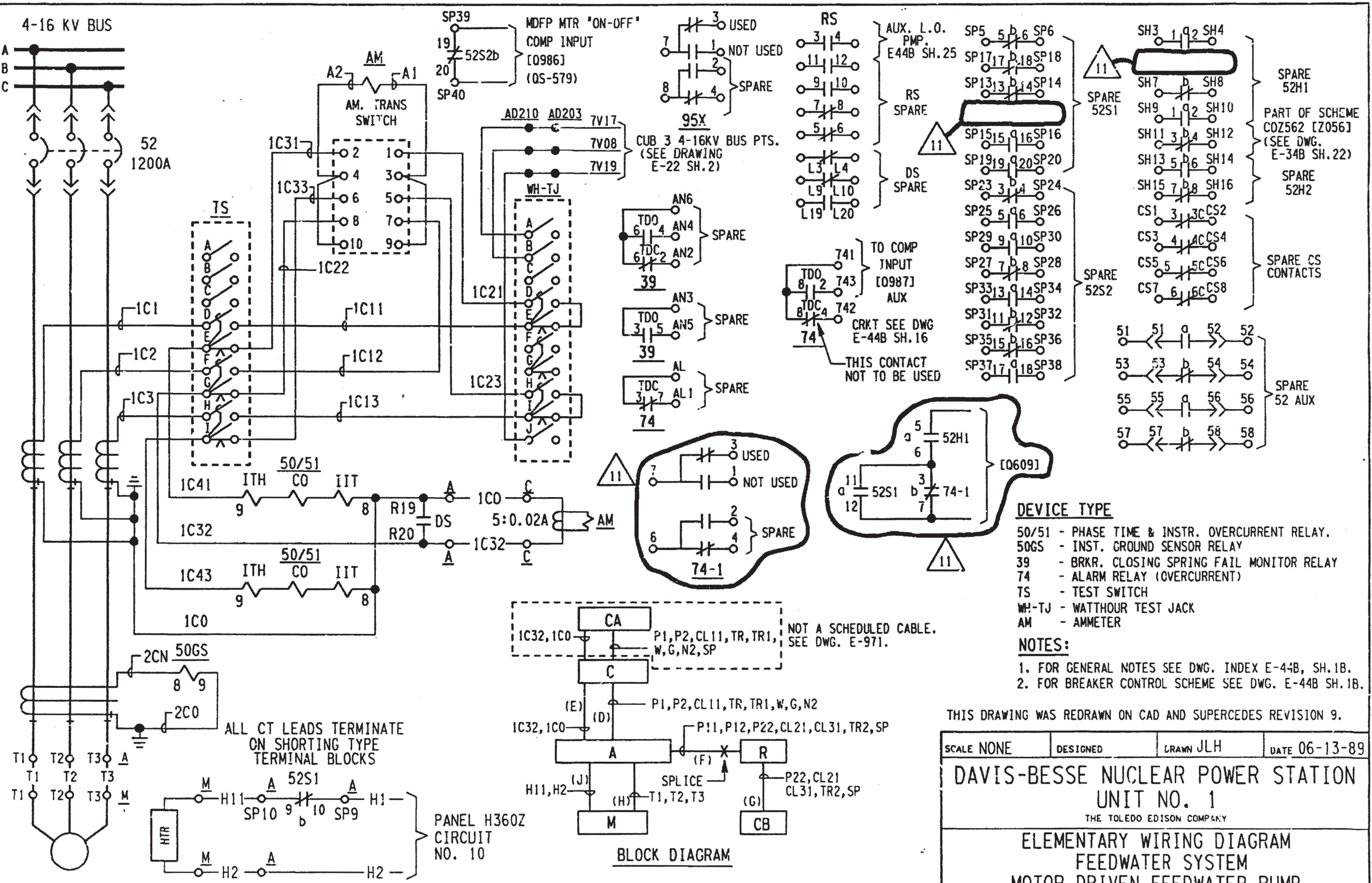
NO.	REV.	DATE	REVISIONS	BY	CH'K	ENGR.	SCALE	DESIGNED	DRAWN	BT	DATE
62	3/4/14		REVISED SH. 5 (REV. 12), SH. 14B (REV. 11) & SH. 32 (REV. 2)	SAC		RSC	NONE				4-12-04
61	4/06/09		REVISED SH.20 (REV.12)								
60	7/19/07		REVISED SH.20 (REV.11)								
59	1/19/06		REVISED SH.15 (REV. 15) & GEN. UPDATE REMOVE DOWN ARROWS IN TITLE DESCRIPTIONS FOR CLARITY								
58	6/14/04		REVISED SH.4A (REV. 15) AND SH.4B (REV. 12) & GEN. UPDATE, INDEX SHEET 1, DWG. TITLE FOR SH.4A & SH.4B PER DWG. UPDATE								

DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1
THE TOLEDO EDISON COMPANY
ELEMENTARY WIRING DIAGRAM
TERMINAL BOX FOR SOV
DRAWING INDEX

E-44B DRAWING INDEX SH.2 62

NEW 05/03 000010

INC.	DATE	REVISIONS					BY	CHK	ENGR.	ENGR. SUPV.	GEN. SUPV.
11	12/20/90	INC. DCN E-44B-325 FOR MOD 88-0081 SUPP.0					JBL		DD		
10	10-89	"AS BUILT" FOR: DCR 88-0515 INC. DCN E44B-300; FCR 86-0425 SUPP.3, INC. DCN E44B-290. GEN. UPDATE (REDRAWN)							"INITIALS ON FILE"		

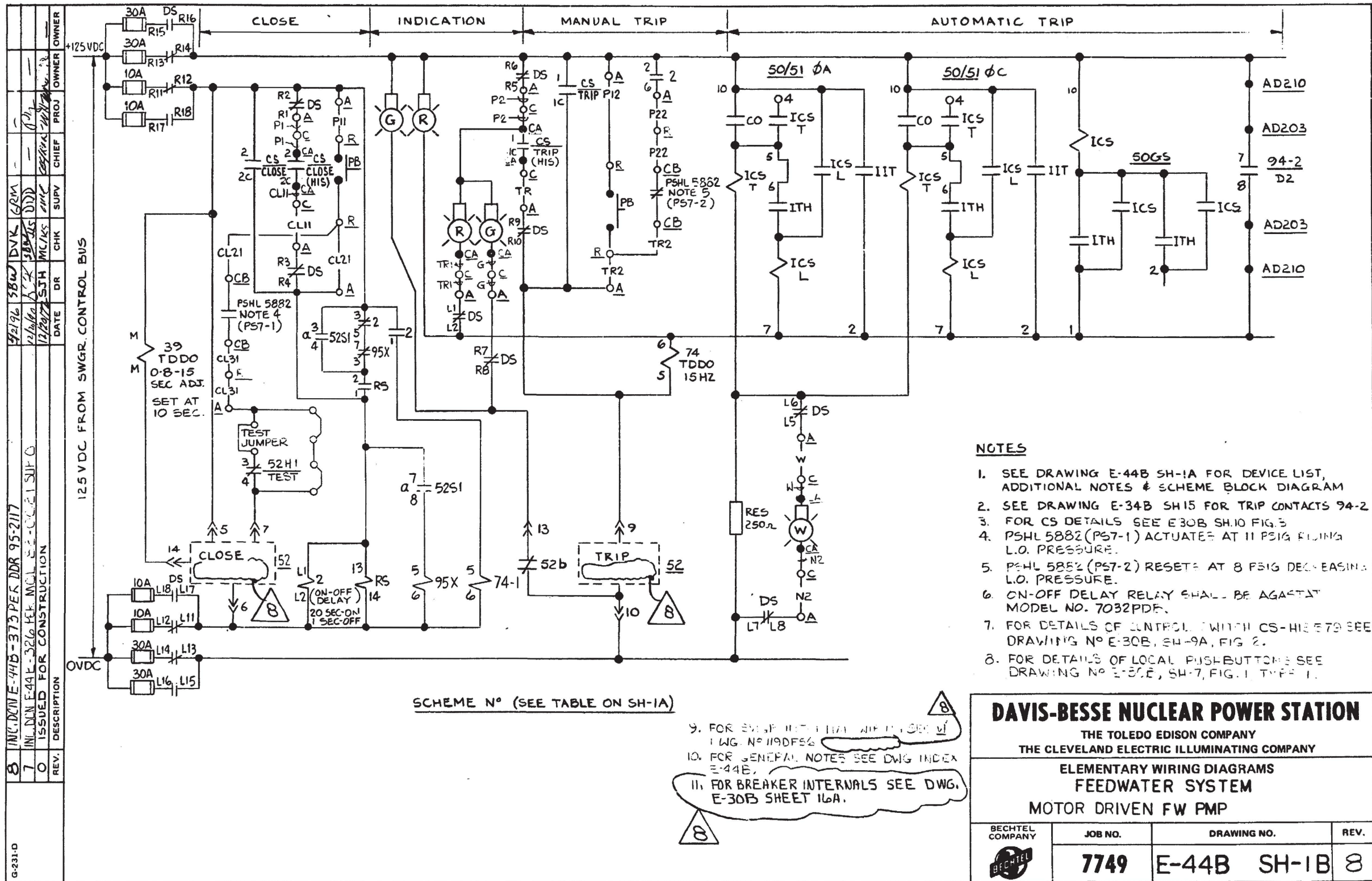


- DEVICE TYPE**
- 50/51 - PHASE TIME & INSTR. OVERCURRENT RELAY.
 - 50GS - INST. GROUND SENSOR RELAY
 - 39 - BRKR. CLOSING SPRING FAIL MONITOR RELAY
 - 74 - ALARM RELAY (OVERCURRENT)
 - TS - TEST SWITCH
 - WH-TJ - WATTHOUR TEST JACK
 - AM - AMMETER
- NOTES:**
1. FOR GENERAL NOTES SEE DWG. INDEX E-44B, SH.1B.
 2. FOR BREAKER CONTROL SCHEME SEE DWG. E-44B SH.1B.

THIS DRAWING WAS REDRAWN ON CAD AND SUPERCEDES REVISION 9.

SCALE NONE	DESIGNED	DRAWN JLH	DATE 06-13-89
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAM FEEDWATER SYSTEM MOTOR DRIVEN FEEDWATER PUMP			
DRAWING NO. E-44B SH.1A			REV. 11

SCHEME NO.	START UP NO.	CHANNEL	WIRE PREFIX	BUS	SWGR UNIT	CS	EQUIPMENT						AM	PB	DESCRIPTION
							C	CA	A	M	R	CB			
AD210	045	B	SUF	D2	10	HIS579	C5712	C5709	AD210	MP2410	R2408	C2405	II579	HS579A	MOTOR DRIVEN FEEDWATER PUMP



- NOTES**
1. SEE DRAWING E-44B SH-1A FOR DEVICE LIST, ADDITIONAL NOTES & SCHEME BLOCK DIAGRAM
 2. SEE DRAWING E-34B SH-15 FOR TRIP CONTACTS 94-2
 3. FOR CS DETAILS SEE E-30B SH-10 FIG. 3
 4. PSHL 5882 (PS7-1) ACTUATES AT 11 PSIG RISING L.O. PRESSURE.
 5. PSHL 5882 (PS7-2) RESETS AT 8 PSIG DECREASING L.O. PRESSURE.
 6. ON-OFF DELAY RELAY SHALL BE AGASTAT MODEL NO. 7032PDE.
 7. FOR DETAILS OF CONTROL SWITCH CS-HIE 579 SEE DRAWING NO E-30B, SH-9A, FIG. 2.
 8. FOR DETAILS OF LOCAL PUSHBUTTONS SEE DRAWING NO E-30E, SH-7, FIG. 1 TYPE 1.

9. FOR SWITCH INTERNALS WITH 1/2" SEC. V
DWG. NO. 119DF56
10. FOR GENERAL NOTES SEE DWG. INDEX E-44B.
11. FOR BREAKER INTERNALS SEE DWG. E-30B SHEET 16A.

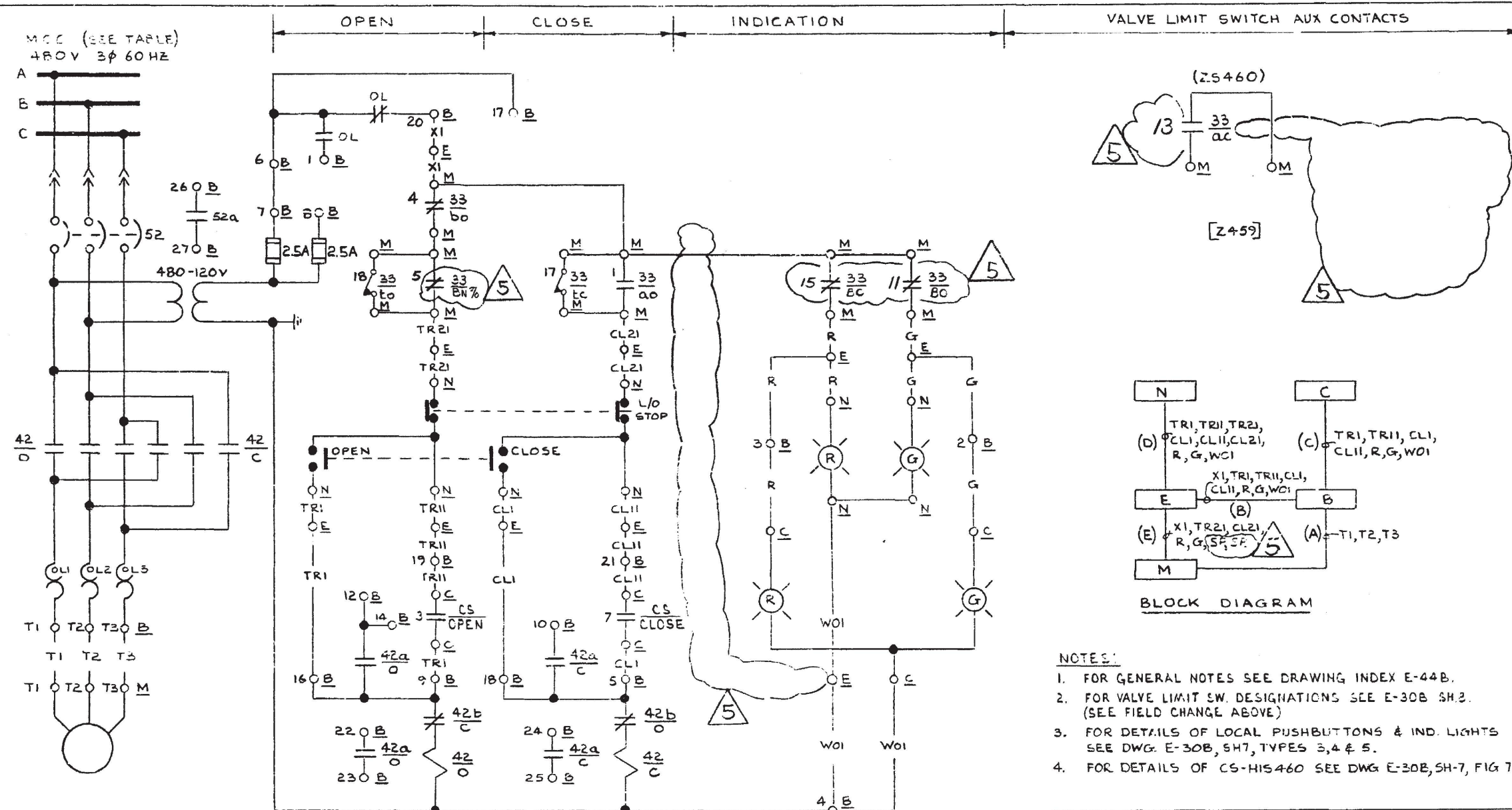
I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE: **5.7.96** OPERATOR: **Dorothy Lindle**

16X

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE 10-4-91 OPERATOR Cynthia O'Neil




NOTES:

1. FOR GENERAL NOTES SEE DRAWING INDEX E-44B.
2. FOR VALVE LIMIT SW. DESIGNATIONS SEE E-30B SH.3.
(SEE FIELD CHANGE ABOVE)
3. FOR DETAILS OF LOCAL PUSHBUTTONS & IND. LIGHTS
SEE DWG. E-30B, SH.7, TYPES 3, 4 & 5.
4. FOR DETAILS OF CS-HIS 460 SEE DWG. E-30B, SH-7, FIG 7

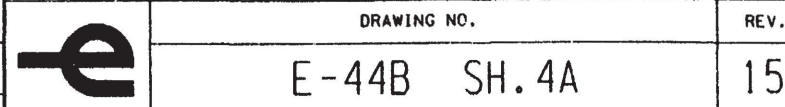
SCHEME NO	START UP NO	CHANNEL	WIRE PREFIX	CS	M.C.C	HP	EQUIPMENT					DESCRIPTION
							N	C	E	B	M	
BF3229	045	B	BF	HIS 460	F-32A	7.9	MYO4600	CS721	EYO4600	BF3229	MYO4600	HP, FW HTRS. BYPASS VLV.

