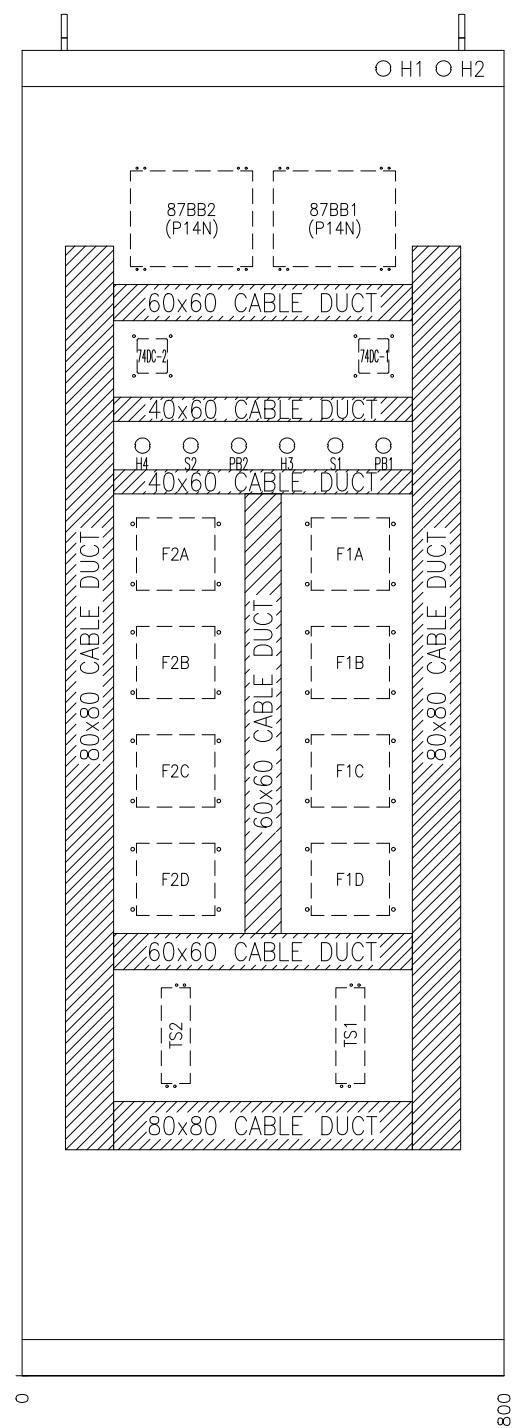
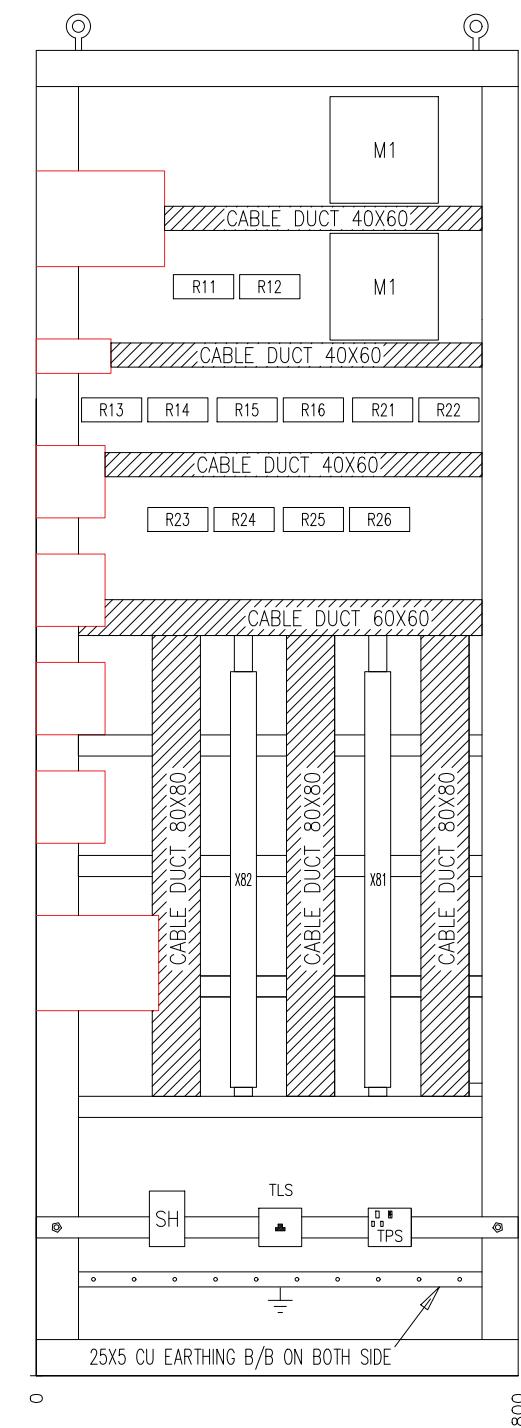
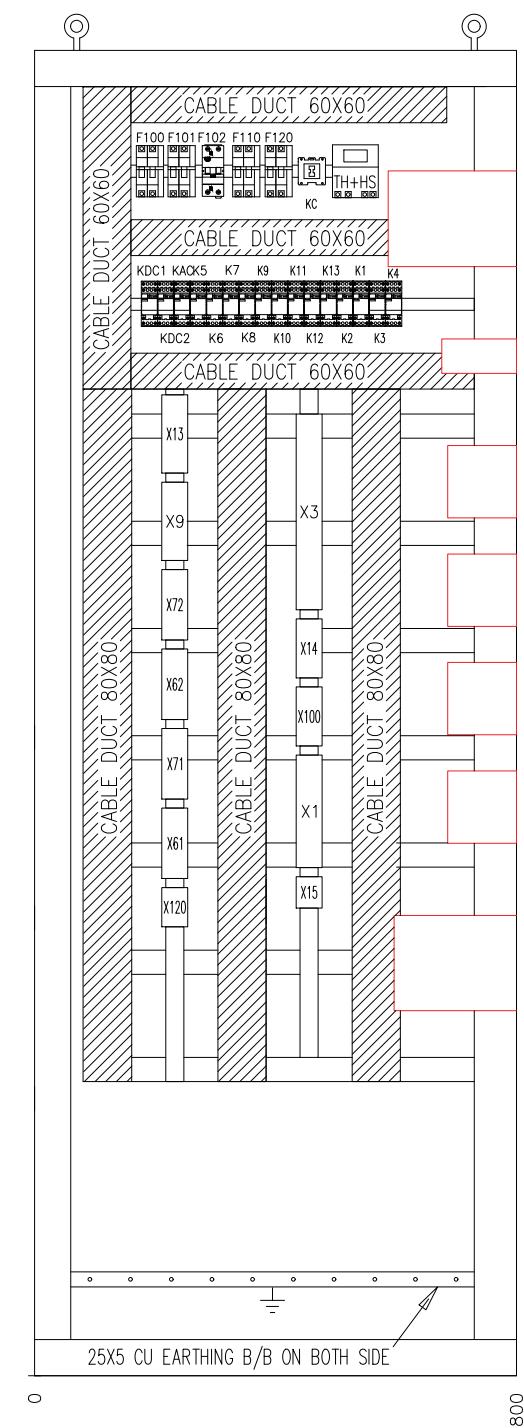