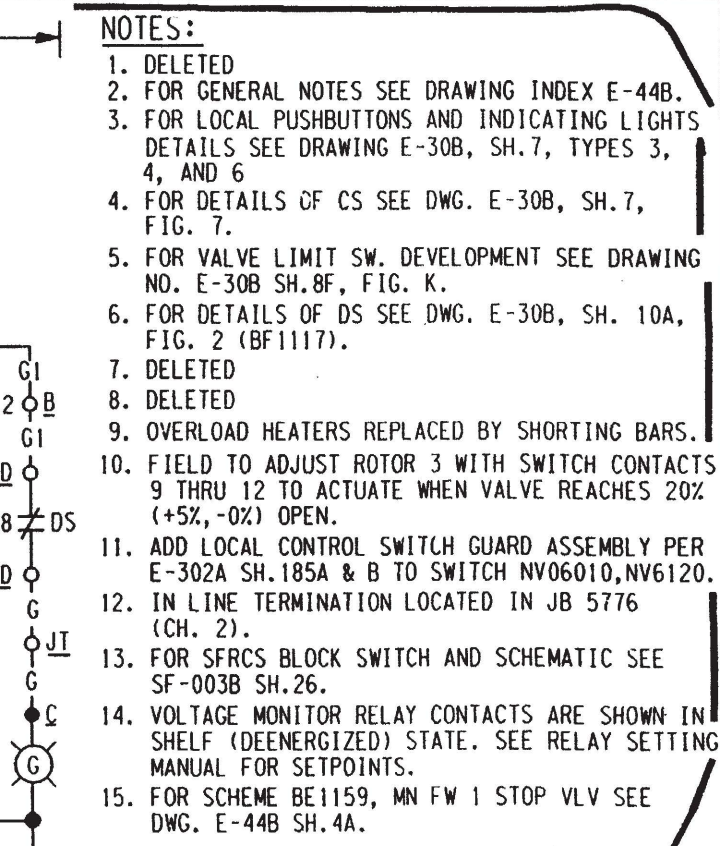
NOTE: 5. FIELD TO ADJUST ROTARY #1 WITH SWITCH CONTACT TO SWITCH NVO 4600.
6. ADD LOCAL CONTROL SWITCH GUARD A. INELY PER E-SECA JUNE 1961
CONT. 5 THRU 6 TO ACTUATE WHEN VALVE RELEVANT TO SWITCH NVO 4600.
BE 7-10 OPEN.

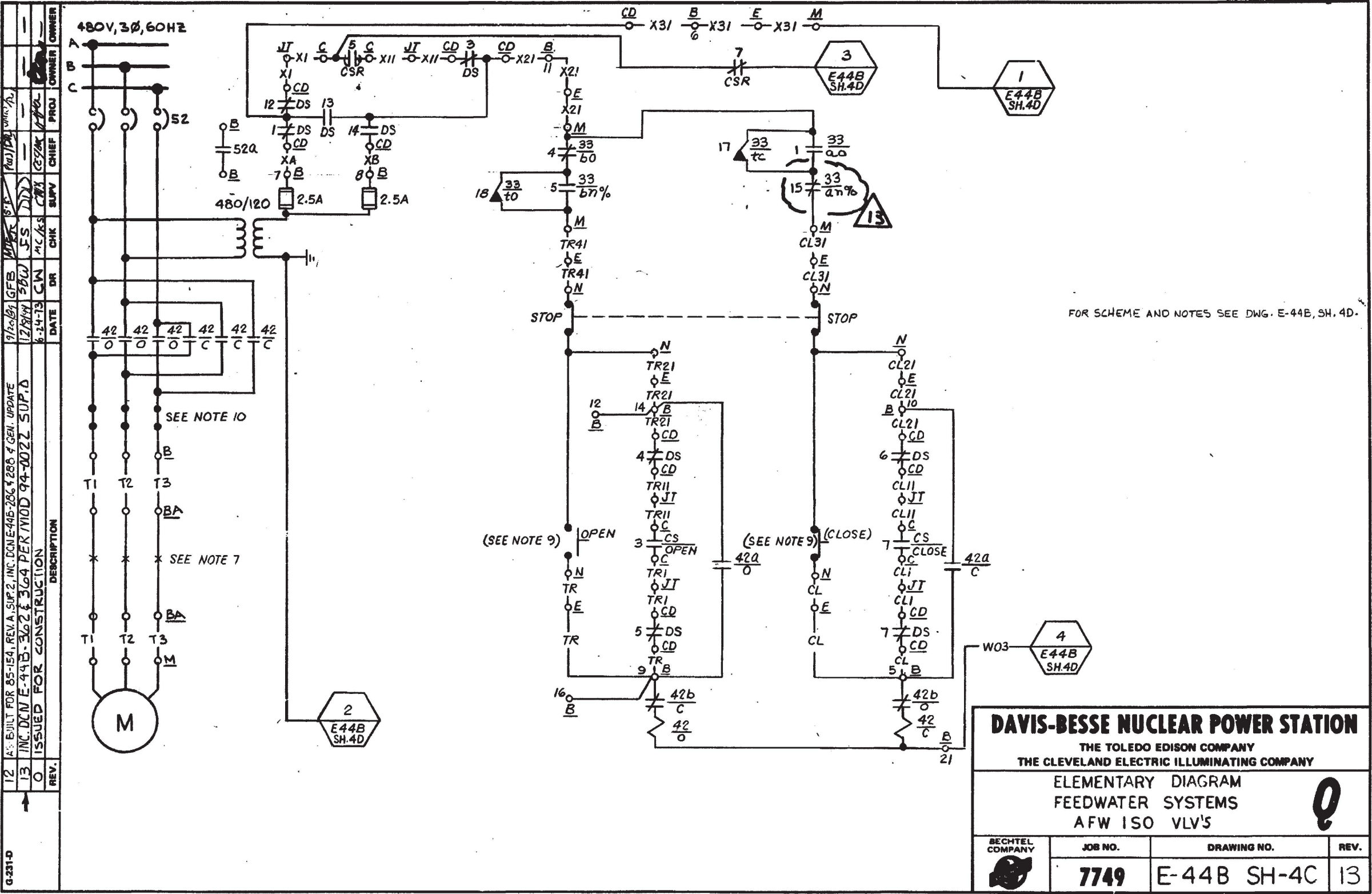
<h1>DAVIS-BESSE NUCLEAR POWER STATION</h1> <p>THE TOLEDO EDISON COMPANY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY</p>			
<p>ELEMENTARY WIRING DIAGRAMS FEEDWATER SYSTEM FEEDWATER HEATER MOV</p>			
	JOB NO.	DRAWING NO.	REV.
	7749	E-44B SH-3B	5

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE 12-28-90 OPERATOR Betty Wieda 16X

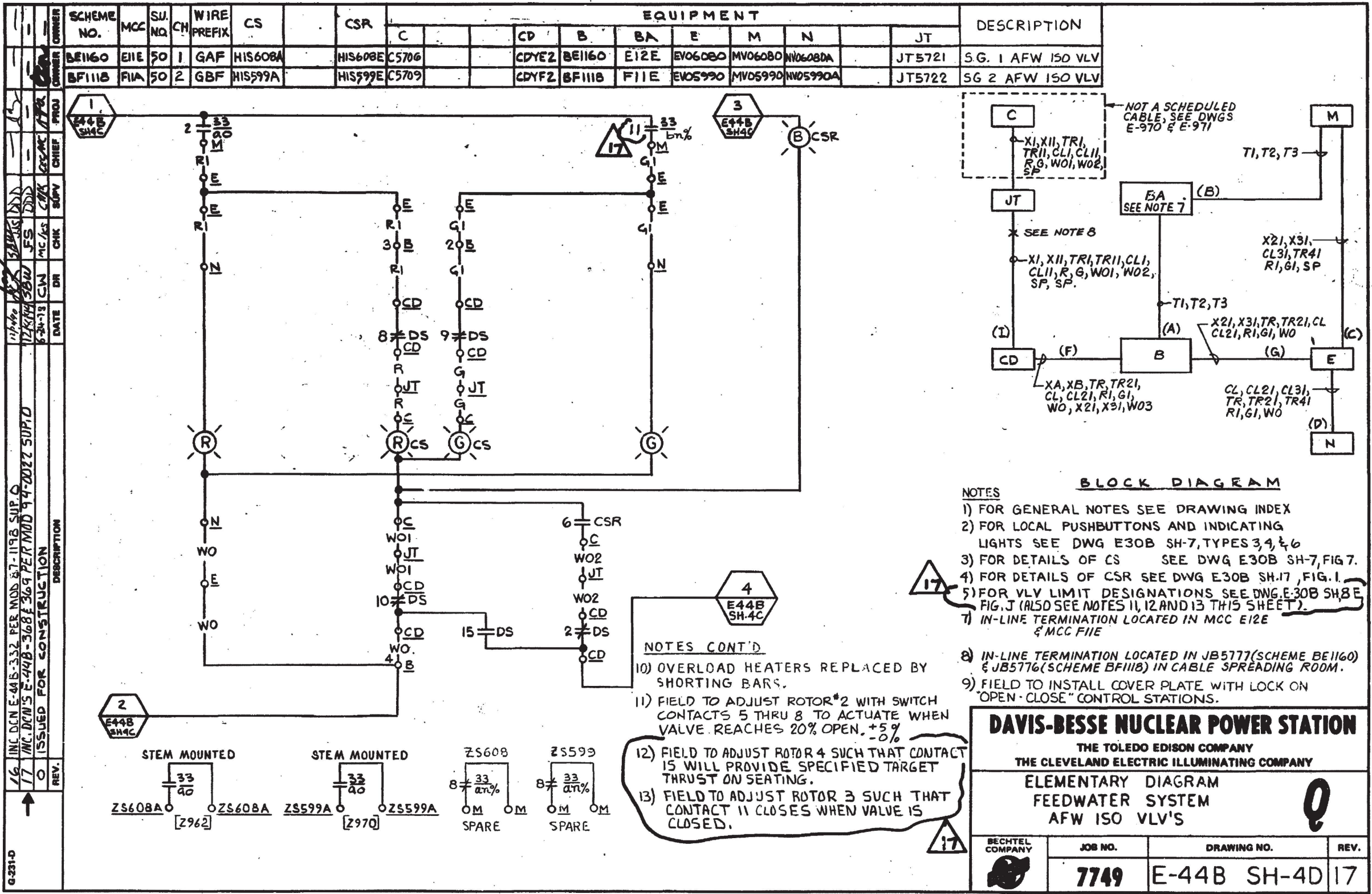






I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

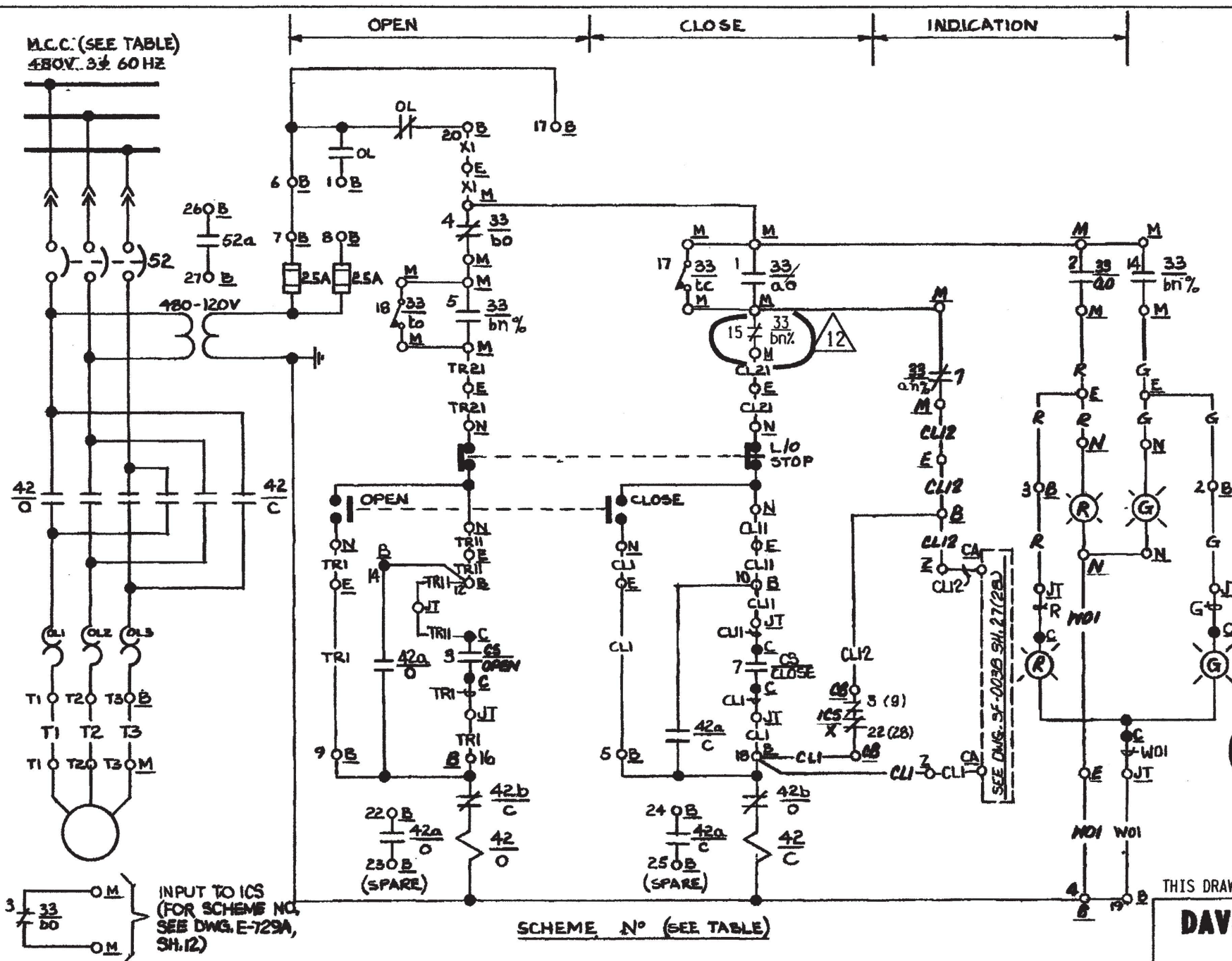
DATE 12.14.94 OPERATOR [Signature]



I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

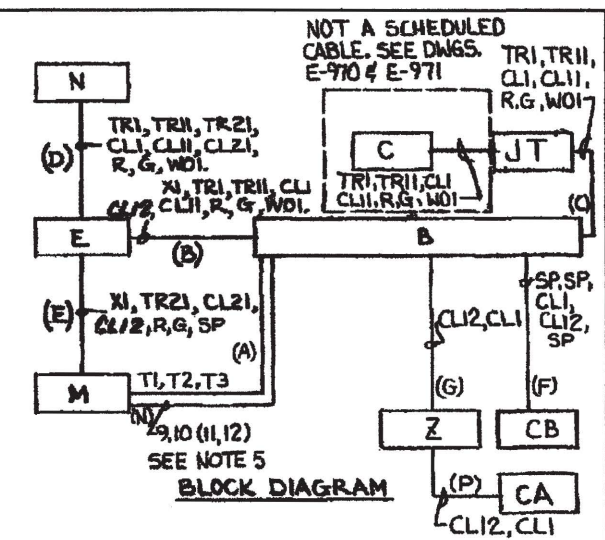
DATE 12-14-94 OPERATOR [Signature]

REV.	DESCRIPTION	DATE	CHK	SUPV	CHIEF	PROJ	OWNER
12	INC. DUN'S 02-0252-001-001 & 02-0252-002-001 BOTH REV. 1 (REDRAWN) BY K. H. SAGAN	12/10/72	SJH	DR	DATE		
11	AS BUILT FOR BE-31, REV. A, INC. DUN'S 02-0252-001-001 & 02-0252-002-001 BOTH REV. 1 (REDRAWN) BY K. H. SAGAN	12/10/72	SJH	DR	DATE		
10	TESTED FOR CONSTRUCTION	12/10/72	SJH	DR	DATE		



SCHEME N°	M.C.C.	START UP N°	CHANNEL	WIRE PREFIX	CS	EQUIPMENT								ICS/X RELAY	DESCRIPTION	
						C	CB	B	N	E	M	CA	Z			JT
BE3213	E32A	045	A	FII	HIS780	C5708	C5741B	BE3213	NV07800	EV07800	NV07800	C5762A	C5762Z	JT5721	BE BLV	S.G.1 MN. FW. ISO. VLV
BF3261	F32A	045	B	FRI	HIS779	C5708	C5741B	BF3261	NV07790	EV07790	NV07790	C5792	C5792Z	JT5722	BE ALV	S.G.2 MN FW ISO. VLV

FOR DETAILS SEE BECHTEL K.P. FILE 7749-M-533-58 (B&N 21-00-411)



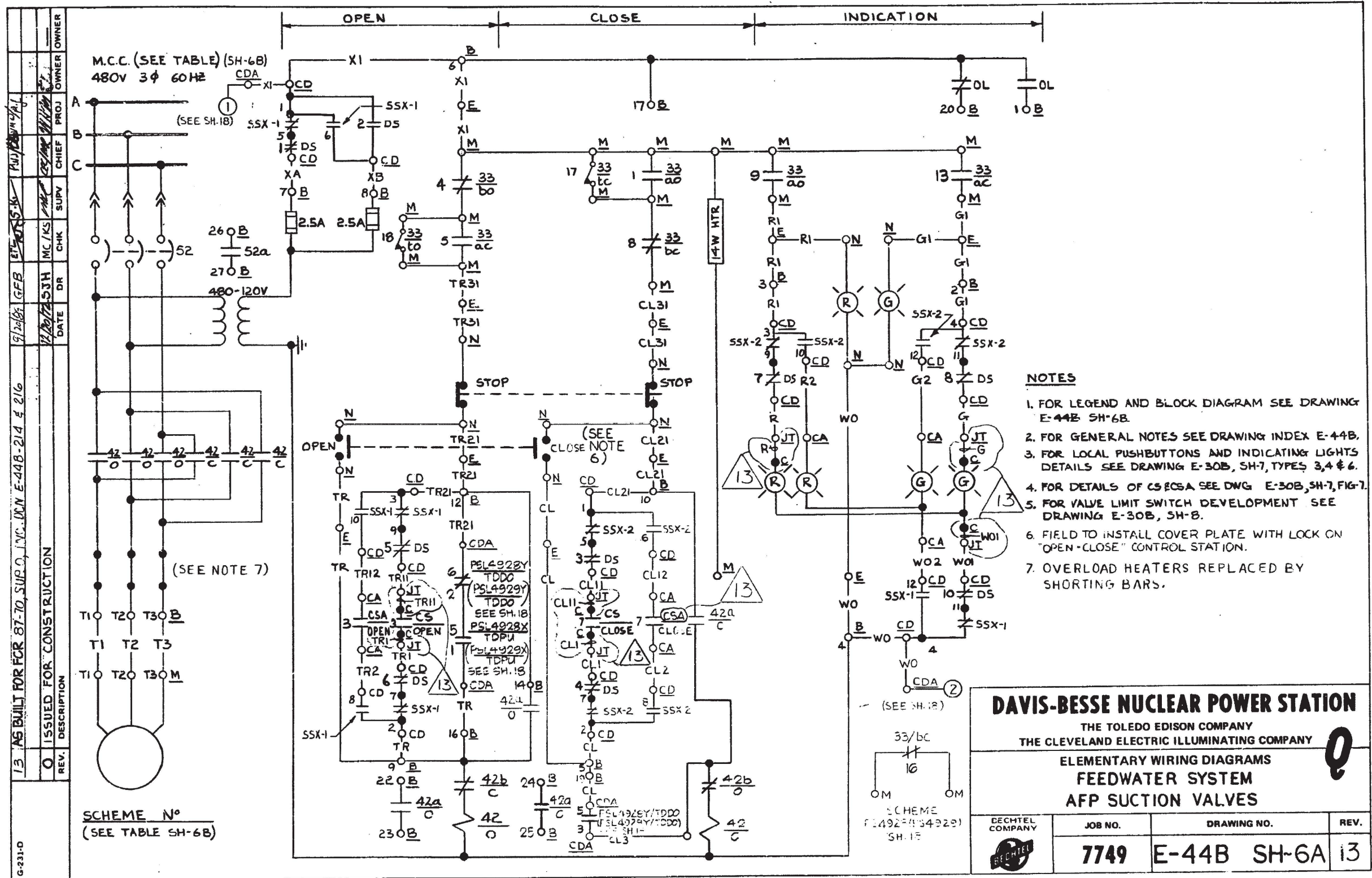
- NOTES:
- FOR GENERAL NOTES SEE DRAWING INDEX E-44B.
 - FOR VALVE LIMIT SWITCH DEVELOPMENT SEE DRAWING E-30B, SH. 8, FIG. A (SEE NOTE 6 THIS SHEET).
 - FOR DETAILS OF LOCAL PUSHBUTTONS & INDICATING LIGHTS SEE DRAWING E-30B, SH. 7, TYPES 3, 4 & 5.
 - FOR DETAILS OF CS SEE DWG. E-30B, SH. 7, FIG. 7.
 - INFORMATION IN PARENTHESIS ARE FOR SCHEME BF3261 ONLY
 - FIELD TO ADJUST ROTOR#2 WITH SWITCH CONTACTS 5 THRU 8 TO ACTUATE WHEN VALVE REACHES 20% OPEN (+5%, -0%).
 - DELETED.
 - ADD LOCAL CONTROL SWITCH GUARD ASSEMBLY PER E-302A, SH. 185A & B TO SWITCH NV07790, NV07800.
 - FOR SFRCS SCHEMATIC SEE DWG. SF-003B, SH. 27 (28)
 - FIELD TO ADJUST ROTOR 4 FOR FW779 & FW780 SUCH THAT CONTACT 15 OPENS WHEN VALVE IS CLOSED. (I.E. AFTER HARD SEAT CONTACT).

THIS DRAWING WAS REDRAWN/SCANNED ON CAD AND SUPERSEDES REV. 11

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

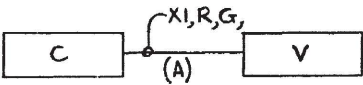
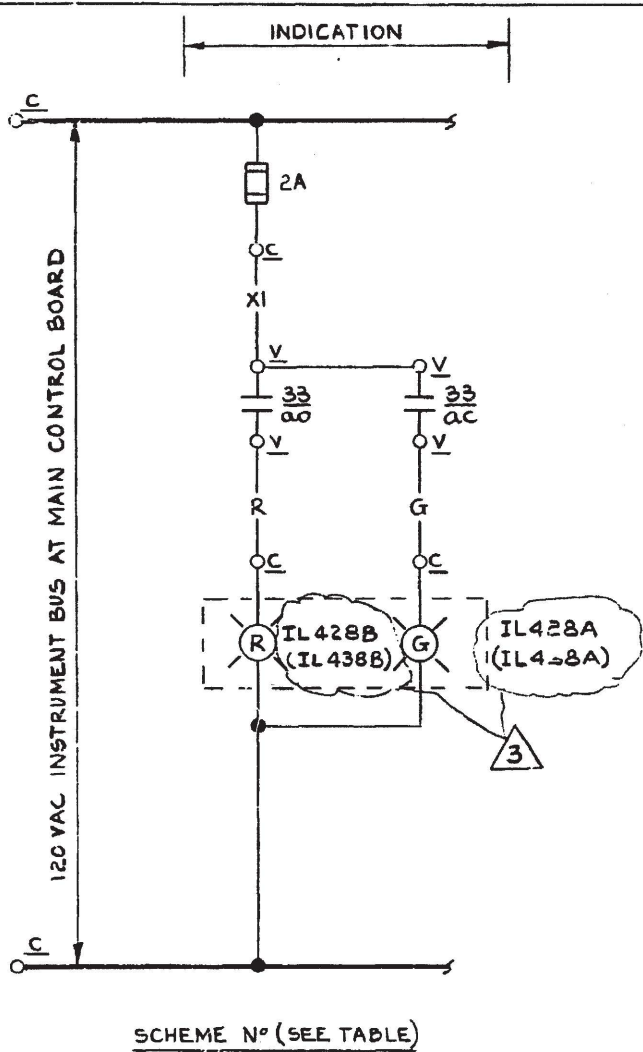
ELEMENTARY WIRING DIAGRAMS
FEEDWATER SYSTEM
FEEDWATER ISOLATION VALVES

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-44B SH-5	12



DATE 9-27-84 OPERATOR SKR

G-231-0	3	AS BUILT FOR DER 89-0095, INC. DEN E-44B-314	DATE	DP	CHK	SUPV	CHIEF	PROJ	OWNER
	1	REVISED AS NOTED	6-24-81	MS	MS	MS	MS	MS	MS
	0	ISSUED FOR CONSTRUCTION	12-20-79	MS	MS	MS	MS	MS	MS



BLOCK DIAGRAM

NOTES

- 1. FOR GENERAL NOTES SEE DRAWING INDEX E-44B
- 2. FOR LIMIT SWITCH DESIGNATIONS SEE DRAWING E-30B, SH-2.

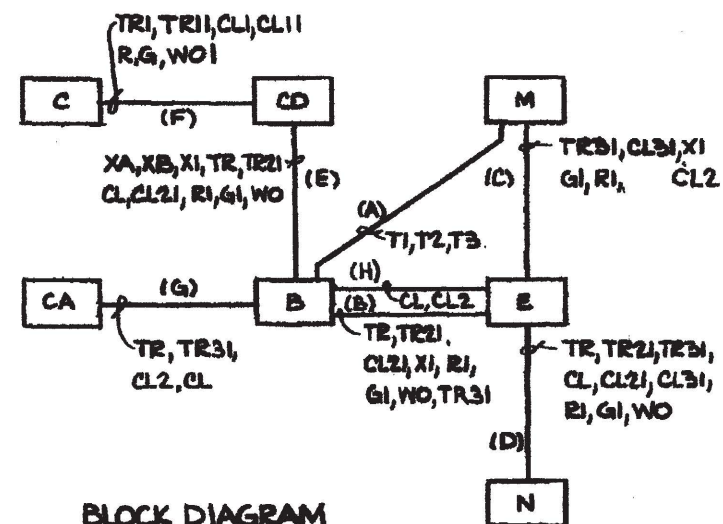
SCHEME	SU N°	CHANNEL	WIRE PREFIX	EQUIPMENT		DESCRIPTION
				C	V	
V428	045	A	FRA	C 5711	V 428	MFP I-1 RECIRCULATING VALVE
V438	045	B	FRB	C 5711	V 438	MFP I-2 RECIRCULATING VALVE

DAVIS-BESSE NUCLEAR POWER STATION			
THE TOLEDO EDISON COMPANY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY			
ELEMENTARY WIRING DIAGRAMS FEEDWATER SYSTEM MFP RECIRCULATING VALVES			
BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-44B SH-7	3

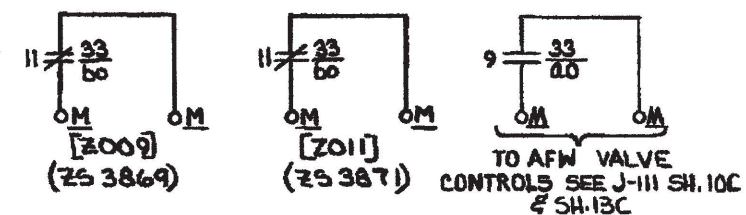
I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS. ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

223-90 OPERATOR Sharon Sutton 16X

Q-221-D



BLOCK DIAGRAM



FOR NOTES SEE DWG E-44B, SH.14A

SCHEME	MCC	SU NO	CH	WIRE PREFIX	CS	EQUIPMENT NUMBERS											DESCRIPTION
						C	CD	B	E	M	N	CA					
BE1146	E11E	50C	1	AFC	HIS3869	C5706	CDE11E	BE1146	EV38690	MV38690	NV38690	C5762A					AFPI DISH TO S61
BF1201	F12A	50C	2	AFE	HIS3871	C5709	CDF12A-2	BF1201	EV38720	MV38710	NV38710	C5792					AFP2 DISH TO S61

11

THIS DRAWING WAS REDRAWN/SCANNED ON
CAD AND SUPERSEDES REV.10

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAM
FEED WATER SYSTEM
AFP DISCH TO SG

BECHTEL COMPANY 	JOB NO.	DRAWING NO.	REV.
	7749	E-44B SH-4 B	11

INDEX									
SHEET NO.		DESCRIPTION	SCHEME NO.	SCHEME NO.	S/U NO.				
1A	13	MFPT CONTROL	MFPT01	MFPT02	36				
1B	9	MFPT CONTROL	MFPT01	MFPT02	36				
1C	10	MFPT CONTROL	MFPT01	MFPT02	36				
1D	4	VOID							
1E	5	MFPT CONTROL	MFPT05	MFPT06	36				
1F	1	MFPT CONTROL	MFPT11	MFPT21	36				
1G	1H	MFPT CONTROL	MFPT12	MFPT22	36				
1J	1K	MFPT CONTROL	MFPT16	MFPT26	36				
1L	0	MFPT CONTROL							
2A	2B	MFPT MAIN OIL PUMPS	MFPT MAIN OIL PUMPS						
3	7	MFPT EMERGENCY BEARING OIL PUMP	D115	D215	36				
4	5	MFPT OIL TANK VAPOR EXTRACTORS	BE3264	BF3264	36				
5A	7	MFPT TURNING GEAR MOTOR CONTROL	BE3270	BF3270	36				
5B	7	MFPT TURNING GEAR MOTOR CONTROL	MFPT07	MFPT08	36				
6A	4	LUBE OIL FILTER PUMPS	BE3265	BF3265	36				
6B	6	LUBE OIL FILTER PUMPS	BE3273	BF3273	36				
7	5	MFPT DRAIN PUMPS	BE3276	BF3276	92				
8A	8	MFPT MOTOR OPERATED DRAIN VALVES	AS NOTED	AS NOTED	92				
8B	6	MFPT MOTOR OPERATED DRAIN VALVES	AS NOTED	AS NOTED	92				
9	2	MFPT USED LUBE OIL TANK 1-1.	I1183		36				
10	8	AUXILIARY RELAYS							
10A	10B	MFPT CONTROL	MFPT CONTROL						
10C	10D	MFPT CONTROL	MFPT CONTROL						
10E	10F	MFPT CONTROL	MFPT CONTROL						
10G	10H	MFPT CONTROL	MFPT CONTROL						
10J	0	MFPT CONTROL							
11A	15	AFPT CONTROL	AFPT01	AFPT02	50				
11B	17	AFPT CONTROL	AFPT01	AFPT02	50				

GENERAL NOTES

- FOR EXPLANATION OF EQUIPMENT & WIRING NUMBERS SEE E-11A ELECTRICAL NUMBERING SYSTEM.
- FOR MOTOR INFORMATION SEE E-12B ELECTRICAL MOTOR LIST
- FOR CONTROL PANEL M.C.C. DESCRIPTIONS SEE E-13B ELECTRICAL EQUIPMENT LIST.
- FOR SOLENOID VALVE INFORMATION SEE E-14B SOLENOID VALVE LIST.
- WIRE NUMBER PREFIX MUST BE ADDED TO FORM COMPLETE WIRE NUMBER FOR THOSE WIRES AT MAIN CONTROL BOARD.
- AUXILIARY CONTROL RELAY IN SOLENOID OPERATED VALVE CONTROL CIRCUITS TO BE G.E. TYPE CR120J.
- NUMBER IN BRACKETS [] REPRESENTS COMPUTER INPUT NUMBER. NUMBER IN () REPRESENTS COMP. INPUT SOURCE NUMBER.
- ALL G.E. EQUIPMENT IS SHOWN WITH G.E. AND BECHTEL DESIGNATIONS WHERE APPLICABLE.
- FOR GROUNDING STANDARDS AND DETAILS SEE DWG. E-1037P.

REFERENCE DRAWINGS

- E-5 - 480V M.C.C.(NON-ESSENTIAL) ONE LINE DIAGRAM
- E-6-SH142-480V M.C.C.(ESSENTIAL) ONE LINE DIAGRAM
- E-6-SH144-125/250VDC M.C.C.(ESSENTIAL) ONE LINE DIAGRAM
- E-10A - STANDARD NOTES AND SYMBOLS.
- E-30B - GENERAL GUIDES FOR ELEMENTARY DIAGRAMS
- 12501-G-CS-50 THRU 78 - WIRING DIAGRAM G.E. DWG. NO. 134B451BE SH'S 1 THRU 28
- 12501-G-CS-146 THRU 157 - ACCESSORY LIST G.E. DWG. NO. 128C226XR SH'S 1 THRU 11
- 12501-G-CS-110 THRU 112 - CONTROLS DIAGRAM G.E. DWG. NO. 509E253XR SH'S 1 THRU 3
- 12501-G-CS-133 AND 134 - CONTROL LINE-UP DIAG. G.E. DWG. NO. 509E481EX SH'S 1 & 2
- 12501-G-CS-132 - CONNECTION DIAGRAM G.E. DWG. NO. 509E428EA

CONT. ON DWG INDEX SHT 2

13	3-3-77	REVISED SH.8B (REV.3); SH.8A (REV.4); SH.1A (REV.5); SH.2B (REV.6); SH.1A (REV.7)	R.W.S.	LEW	SNC/HA	-	SNS	-	-
12	2-3-77	ISSUED FOR CONSTRUCTION SH.1B (REV.0); REVISED SH.1C (REV.4)	R.W.S.	APC	SNC/HA	-	SNS	CD	-
11	9-20-76	REVISED SH.11A (REV.6); SH.11B (REV.8)	R.W.S.	LEW	SNC	-	SNS	-	-
10	8-20-76	REVISED SH'S 14,15 (REV.4); SH'S 2A,2B,11A (REV.5); SH.11B (REV.7)	R.W.S.	LEW	SNC	-	SNS	-	-
9	7-26-76	REVISED SH'S 6B,14,15 (REV.3); SH'S 2A,2B,11A (REV.4); SH.3 (REV.5); SH.11B (REV.6)	R.W.S.	LEW	SNC	-	SNS	-	-
8	5-12-76	REVISED SH'S 6A,6B,8B,9,14,15,17 (REV.2); SH'S 1C,2A,2B,4,5A,5B,7,8A,10 (REV.3); 1A,1B,1E,3, (REV.4)	R.W.S.	LEW	SNC	-	QEP	-	-
7	4-13-76	REVISED SH.11C (REV.2); SH.11A (REV.3); SH.11B (REV.5)	R.W.S.	IM	SNC	-	SNS	-	-
6	3-16-75	ISSUED SH.17 (REV.1) SH.11B (REV.4)	R.W.S.	LEW	SNS	-	QEP	-	-
5	7-3-75	ISSUED SH'S 14,15 (REV.1); SH'S 10,13 (REV.2); SH'S 1D,1E,3,11B (REV.3)	CW	LEW	SNS	-	QEP	-	-
4	5-16-75	ISSUED FOR CONSTR. SH.16,17 (REV.0); REVISED SH.11C & 12 (REV.1); SH'S 5B,11A,11B (REV.2); SH'S 1A,1B (REV.3)	CWS	QZ	SNS	-	QEP	CCW	-
3	3-5-75	ISSUED FOR CONST. SH.11C,12,13,14,15, REVISED SH'S 5B,8B,9,10,11A,11B ALL REV.1 REVISED SH'S 1A THRU 1E,2A,2B,3,4,5A,7,8A ALL REV.2	R.W.S.	LEW	SNS	-	QEP	CCW	-
2	6-28-74	ISSUED SH 6B (REV.1)	CW	K3	SNS	-	JER	-	-
1	6-18-73	ISSUED FOR CONST. SH'S 6B,9,10,11A,11B ALL REV.0 REVISED SH'S 1A THRU 5A,6A,7,8A ALL REV.1	MS	MC/LS	QEP	-	QEP	CCW	-
0	1-24-72	ISSUED FOR CONST. SH'S 1A THRU 1E,2A,2B,3,4,5A,5B,6,7,8A,8B ALL REV.0	STH	MC/LS	QEP	-	QEP	CCW	-
REV	DATE	DESCRIPTION	DR	CHK	SUPV	CHIEF	PROJ	OWNER	OWNER

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 43

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS AFPT & MFPT CONTROL & AUXILIARIES DRAWING INDEX

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

DB 03-07-16

DFN F:/SCHEME/E46BINDSH1.DGN/TIF

INDEX									
		SHEET NO.	LATEST REVISION	DESCRIPTION	SCHEME NO.	SCHEME NO.	S/U NO.		
		11C	5	AFPT CONTROL	IC51X 5007	IC52X 5008	50	Q	
		12	0	MFPT TEMPERATURE ALARMS					
		13	3	VOID					
		13A	0	MFPT SPEED CONTROL	MFPT13	MFPT23	36		
		13B	2	MFPT SPEED CONTROL					
		14	11	MFPT 1 ANNUNCIATOR & COMPUTER INPUTS					
		14A	1	MFPT 1 CTR SYS TRBL ANNUNCIATION REFLASH					
		15	11	MFPT 2 ANNUNCIATOR & COMPUTER INPUTS					
		16	0	MFPT SEAL & DRAINS SYSTEM TE SWITCH	H15-1329		92C		
		17	9	AFPT SPEED MONITOR	SEB15	SEB16	50	Q	
		17A	2						
		18	2	MFPT RECEIVER TANKS DRAIN VALVES	V4981	V4982	92		
		19	2	AFPT STOP VLV. POS. SW AUX RELAY	IC538C	IC538D	50		
			45						
		33	5/1/89	REVISED SH. 11A (REV. 13); SH. 11B (REV. 15); SH. 11C (REV. 4); SH. 17 (REV. 9); SH. 17A (REV. 1)	ETL				
		45	3-29-16	REVISED SH. 19 (REV. 2) & GEN. UPDATE DRAWING INDEX SH. 1, GEN. NOTE 9. REVISE DWG. E-301A TO E-1037P. PER GEN DRFTG. PRACTICE & FILENET. E-301A WAS SUPERSEDED BY E-1037P.	SAP				
		44	12/22/08	REVISED SH. 1A (REV. 13), SH. 1B (REV. 10), SH. 11A (REV. 15) & SH. 11B (REV. 17) (REDRAWN)			INITIALS ON FILE		
		43	9-15-05	REVISED SH. 1C (REV. 9), SH. 1H (REV. 2)	JOR	SBW	TRG		
		42	7-24-04	REVISED SH. 14A (REV. 1)	JOR	SBW	ATB		
		41	11-3-98	REVISED SH. 5B (REV. 7)	JOR	SBW	MLB		
		40	10-15-94	REVISED SH. 11A (REV. 14), SH. 11B (REV. 16) + SH. 1C (REV. 9)	JOR	SBW	PL		
		39	11-6-92	REVISED SH. 8A (REV. 8) AND SH. 8B (REV. 6)	SBW	JBG	JJS		
		38	9-12-92	REVISED SH. 3 (REV. 7) AND SH. 5B (REV. 6)	SBW	JBG	JJS		
		37	11-15-94	REVISED SH. 17A & 18 (REV. 2)	SBW	JBG	DDD		
		36	10-21-90	ADDED SH. 14A (REV. 0) REVISED SH. 1H (REV. 1), SH. 5A & 8A (REV. 7), SH. 8B (REV. 5) SH. 10 (REV. 8) SH. 1A & 15 (REV. 11)	QFB	JJS	DD		
		35	1-15-90	REVISED SH. 1A (REV. 12); SH. 1B (REV. 9); SH. 1C (REV. 8); SH. 1K (REV. 2); SH. 2B (REV. 10); SH. 8A (REV. 6); SH. 8B (REV. 4)	ETL	MTF	JUN		
		34	1-17-89	REVISED SH. 2A (REV. 7); SH. 2B (REV. 9); SH. 5A (REV. 6); SH. 5B (REV. 5); SH. 19 (REV. 1)	ETL	MTF	SJK		
		19	1-23-79	REVISED SH. 11B (REV. 11)	MSP	R.W.S.	PTS		
		18	11-8-78	REVISED SH. 1A, 14, 15 (REV. 6), SH. 11A (REV. 9), SH. 11B (REV. 10)	TG	R.W.S.	PTS		
		17	2-21-77	REVISED SH. 6A (REV. 3); SH. 5 1, 7 (REV. 4) SH. 5, 5A, 6B, 8A (REV. 5)	J.H.	SM	SMC		
		16	12-29-77	REVISED SH. 5A, 6B (REV. 4)	RMR	N.H.	SMC		
		15	7-12-77	REVISED SH. 11C (REV. 3); SH. 17 (REV. 4); SH. 14, 15 (REV. 5)	R.W.S.	SM	SMC		
		14	4-1-77	ISSUED SH. 11A (REV. 8) SH. 11B (REV. 9) SH. 17 (REV. 3)	FWK	LEW	SMC		
		REV	DATE	DESCRIPTION	BY	CHK	SUPV	CHIEF	PROJ

NOTES

FOR NOTES AND REFERENCES SEE E-45B
DWG INDEX SH 1

THIS DRAWING WAS REDRAWN ON CAD AND SUPERSEDES REVISION 43

DAVIS-BESSE NUCLEAR POWER STATION

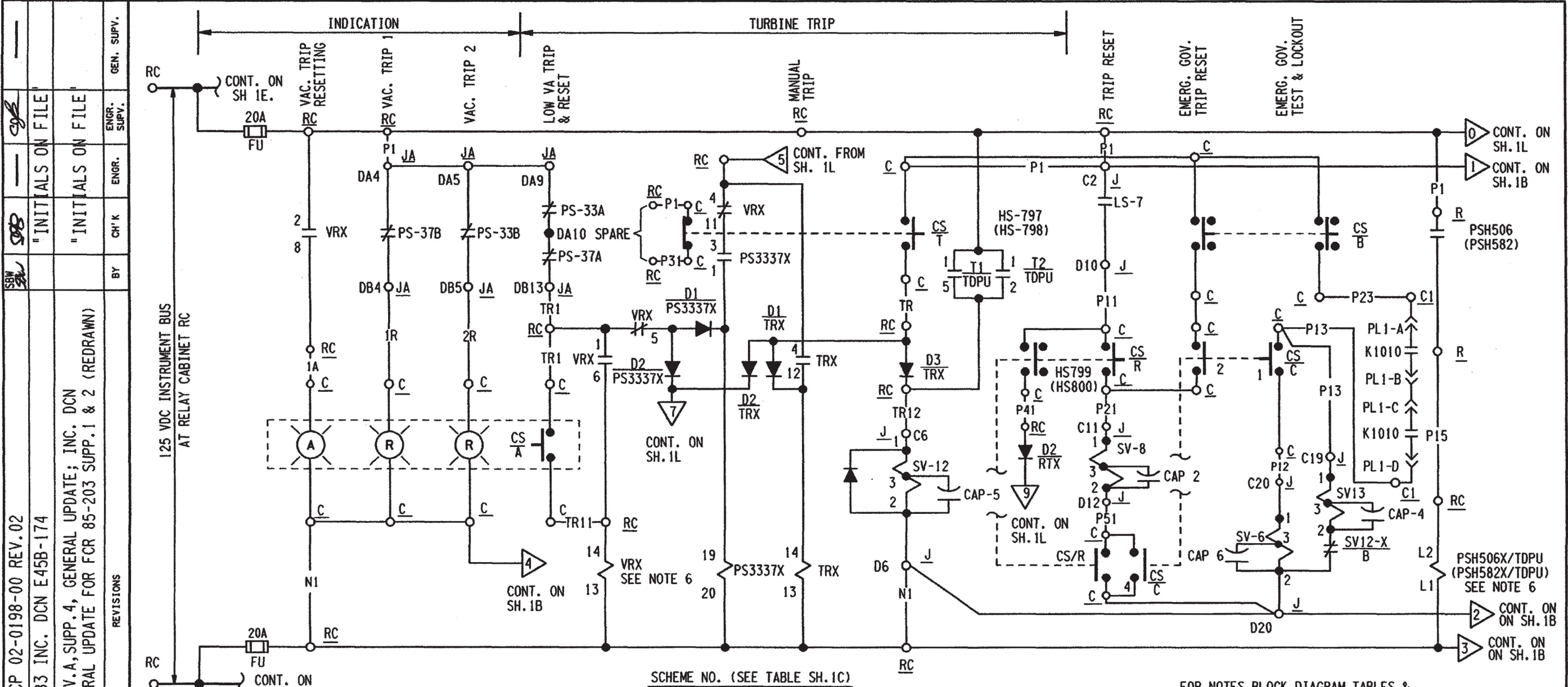
THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAM
AFPT & MFPT CONTROL & AUXILIARIES
DRAWING INDEX

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-45 B	DWG INDEX SH 2
			45

DB 03-07-16

DFN F:/SCHEME/E46BINDSH2.DGN/TIF

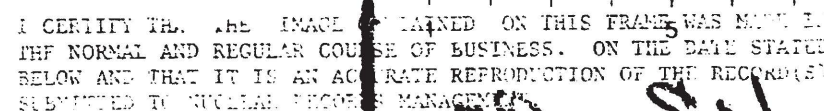


PS14 CLOSES ON LOW HYD. OIL PRESSURE.
PS16 ALARMS WHEN TURBINE IS TRIPPED.
PS33 } PRESSURE SWITCHES CLOSE ON LOW
PS37 } VACUUM IN THE CONDENSER.
PSH CLOSES ON HIGH PRESSURE OF MFP DISCHARGE.
PS25 CLOSES ON LOW PRESSURE OF MFP BRG. OIL.
PS19 CLOSES ON LOW PRESSURE OF MFPT BRG. OIL.
PS 2A } THRUST BEARING WEAR DETECTOR SWITCHES
PS12A } CONTACTS CLOSE ON HIGH PRESSURE OF OIL
IN THRUST BRG. WEAR DEVICE LINES.
LS 7 POSITION SWITCH WHICH PREVENTS RESET
OF TRIP WHEN CONTROL VALVES ARE OPEN.

FOR NOTES BLOCK DIAGRAM TABLES &
PUSHBUTTON DETAILS OF THIS SCHEME
SEE DRAWING E-45B, SH.1B & 1C.

NO.	DATE	REVISIONS	BY	CHK	ENGR.	ENGR. SUPV.	GEN. SUPV.
13	12/22/88	INC. DCN E-45B-205 PER ECP 02-0198-00 REV.02					
12	1-15-90	"AS BUILT" FOR DCR 89-0083 INC. DCN E45B-174					
11	11/7/88	AS-BUILT FOR FCR 85-203 REV.A, SUPP.4, GENERAL UPDATE; INC. DCN E-45B-83, 89, 94 & 109; GENERAL UPDATE FOR FCR 85-203 SUPP.1 & 2 (REDRAWN)					

SCALE	NONE	DESIGNED		DRAWN	CAD/JH	DATE	11-2-87
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY							
ELEMENTARY WIRING DIAGRAMS AFPT & MFPT CONTROL & AUXILIARIES MFPT CONTROL							
DRAWING NO.						REV.	
E-45B SH-1A						13	



BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S)
SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE 2-11-90 BY SP-6 J. S. [Signature] 168

10	12/16/88	INC. DCN E-45B-206 PER ECP 02-0198-00 REV.02	BY	CH'K	ENGR.	GEN. SUPV.
9	9-15-85	INC. DCN E-45B-199 PER ECR 04-0339-00 (CR 02-09678)				
8	1-15-90	"AS BUILT" FOR DCR 89-0083 INC. DCN E-45B-176				
7	11-7-88	"AS-BUILT" FOR FCR 85-203 REV.A SUPP.1, GEN. UPDATE, INC. DCN E-45B-59 (REDRAWN)				

SCHEME NO.	START UP NO.	CHANNEL	WIRE PREFIX	CS					EQUIPMENT							VAC. PRESSURE SWITCH				
				CS/A	CS/B	CS/C	CS/T	CS/R	C	C1	RC	J	JA		R	CA	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.
MFPT01	036	A	TTA	HIS116	HIS801	HS803	HIS797	HIS799	C5711	C5757D	RC2404	JT2401	JT2403		R2402	C2302	PS2535A	PS33A	PS2535B	PS37A
MFPT02	036	B	TTB	HIS121	HIS802	HS804	HIS798	HIS800	C5711	C5757D	RC2304	JT2301	JT2303		R2303	C2303	PS2536A	PS33A	PS2536B	PS37A

PRESSURE SWITCHES										POSITION SWITCHES						DESCRIPTION	
INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	PSH	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.		G.E. NO.
PS2715	PS2A/B	PS2717	PS12A/B	PS1161	PS19	PS1192	PS25	PSH506	PS2729	PS15	ZS2741	LS7	ZS2743	LS16	ZS2744	LS17	MFPT 1 TRIP, RESET & TEST
PS2716	PS2A/B	PS2718	PS12A/B	PS1262	PS19	PS1242	PS25	PSH582	PS2730	PS15	ZS2751	LS7	ZS2753	LS16	ZS2754	LS17	MFPT 2 TRIP, RESET & TEST

SOLENOID VALVES												INDICATING LIGHTS			
INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.	INSTR. NO.	G.E. NO.
SV2779	SV12	SV2773	SV8	SV2771	SV6	SV2781	SV13	SV2775	SV9	SV2777	SV11	IL2715	L1	IL2717	L6
SV2780	SV12	SV2774	SV8	SV2772	SV6	SV2782	SV13	SV2776	SV9	SV2778	SV11	IL2716	L1	IL2718	L6

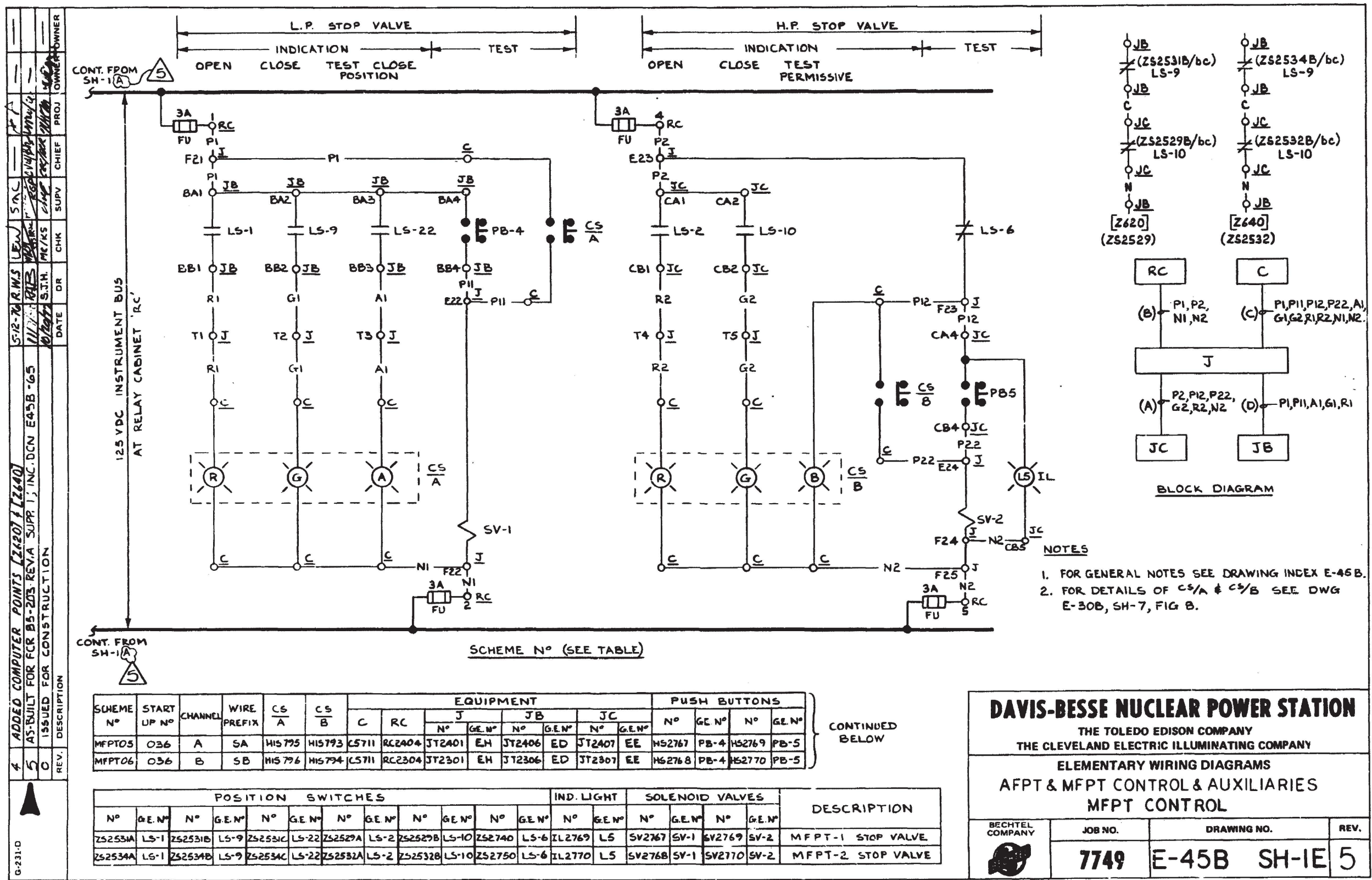
THRUST WEAR TRIP TEST PUSHBUTTONS (BY G.E. LOCATED ON CONTROL STATION ON TURBINE)

PB1 HS2775A (HS2776A)			PB2 ACTIVE THRUST HS2775 (HS2776)			PB3 INACTIVE THRUST HS2777 (HS2778)		
CONTACTS	TEST	NORMAL	CONTACTS	TEST	NORMAL	CONTACTS	TEST	NORMAL
A	X		A			A		
B		X	B	X		B	X	
C								
D								
E	X							
F								
G		X						

X DENOTES CONTACT CLOSED

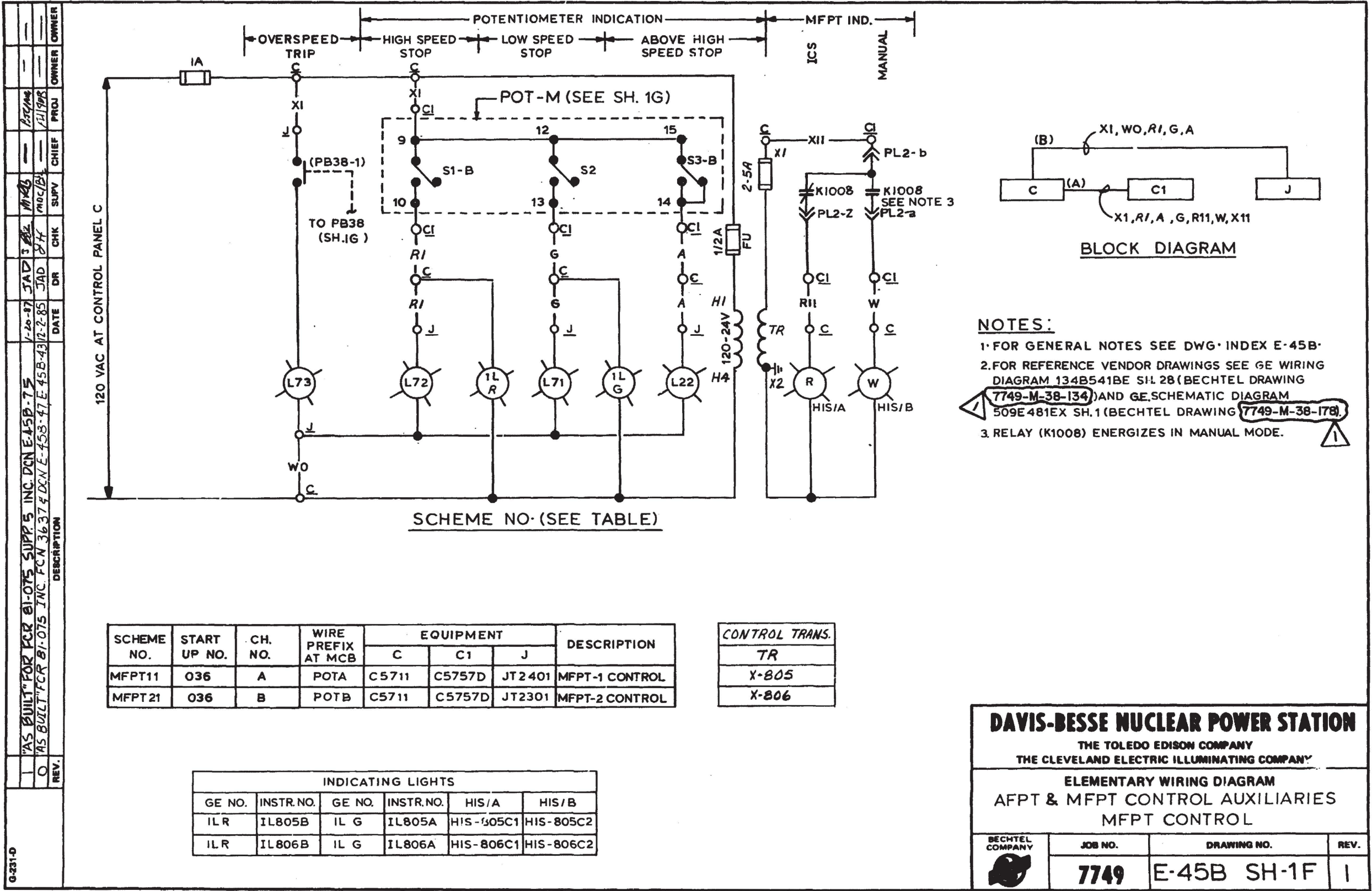
FOR SCHEME, NOTES & BLOCK DIAGRAM SEE E-45B, SH-1A, 1B & 1L.

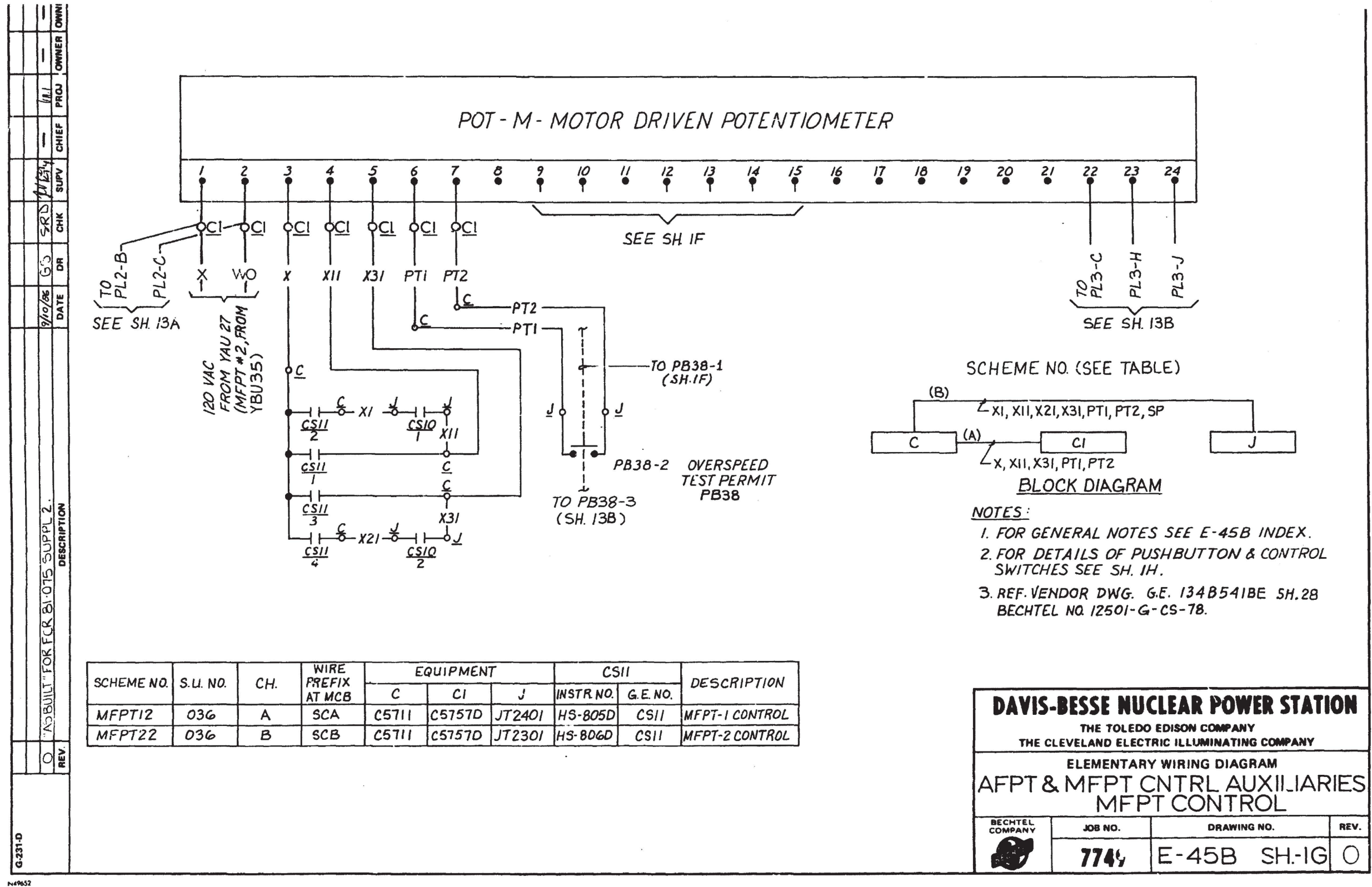
SCALE NONE	DESIGNED	DRAWN JOR	DATE 10-16-88
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS AFPT & MFPT CONTROL & AUXILIARIES MFPT CONTROL			
	DRAWING NO.		REV.
	E-45B SH.1C		10



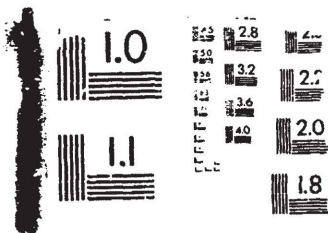
I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT

16X





I certify that the image contained on this frame was made in the normal and regular course of business, on the date stated below and that it is an accurate reproduction of the document(s) submitted to Micrographics.
DATE 9/12/86 OPERATOR B. J. Butler



16 X

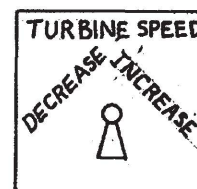
1	INC. DCN E-45B-200 PER ECR 04-0339-00 (CR 02-09678)	DATE	DR	CHK	SUPV	CHIEF	PROJ	OWNER
2	INC. DCN E-45B-183, FOR SEC/RFA 89-0023	9/15/88	JDA	SBW	TRG	---	---	---
3	Q. "ASBUILT" FOR ECR 81-075 SUPPL. 2.	9/10/88	GFB	---	---	---	---	---
REV.								
DESCRIPTION								
G-231-D								

TRANSFER SW. CSII
(LOCATED ON CONTROL PANEL C5711)
HS-805D (HS-806D)

CONTACTS (HANDLE END)		CONTACT	POSITION	
ODD	EVEN		INCREASE	DECREASE
1	2	1	X	
3	4	2		X
		3		
		4	X	

X DENOTES CONTACT CLOSED.
SPRING RETURN TO 12 O'CLOCK
POSITION.

CSII (CS10)



GE CO. TYPE SBM, CAM-OPERATED,
3 POSITION, SPRING RETURN
WITH PISTOL GRIP HANDLE.

ICS
(MAN)

CS10 (TURBINE MOUNTED)

CONTACTS (HANDLE END)		CONTACT	POSITION	
ODD	EVEN		INCREASE	DECREASE
1	2	1	X	
3	4	2		X

X DENOTES CONTACT CLOSED.
SPRING RETURN TO 12 O'CLOCK
POSITION.

HIS/A PB. HIS-805C1 (HIS-806C1)
HIS/B PB. HIS-805C2 (HIS-806C2)
(LOC. AT PANEL C5711)

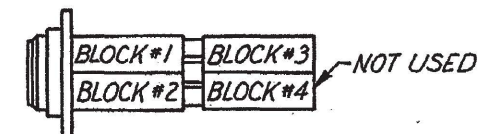
CONTACTS	FREE	DEPRESSED
5-06	X	
6-07		X
14-015	X	
15-016		X

MOMENTARY CONTACT
STACO SWITCH-LIGHTED
DISPLAY PUSHBUTTON, SERIES 40

OVERSPEED TEST
PERMIT PUSHBUTTON (BY GE, TURBINE MOUNTED)
PB38

BLOCK	CONTACTS	NORMAL	TEST
1	0-1-0	X	
2	0-1-0	X	
3	0-1-0	X	
4	0-1-0	X	

MOMENTARY CONTACT PUSHBUTTON
GE TYPE CR2940 FORM UA200C
WITH TANDEM BLOCK (U207).
X DENOTES CONTACT CLOSED.



PB38 BLOCK ARRANGMENT

NOTE:

1. FOR GENERAL NOTES SEE E-45B INDEX

CONTACTS		POSITION	
1	2	INCREASE	DECREASE
1-01	2-02	X	
3-03	4-04		X

MOMENTARY CONTACT PUSHBUTTON
GE TYPE CR2940 FORM US203A



CS/R - HS 799 (HS 800)
LOC. AT PANEL C5711

CONTACTS	NORMAL	RESET AUTO
1-01	X	
2-02		X
3-03	X	
4-04		X
5-05	X	
6-06		X

MOMENTARY CONTACT PUSHBUTTON
GE TYPE CR2940 FORM WA203E

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

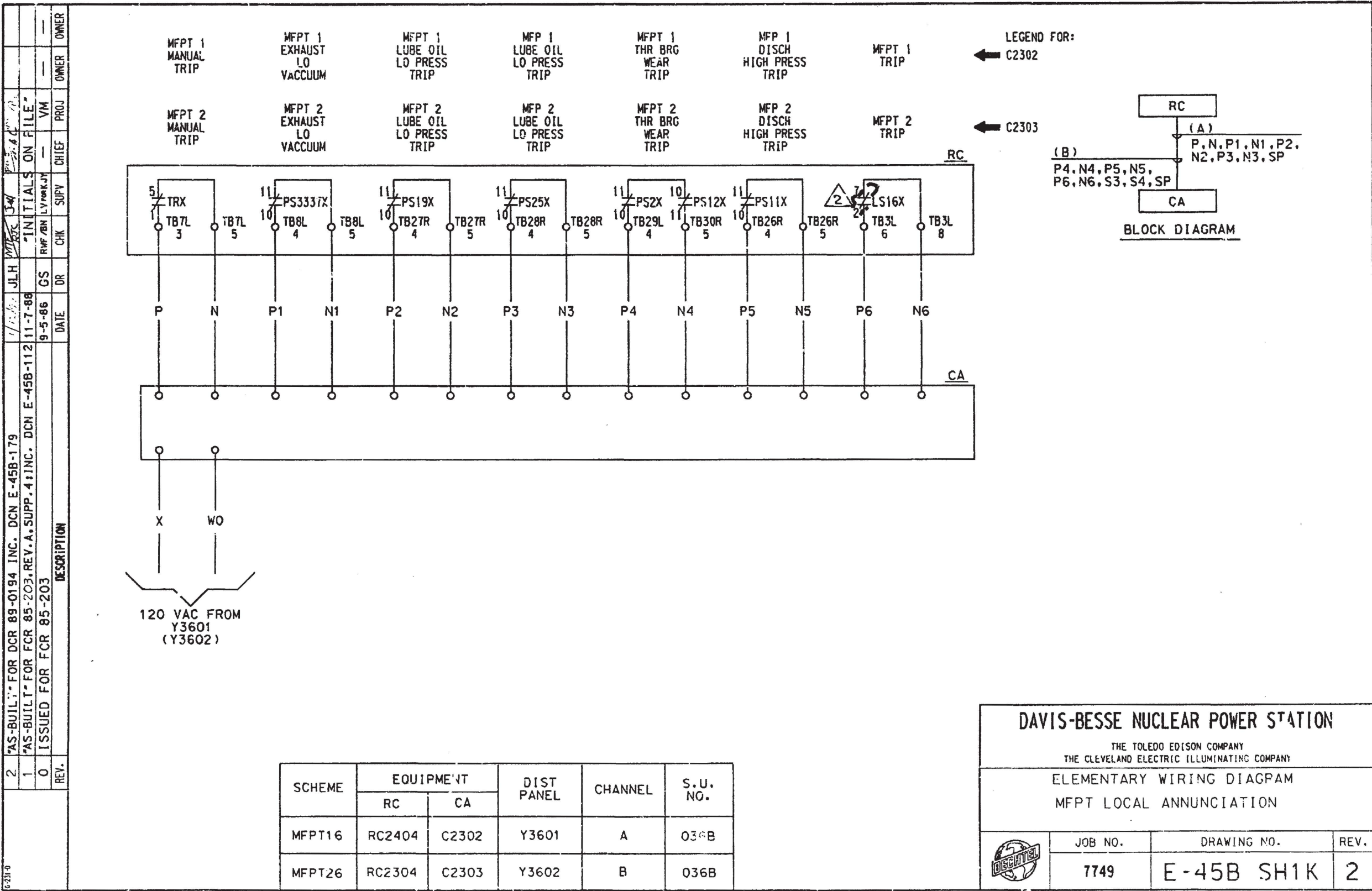
ELEMENTARY WIRING DIAGRAM
AFPT & MFPT CNTRL AUXILIARIES
MFPT CONTROL



JOB NO.
7749

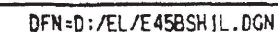
DRAWING NO.
E-45B SH-IH

REV.
2



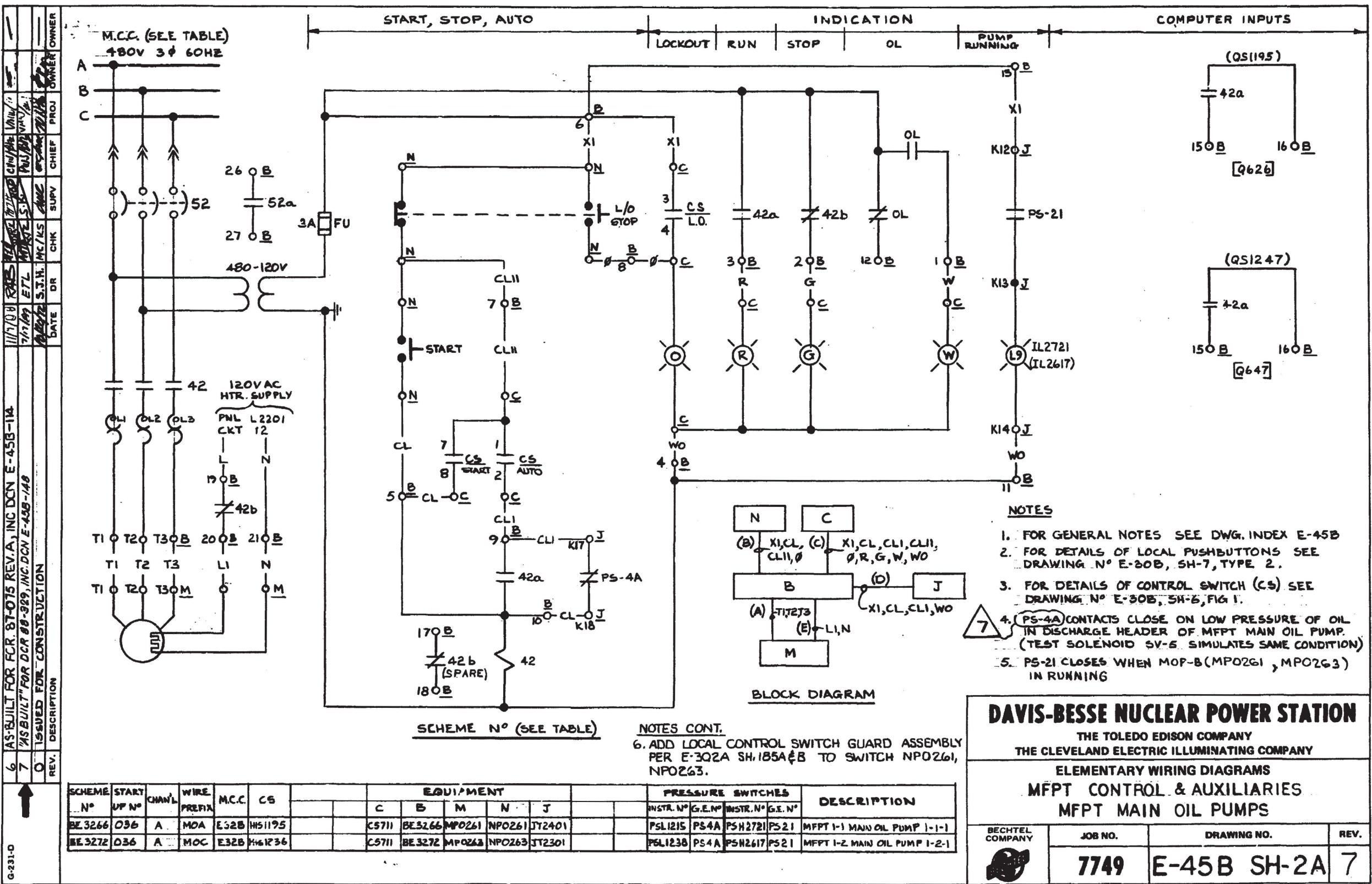
I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS. ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

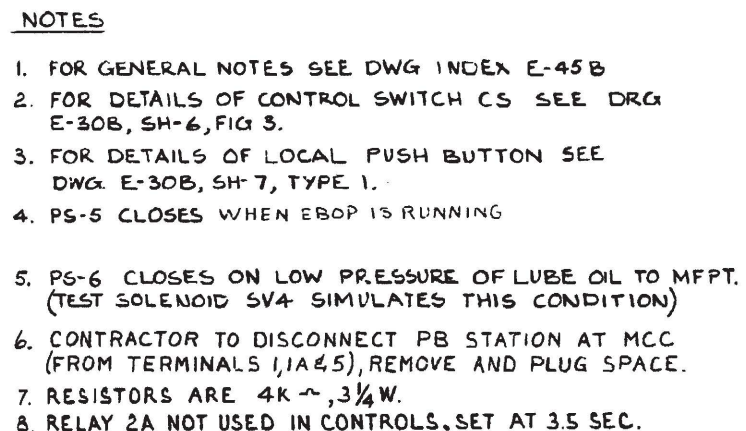
2000-08-16X



OPERATOR

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SCHEME N°	START UP N°	CHANNEL	WIRE PREFIX	MCC	CS	EQUIPMENT					PRESSURE SWITCHES				TEST SV		DESCRIPTION
						C	D	M	N	J	INSTR N°	GEN°	INSTR N°	GEN°	INSTR N°	GEN°	
D115	036	A	EA	D1	HIS1209	CS711	D:15	MP0281	NP0281	JT2401	PSL12 2	PS 6	PSH2723	PS 5	SV1210	SV 4	MFPT 1 EBOP
D215	036	B	EB	D2	HIS1188	CS711	D215	MP0282	NP0282	JT2301	PSL1233	PS 6	PSH2607	PS 5	SV1231	SV 4	MFPT 2 EBOP

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

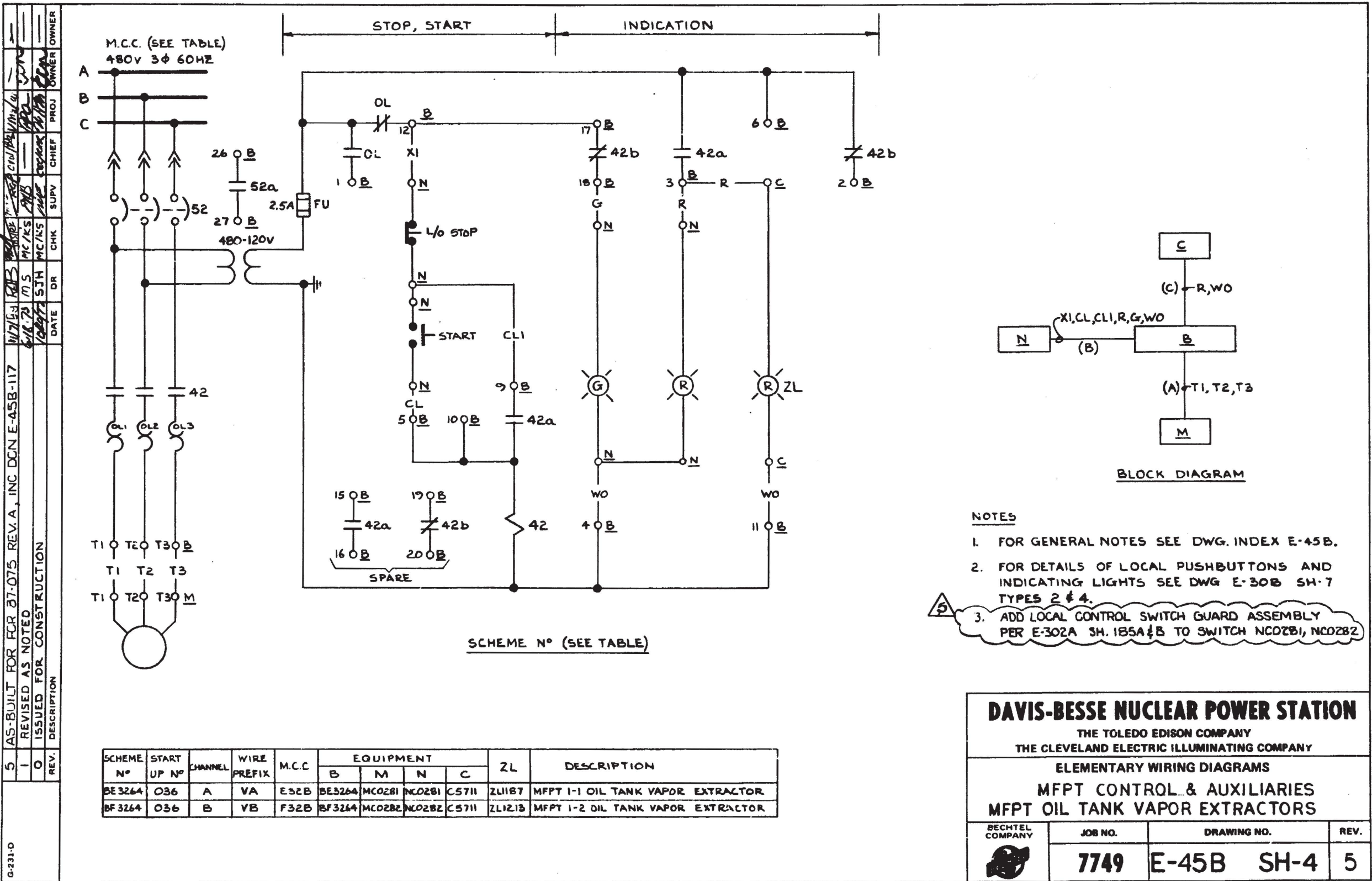
ELEMENTARY WIRING DIAGRAMS
MFPT CONTROL & AUXILIARIES
MFPT EBOP

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-45B SH-3	7

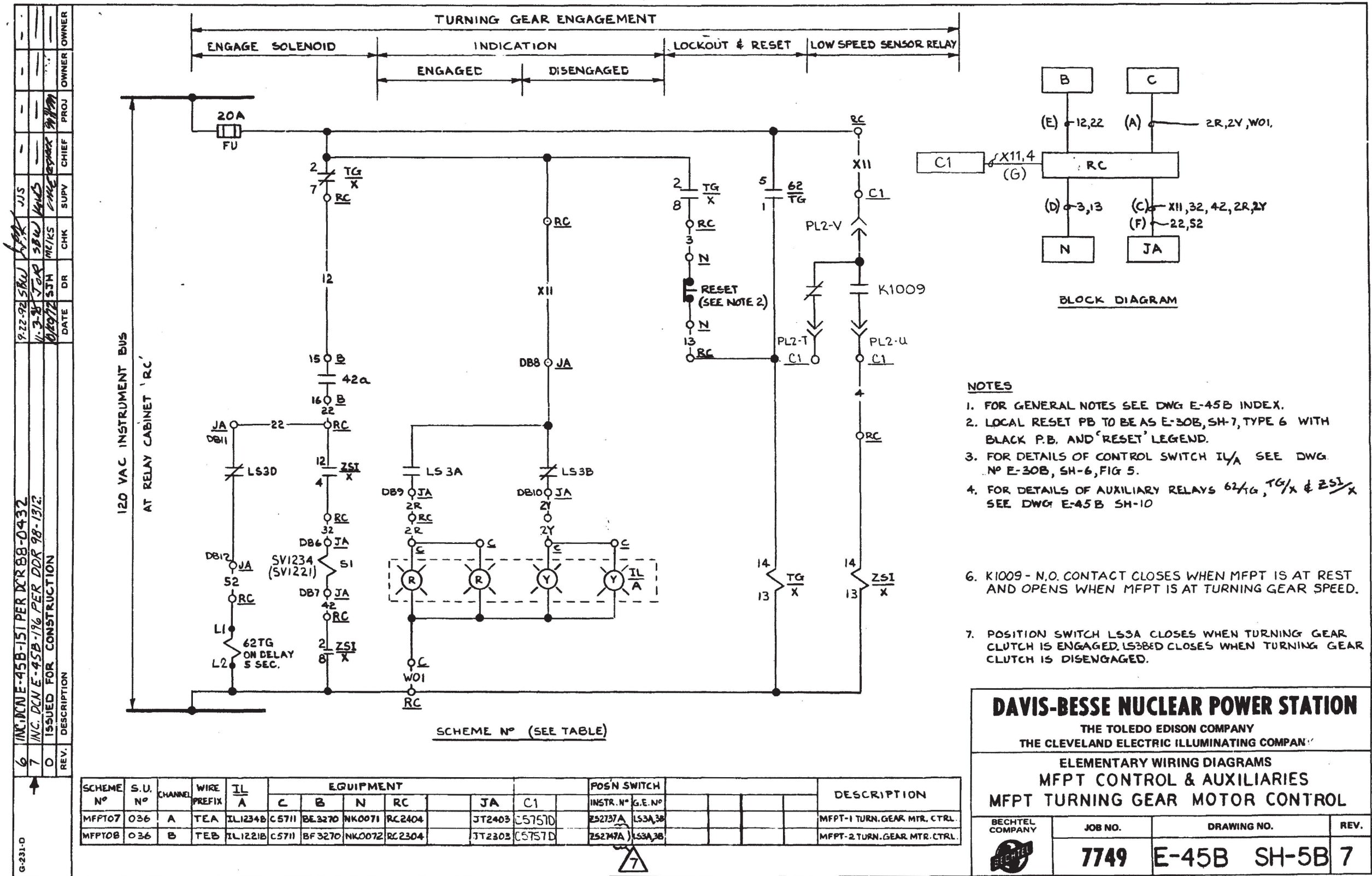
I CERTIFY THAT THE IMAGE CONTAINED 'ON THIS FRAME WAS MADE' IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

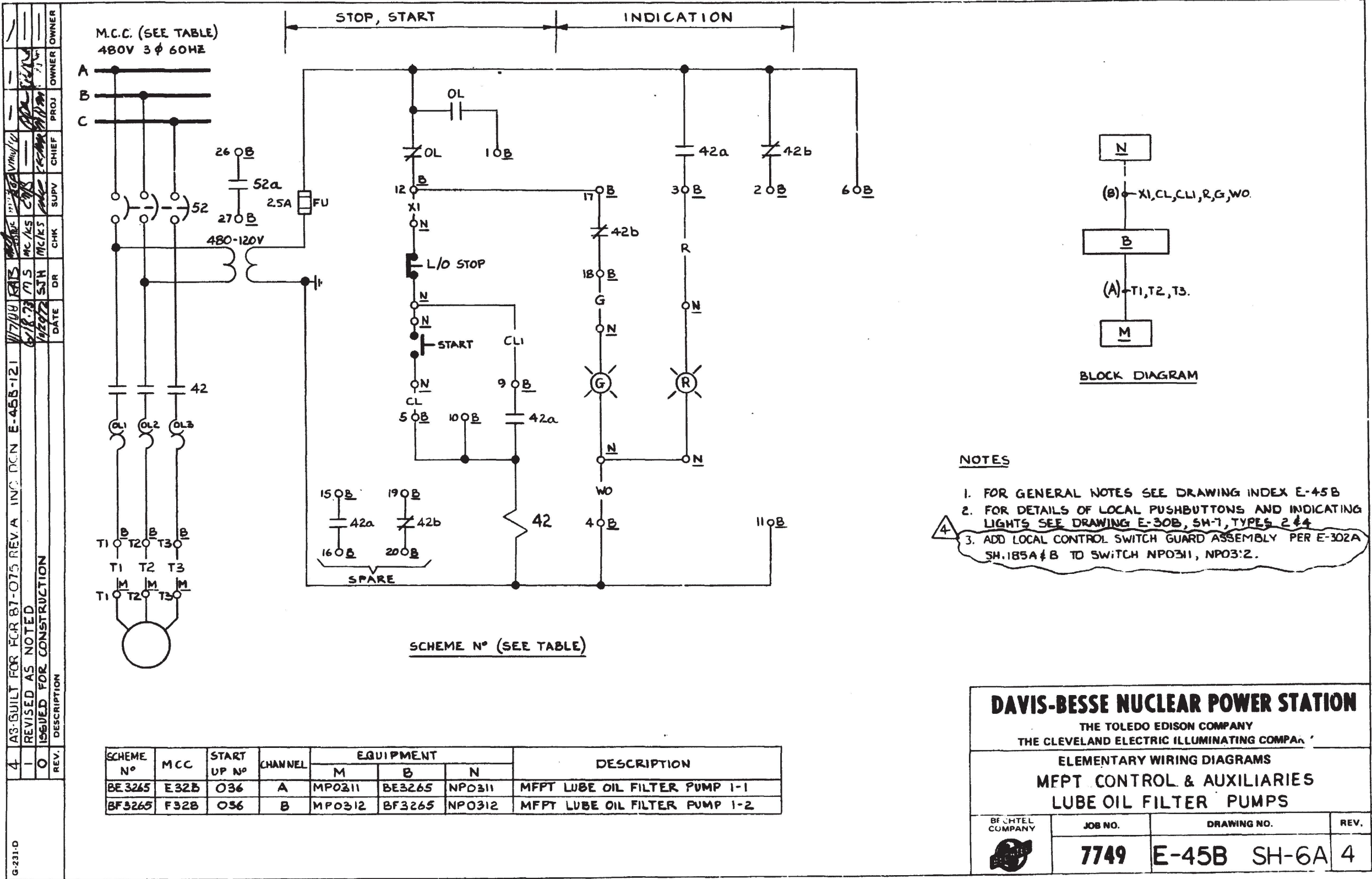
DATE 10-8-92 OPERATOR DAVE H. OGDEN

OPERATOR

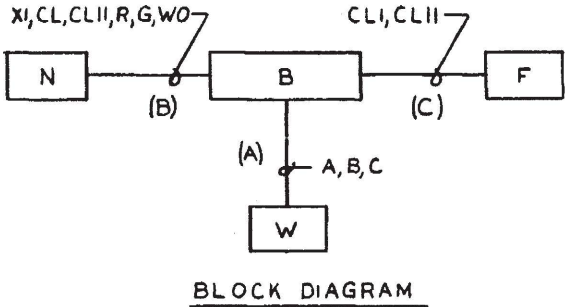
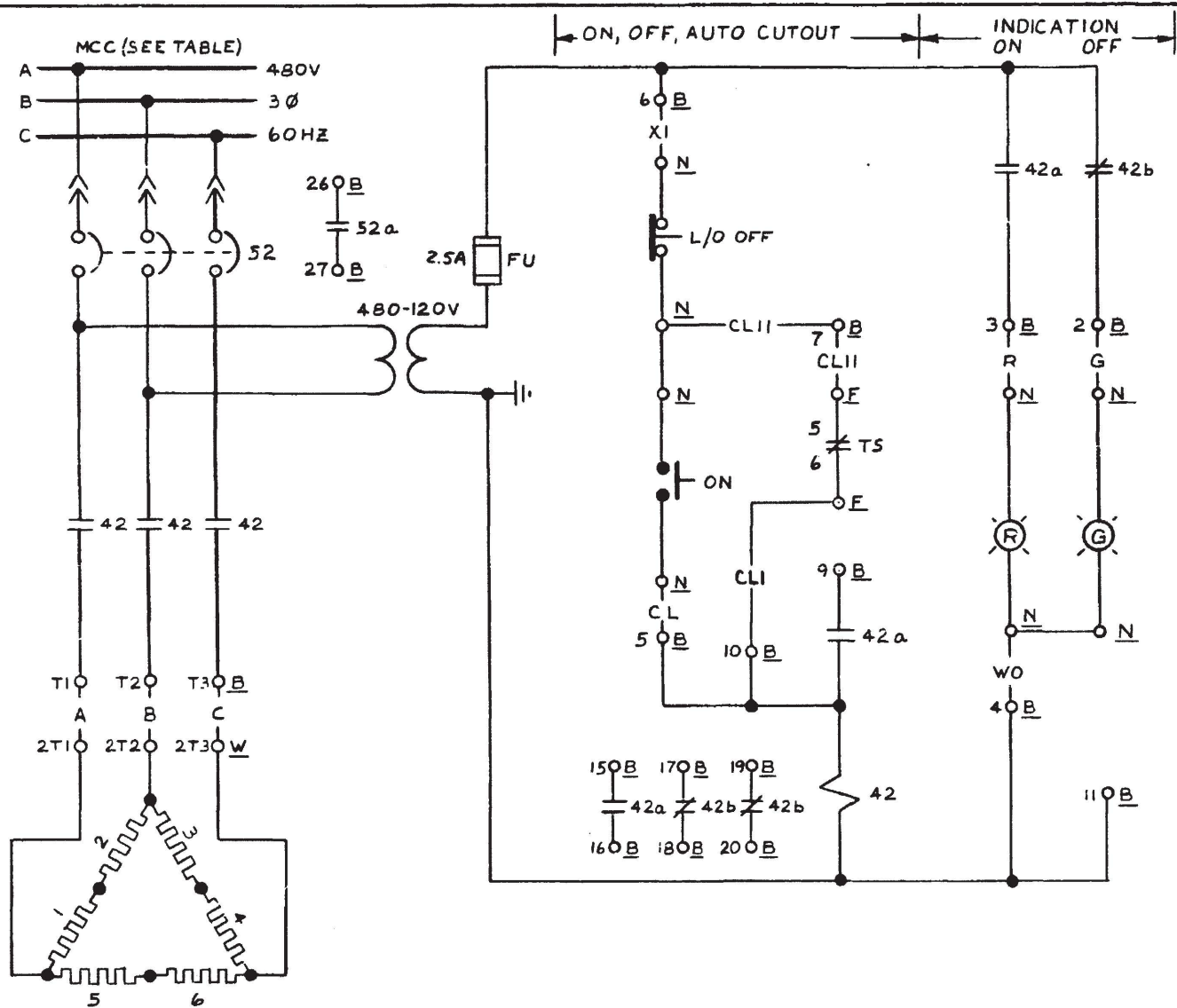


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REV.	DESCRIPTION	DATE	DR.	CHK.	SUPV.	CHIEF	PROJ.	OWNER
6	AS-BUILT FOR FCR 87075 REV.A INC. DCN E-45B-120	11/11/88						
5	INC. DCN E-45B-4, FCR 77-217, "AS-BUILT"	2/21/78	JLN	RM	SMS			
0	ISSUED FOR CONSTRUCTION	6/18/73	77.5	MC/RS	CH/S			



NOTES

1. FOR GENERAL NOTES SEE DWG. INDEX E-45B
2. FOR DETAILS OF LOCAL PB & INDICATING LIGHTS SEE E-30B SH. 7, TYPE 2 & 4.
3. TS-2884 (TS2886) THERMOSTAT CUT OUT SWITCH OPENS ON HIGH TEMPERATURE.
4. REFERENCE DWG. FP-M-98-12 (COMMERCIAL FILTERS DWG. B 9344-0225)
5. ADD LOCAL CONTROL SWITCH GUARD ASSEMBLY PER E-302A SH. 1B5A & B TO SWITCH NFO371, NFO372

LEGEND

SCHEME No	MCC	START UP No	CHANNEL	EQUIPMENT				DESCRIPTION
				B	W	N	F	
BE3273	E32B	36	A	BE3273	WF0371	NFO371	FTS2884	MFPT LUBE OIL FILTER HTR 1-1
BF3137	F31A	36	B	BF3137	WF0372	NFO372	FTS2886	MFPT LUBE OIL FILTER HTR 1-2

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS
MFPT CONTROL & AUXILIARIES
LUBE OIL FILTER HEATERS

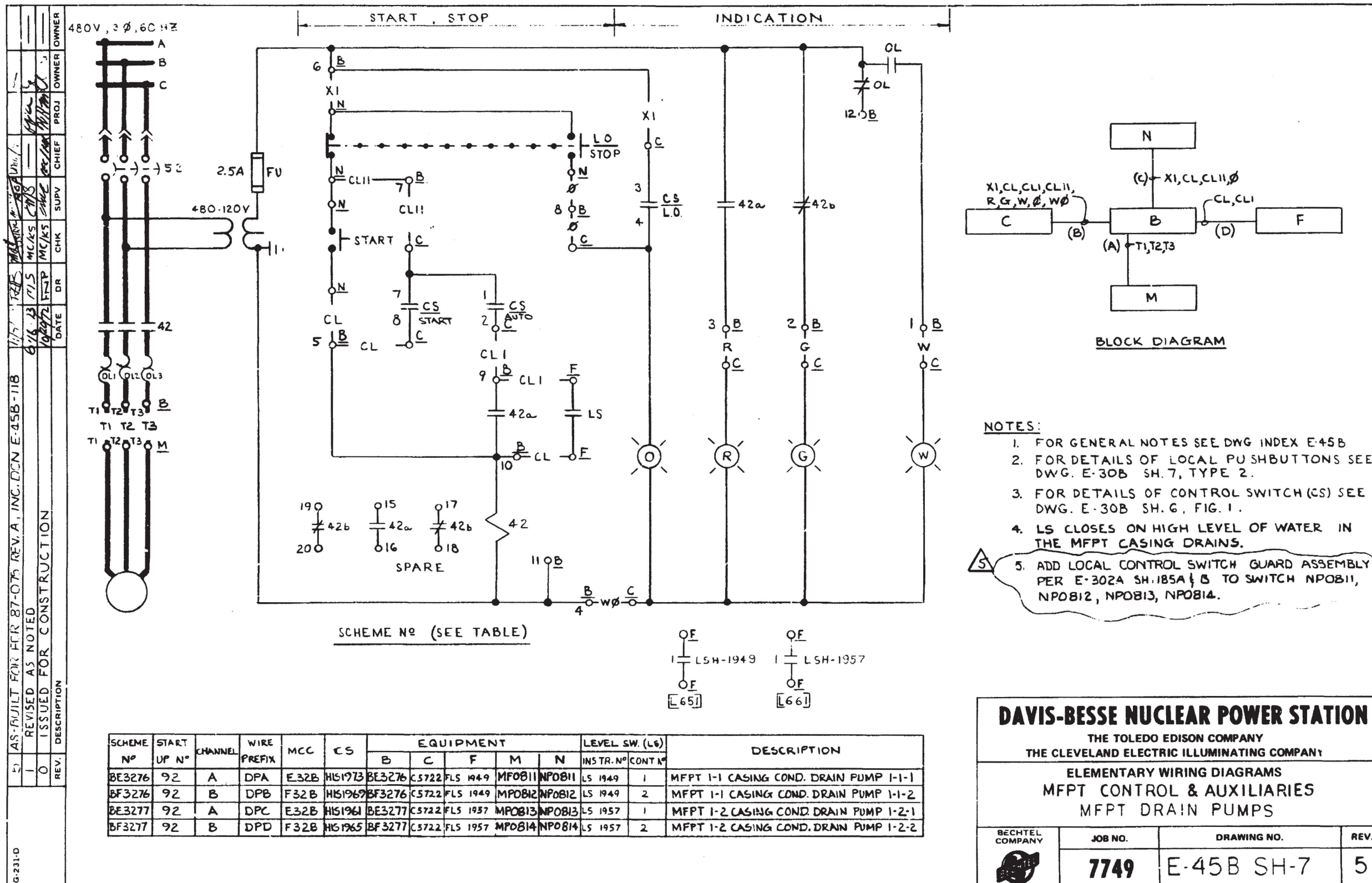


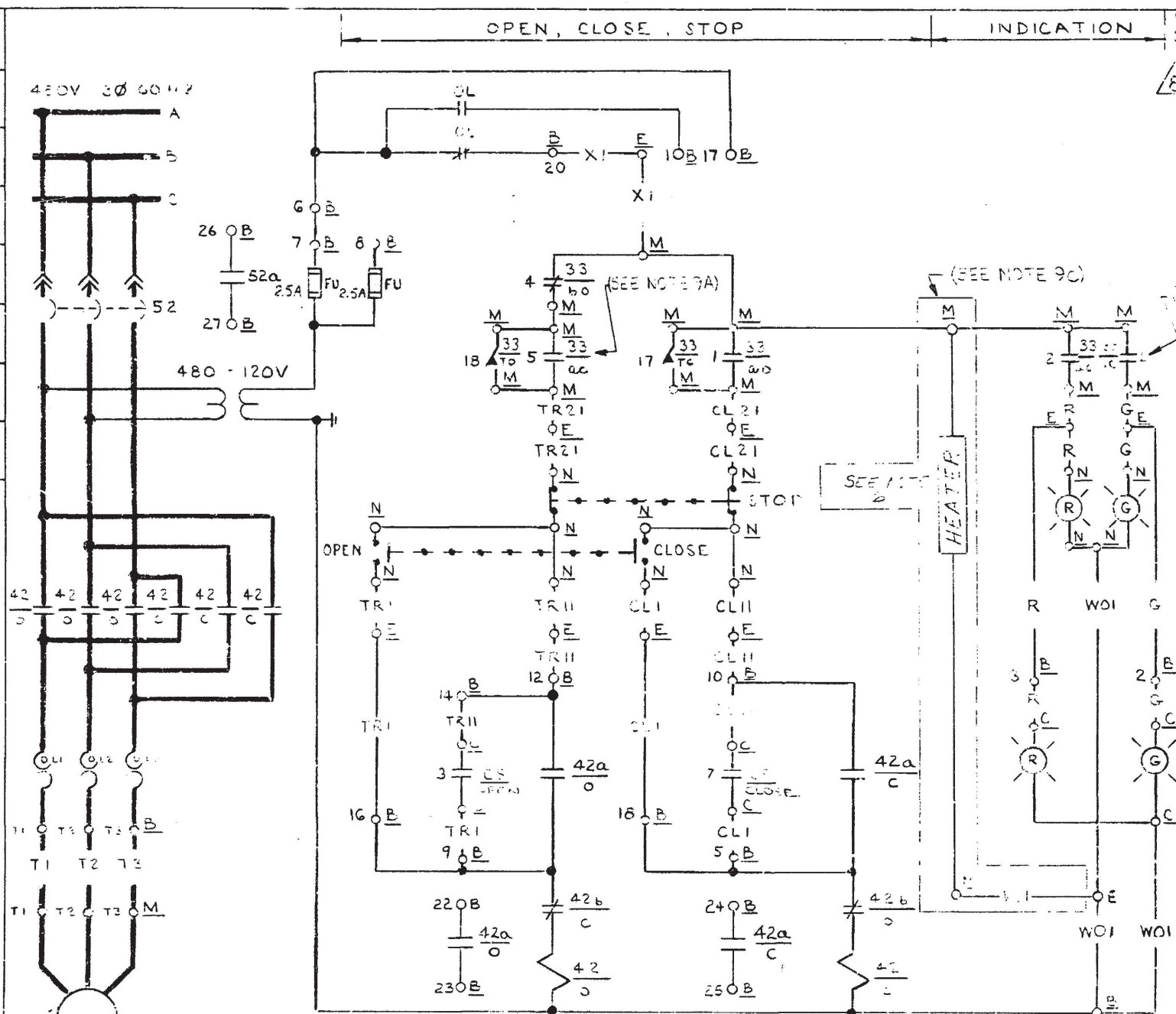
JOB NO.	DRAWING NO.	REV.
7749	E-45B SH-6B	6

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS. ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

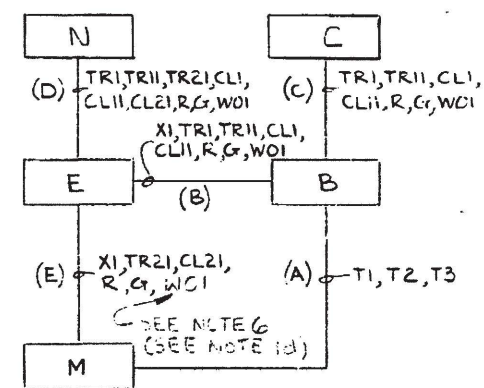
DATE 11-11-88 OPERATOR K. Weibel

16X





4 10. NOTE 8 AND REFERENCE TO MOV TD1947(MV1947), TD1951
(MV19510), TD1955(MV19550), TD1948(MV19480), TD1952
(MV19520), TD1945(MV19450), TD1954(MV19540), TD1956
(MV19560), TD1950(MV19500), IN NOTE 8 AND THIS NOTE
TO BE REMOVED WHEN ALL OTHER VALVES ASSOCIATED WITH
THIS DRAWING PER MOD 87-1325 HAVE BEEN AS-BUILT AND
DCN CHANGES INCORPORATED



BLOCK DIAGRAM

- NOTES:
1. FOR GENERAL NOTES SEE DRAWING INDEX E-45B.
2. FOR DETAILS OF LOCAL PUSHBUTTON & INDICATING LIGHTS SEE DRAWING E-30B, SH. 7 TYPES 3,4 & 5.
3. FOR VALVE LIMIT SWITCH DEVELOPMENT SEE DRAWING E-30B, SH.8.
4. FOR DETAILS OF C5-HIS1944,HIS1945,HIS1947,HIS1948,HIS1950,HIS1951,HIS1952,HIS1954,HIS1955, & HIS1956 SEE DRAWING E-30B, SH.7, FIG.7.
5. FOR LEGEND SEE DRAWING E-45, SH.8B.
6. SPACE HEATERS SUPPLIED FOR MV19440 ONLY.
(SEE NOTE 9E).
7. DELETED.
8. FIELD TO ADJUST ROTOR #2, WITH SWITCH CONTACTS 5 THRU 8, TO ACTUATE WHEN VALVE REACHES 20% OPEN (+ 5%, - 0%), FOR MOV TD1947(MV19470),TD1951(MV19510),TD1955(MV19550),TD1948(MV19480),TD1952(MV19520),TD1945(MV19450),TD1954(MV19540),TD1956(MV19560),TD1950(MV19500).


(NOTES CONT'D BELOW)

(NOTES CONT'D BELOW)

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS
MFEPT CONTROL & AUXILIARIES
MFEPT MOTOR OPERATED DRAIN VALVES

BECHTEL COMPANY	JOB NO.	DRAWING NO.	REV.
	7749	E-45B SH-8A	8

NOTES (CONT'D):

9. THE FOLLOWING CHANGES ARE FOR MOU TD1947(MV19470),
TD1951(19510), TD1955(MV19550), TD1948(MV19480), TD1952
(MV19520), TD1945(MV19450), TD1954(MV19540), TD1956
(MV19560), TD1950(MV19500):

- a) REVISE ac To bn% b) REVISE 6 To 14
- c) REMOVE HTR. SCHEMATIC SHOWN IN PHANTOM AREA.
- d) REMOVE: (WG1) ← SEE NOTE 6. ADD SP, SP.
- e) DELETE REFERENCE NOTE 6. (NOTES CONT'D ABOUT)

SCHEME NO (SEE SH 6B)

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

10

16X

6

SEE NOTE 6 →

NOTE

REF. TO NOTE 6 & THIS NOTE TO BE REMOVED WHEN ALL OTHER VALUES ABOVE WITH THIS DRAWING PER MOD 57-1126 HAVE BEEN AS-BUILT AND DON CHANGES INCORPORATED

SCHEME N°	START UP N°	CHANNEL	WIRE PREFIX	MCC	CS	EQUIPMENT					DESCRIPTION
						B	C	E	M	N	
BE3280	092	A	FBAS	E32B	HIS1951	BE3280	C5722	EV1950	MV19510	NV19510	MFPT 1-1 HP STOP VALVE ABOVE SEAT DRAIN.
BF3280	092	B	FDAS	F32B	HIS1947	BF3280	C5722	EV19470	MV19470	NV19470	MFPT 1-2 HP STOP VALVE ABOVE SEAT DRAIN.
BE3283	092	A	FAAS	E32B	HIS1955	BE3283	C5722	EV19550	MV19550	NV19550	MFPT 1-1 LP STOP VALVE ABOVE SEAT DRAIN.
BF3283	092	B	FCAS	F32B	HIS1948	BF3283	C5722	EV19480	MV19480	NV19480	MFPT 1-2 LP STOP VALVE ABOVE SEAT DRAIN.
BE3281	092	A	FBBS	E32B	HIS1952	BE3281	C5722	EV19520	MV19520	NV19520	MFPT 1-1 HP STOP VALVE BELOW SEAT DRAIN.
BF3281	092	B	FDBS	F32B	HIS1945	BF3281	C5722	EV19450	MV19450	NV19450	MFPT 1-2 HP STOP VALVE BELOW SEAT DRAIN.
BE3284	092	A	FABS	E32B	HIS1954	BE3284	C5722	EV19540	MV19540	NV19540	MFPT 1-1 LP STOP VALVE BELOW SEAT DRAIN.
BF3284	092	B	FCBS	F32B	HIS1956	BF3284	C5722	EV19560	MV19560	NV19560	MFPT 1-2 LP STOP VALVE BELOW SEAT DRAIN.
BE3274	092	A	F1D	E32B	HIS1950	BE3274	C5722	EV19500	MV19500	NV19500	MFPT 1-1 1" STAGE DRAIN.
BF3274	092	B	F2D	F32B	HIS1944	BF3274	C5722	EV19440	MV19440	NV19440	MFPT 1-2 1" STAGE DRAIN.

FOR SCHEME, BLOCK DIAGRAM AND NOTES SEE DRAWING E-45 SH-8A.

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS
MFPT CONTROL & AUXILIARIES
MFPT MOTOR OPERATED DRAIN VALVES

BECHTEL COMPANY

JOB NO.
7749

DRAWING NO.
E-45B SH- 8B

REV.
6

6

5

0

ISSUED FOR CONSTRUCTION

DESCRIPTION

REV.

DATE

DR

CHK

SUPV

CHIEF

PROJ

OWNER

OWNER

INC. DCN'S E-45B-157 169 166 163 170 172 AND 173 (NO DWG. CHANGES) AND E-45B-162 PER MOD 57-1126

DATE 11-9-92

OPERATOR

16X

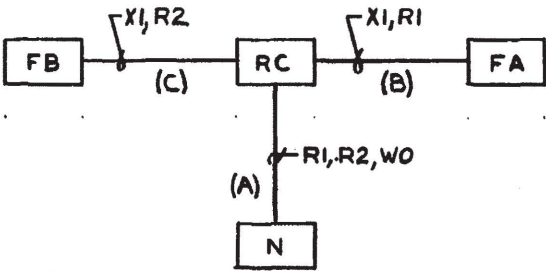
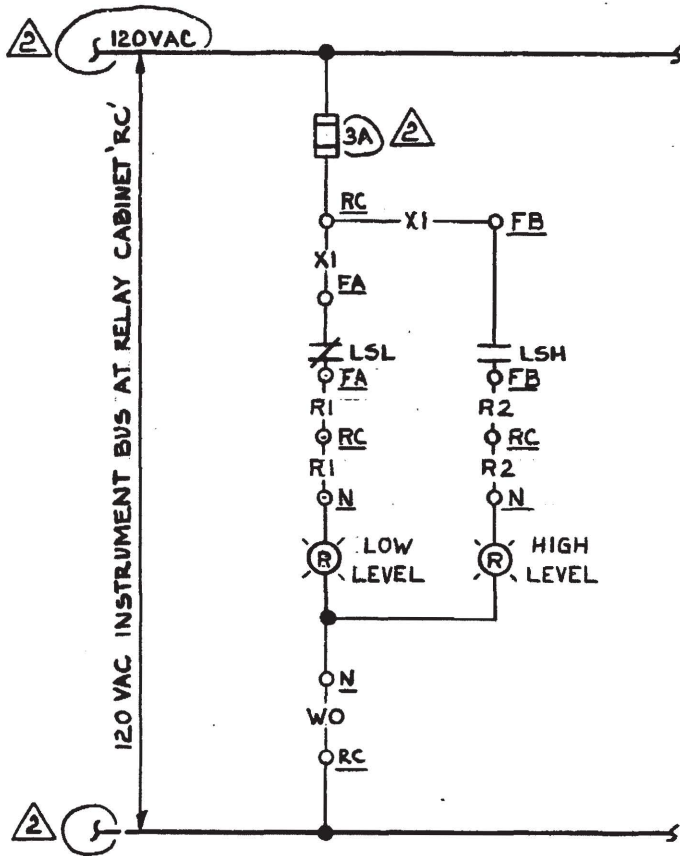
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DATE 11-9-92

OPERATOR

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REV.	DESCRIPTION	DATE	CHK	SUPV	CHIEF	PROJ	OWNER
2	ADDED FUSE RATING 1 REVISED AS NOTED	5-12-76	R.W.S	LEW	S.M.C		
1	REVISED CHANNEL & RC NO.	3-15-75	R.W.S	LEW	S.M.C		
0	ISSUED FOR CONSTRUCTION	6-12-75	S.J.H	ME/LS	CHIEF		



BLOCK DIAGRAM

NOTES

1. FOR GENERAL NOTES SEE DWG INDEX E-45B
2. FOR DETAILS OF INDICATING LIGHTS SEE DRAWING E-30B, SH-7, TYPE 4 EXCEPT WITH TWO RED LENS, & LEGEND AS SHOWN.

SCHEME	SU No	CHANNEL	EQUIPMENT				DESCRIPTION
			RC	N	FA	FB	
I1183	36	A	RC2404	NIL1183	FLSL1183	FLSH1183	MFPT USED LUBE OIL TK. 1-1

DAVIS-BESSE NUCLEAR POWER STATION

THE TOLEDO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ELEMENTARY WIRING DIAGRAMS

MFPT CONTROL & AUXILIARIES

MFPT USED LUBE OIL TK 1-1



JOB NO.

DRAWING NO.

REV.

7749

E-45B SH-9

2

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT

DATE 4-9-88 OPERATOR S. Sutton

16X

NEWFAX 3/85 N58313

ED 7489

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH DEUTSCH SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E45B SH.1B	MFPT TRIP AUX. RELAY	PS15X	DEUTSCH RELAY 4AP43AF 125VDC	SPARE	MFP DISCH CHECK VLV CLOSE	PART OF P654	SPARE 8	ICS INPUT	—	PART OF F043	—	FUNCTION
		RS2DC		—	E44B, SH.2	E45B, SH.14	—	E729, SH.12	—	E44B, SH.8	—	REF. DWG.
E45B SH.5B	MFPT TURN GEAR L/O RELAY	TG/X	DEUTSCH RELAY 4APX1603 120VAC	L/O INDICATION	L/O TURN GEAR MOTOR	SEAL-IN	INTERLOCK TURN GEAR SOLENOID	SPARE	—	SPARE	—	FUNCTION
		RS5AC		E45B, SH.5A	E45B, SH.5A	E45B, SH.5B	E45B, SH.5B	—	—	—	—	REF. DWG.
E45B SH.5B	MFPT LOW SPEED RELAY	ZSI/X	DEUTSCH RELAY 4APX1603 120VAC	SPARE	S656 QS-2742C	ENERGIZE TURN. GEAR SOLENOID	SPARE	AUTO START TURN. GEAR MOTOR	—	ENERGIZE TURN. GEAR SOLENOID	—	FUNCTION
		RS2AC		—	—	E45B, SH.5B	—	E45B, SH.5A	—	E45B, SH.5B	—	REF. DWG.

NOTES:

1. FOR STANDARD WIRING DETAILS REFER TO DWG.E-737A.

SCALE NONE	DESIGNED ARRAS	DRAWN JOR	DATE 7-29-87
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS #1 MFPT & AFPT CONTROL & AUXILIARIES AUXILIARY RELAYS			
	DRAWING NO.		REV.
	E-45B SH.10		8

DB 08-06-90

DFN-0: /ELEC/E45BSH10.DGN

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE 11-19-90 OPERATOR

16X

NEW FAX 3/85 N58313

ED 7489

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH DEUTSCH SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E45B SH. 1B	MFPT TRIP AUX. RELAY	PS15X	DEUTSCH RELAY 4AP43AF 125VDC	SPARE	MFP DISCH CHECK VLV CLOSE	PART OF P664	SPARE	ICS INPUT	—	PART OF F050	—	FUNCTION
		RS2DC		—	E44B, SH. 2	E45B, SH. 15	—	E729, SH. 12	—	E44B, SH. 8	—	REF. DWG.
E45B SH. 5B	MFPT TURN GEAR L/O RELAY	TG/X	DEUTSCH RELAY 4APX1603 120VAC	L/O INDICATION	L/O TURN GEAR MOTOR	SEAL-IN	INTERLOCK TURN GEAR SOLENOID	SPARE	—	SPARE	—	FUNCTION
		RS5AC		E45B, SH. 5A	E45B, SH. 5A	E45B, SH. 5B	E45B, SH. 5B	—	—	—	—	REF. DWG.
E45B SH. 5B	MFPT LOW SPEED RELAY	ZS1/X	DEUTSCH RELAY 4APX1603 120VAC	SPARE	S666 QS-2752C	ENERGIZE TURN. GEAR SOLENOID	SPARE	AUTO START TURN. GEAR MOTOR	—	ENERGIZE TURN. GEAR SOLENOID	—	FUNCTION
		RS2AC		—	—	E45B, SH. 5B	—	E45B, SH. 5A	—	E45B, SH. 5B	—	REF. DWG.

NOTES:

1. FOR STANDARD WIRING DETAILS REFER TO DWG E737A.

SCALE NONE	DESIGNED ARRAS	DRAWN JOR	DATE 7-29-87
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 <small>THE TOLEDO EDISON COMPANY</small>			
ELEMENTARY WIRING DIAGRAMS #2 MFPT & AFPT CONTROL & AUXILIARIES AUXILIARY RELAYS			
	DRAWING NO.		REV.
	E-45B SH.10A		0


DB 10-14-88

DFN-D1/EL/E45BSH10.DGN

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS. ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE 11-11-88 OPERATOR K. Weibel

16X

SCALE NONE	DESIGNED ARRAS	DRAWN JOR	DATE 7-29-87
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS #1 MFPT & AFPT CONTROL & AUXILIARIES AUXILIARY RELAYS			
	DRAWING NO.		REV.
	E-45B SH.10B		0

1. FOR GENERAL NOTES SEE DWG.E45B SH.10.

DB 10-14-88

DFN-DI/EL/E45BSH10.DGN

NEW FAX 3/85 N56313

ED 7489

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH DEUTSCH SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E45B SH.1A	MANUAL TURBINE TRIP AUX. RELAY	TRX	DEUTSCH RELAY 4AP43AF 125VDC	SPARE	SOE ANN.	SPARE	TEST CONNECTION		Q642	SEAL-IN		FUNCTION
		RS10DC			E45B, SH. 1K				E45B, SH. 15	E45B, SH. 1A		REF. DWG.

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH DEUTSCH SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E45B SH.1A	MFPT VACUUM TRIP RELAY	VRX	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	TURBINE TRIP PERMISSIVE	INDICATION	SPARE	SPARE			ALARM PERMISSIVE	FUNCTION
		RS25DC		E45B, SH. 1A	E45B, SH. 1A	E45B, SH. 1A					E45B, SH. 1A	REF. DWG.

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH DEUTSCH SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E45B SH.1B	MFPT EMER. GOV. TRIP AUX. RELAY	LS16X	DEUTSCH RELAY 4AP43AF 125VDC	SPARE	PART OF Q634		SOE ANN.	TEST CONNECTION		LS-16 SOE SEAL-IN	LS-16 AUTO RESET INHIBIT	FUNCTION
		RS26DC			E45B, SH. 15		E45B, SH. 1K			E45B, SH. 1L	E45B, SH. 1L	REF. DWG.

NOTES:
1. FOR GENERAL NOTES SEE DWG.E45B SH.10A.

SCALE NONE DESIGNED ARRAS DRAWN JOR DATE 7-29-87

DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1
THE TOLEDO EDISON COMPANY

ELEMENTARY WIRING DIAGRAMS
#2 MFPT & AFPT CONTROL & AUXILIARIES
AUXILIARY RELAYS

DRAWING NO. REV.

E-45B SH.10C 0

DB 10-14-88 DFN=D:/EL/E45BSH10.DGN

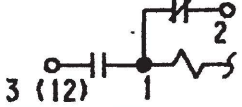
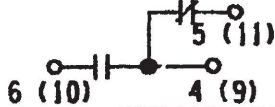
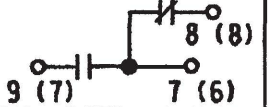
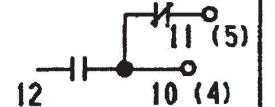
I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS. ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT

DATE 11-11-88 OPERATOR H. Weibel

16X


NEW FAX 3/85 N58313

ED 7489

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH ARMEL SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E 45B SH. 1A	LOW VACUUM TRIP AUX. RELAY	PS3337X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	SPARE	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1A	—	—	—	—	—	—	E45B, SH. 1K	REF. DWG.
E 45B SH. 1L	PUMP HIGH DISCH. PRESS. AUX. RELAY	PSHX	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF 0628	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 14	—	E45B, SH. 1K	REF. DWG.
E 45B SH. 1L	TURB. BRG LOW OIL PRESS. TRIP AUX. RELAY	PS19X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P657	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 14	—	E45B, SH. 1K	REF. DWG.
E 45B SH. 1L	PUMP BRG LOW OIL PRESS. TRIP AUX. RELAY	PS25X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P639	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 14	—	E45B, SH. 1K	REF. DWG.
E 45B SH. 1L	THRUST BRG TRIP (ACTIVE) AUX. RELAY	PS2X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P658	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 14	—	E45B, SH. 1K	REF. DWG.
E 45B SH. 1L	THRUST BRG TRIP (INACTIVE) AUX. RELAY	PS12X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P658	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 14	—	E45B, SH. 1K	REF. DWG.

NOTES:

1. FOR GENERAL NOTES SEE DWG.E45B SH.10.

SCALE NONE	DESIGNED ARRAS	DRAWN JOR	DATE 7-29-87
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS #1 MFPT & AFPT CONTROL & AUXILIARIES AUXILIARY RELAYS			
	DRAWING NO.		REV.
	E-45B SH.10D		0

DB 10-14-88

DFN=D1/EL/E45BSH10.DGN

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS. ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE 11-11-88 OPERATOR A. Weibel

16X

NEW FAX 5/85 N50313

ED 7489

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH ARMEL SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E45B SH.1A	LOW VACUUM TRIP AUX. RELAY	PS3337X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	SPARE	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1A	—	—	—	—	—	—	E45B, SH. 1K	REF. DWG.
E45B SH.1L	PUMP HIGH DISCH. PRESS. AUX. RELAY	PSHX	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF 0648	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 15	—	E45B, SH. 1K	REF. DWG.
E45B SH.1L	TURB. BRG LOW OIL PRESS. TRIP AUX. RELAY	PS19X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P667	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 15	—	E45B, SH. 1K	REF. DWG.
E45B SH.1L	PUMP BRG LOW OIL PRESS. TRIP AUX. RELAY	PS25X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P646	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 15	—	E45B, SH. 1K	REF. DWG.
E45B SH.1L	THRUST BRG TRIP (ACTIVE) AUX. RELAY	PS2X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P668	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 15	—	E45B, SH. 1K	REF. DWG.
E45B SH.1L	THRUST BRG TRIP (INACTIVE) AUX. RELAY	PS12X	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN	—	SPARE	TEST CONNECTION	SPARE	PART OF P668	—	SOE ANN.	FUNCTION
		RS30DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 15	—	E45B, SH. 1K	REF. DWG.


NOTES:

1. FOR GENERAL NOTES SEE DWG.E45B SH.10A.

SCALE NONEDESIGNED ARRASDRAWN JORDATE 7-29-87

DAVIS-BESSE NUCLEAR POWER STATIONUNIT NO. 1THE TOLEDO EDISON COMPANY

ELEMENTARY WIRING DIAGRAMS#2 MFPT & AFPT CONTROL & AUXILIARIESAUXILIARY RELAYS

DRAWING NO. E-45B SH.10EREV. 0

DB 10-14-88

DFN=D:\EL\E45BSH10.DGN

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS. ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT

11-11-88

OPERATOR

K. Weibel

16X

NEW FAX 3/85 N58313

ED 7489

DWG. SH. NO.	DESCRIPTION	DESIGNATION	TYPE	RELAY CONTACTS/SHOWN WITH ARMEL SOCKET PIN NO. AND TB. TERM. NO. IN ().								
		STANDARD WIRING										
E45B SH. 1L	BONAFIDE TURBINE TRIP AUX. RELAY	A1	DEUTSCH RELAY 4AP43AF 125VDC	SPARE	—	—	PART OF P657	SPARE	PART OF P639	SPARE	PART OF P658	FUNCTION
		RS31DC		—	—	—	E45B, SH. 14	—	E45B, SH. 14	—	E45B, SH. 14	REF. DWG.
E45B SH. 1L	BONAFIDE TURBINE TRIP AUX. RELAY	A2	DEUTSCH RELAY 4AP43AF 125VDC	SEAL-IN FOR RELAYS A1 & A2	—	—	PART OF 0628	SPARE	AUTO RESET CIRCUIT	SPARE	TRX RESET INHIBIT	FUNCTION
		RS31DC		E45B, SH. 1L	—	—	E45B, SH. 14	—	E45B, SH. 1L	—	E45B, SH. 1A	REF. DWG.
E45B SH. 1L	SOE ANNUNCIATOR AUTO RESET AUX. RELAY	RTX	DEUTSCH RELAY 4AP43AF 125VDC	AUTO RESET SOE ANN.	—	—	SPARE	SPARE	AUX. RELAYS RESET	AUTO SEQ. RESET SOE ANN.	SPARE	FUNCTION
		RS31DC		E45B, SH. 1L	—	—	—	—	E45B, SH. 1L	E45B, SH. 1L	—	REF. DWG.

NOTES:

1. FOR GENERAL NOTES SEE DWG.E45B SH.10.

SCALE NONE

DESIGNED ARRAS

DRAWN JOR

DATE 7-30-87

DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1
THE TOLEDO EDISON COMPANY

ELEMENTARY WIRING DIAGRAMS
#1 MFPT & AFPT CONTROL & AUXILIARIES
AUXILIARY RELAYS

DRAWING NO.
E-45B SH.10F

REV.
0

DB 10-14-88

DFN-D1/EL/E45BSH10.DGN

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT


OPERATOR

A. Weibel

16X

DEFN=D1/EL/E45BSH10.DGN

1. FOR GENERAL NOTES SEE DWG.E45B SH.10A.

SCALE NONE	DESIGNED ARRAS	DRAWN JOR	DATE 7-30-87
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS #2 MFPT & AFPT CONTROL & AUXILIARIES AUXILIARY RELAYS			
	DRAWING NO.		REV.
	E-45B SH.10G		0

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.

DATE 11-11-88


OPERATOR

GEMENT
Kweibel

16X

DFN=D: \EL \E45BSH10.DGN

1. FOR GENERAL NOTES SEE DWG.E45B SH.10.

SCALE NONE	DESIGNED ARRAS	DRAWN JDR	DATE 7-30-87
DAVIS-BESSE NUCLEAR POWER STATION UNIT NO. 1 THE TOLEDO EDISON COMPANY			
ELEMENTARY WIRING DIAGRAMS #1 MFPT & AFPT CONTROL & AUXILIARIES AUXILIARY RELAYS			
	DRAWING NO.		REV.
	E-45B SH.10H		0

I CERTIFY THAT THE IMAGE CONTAINED ON THIS FRAME WAS MADE IN THE NORMAL AND REGULAR COURSE OF BUSINESS, ON THE DATE STATED BELOW AND THAT IT IS AN ACCURATE REPRODUCTION OF THE RECORD(S) SUBMITTED TO NUCLEAR RECORDS MANAGEMENT.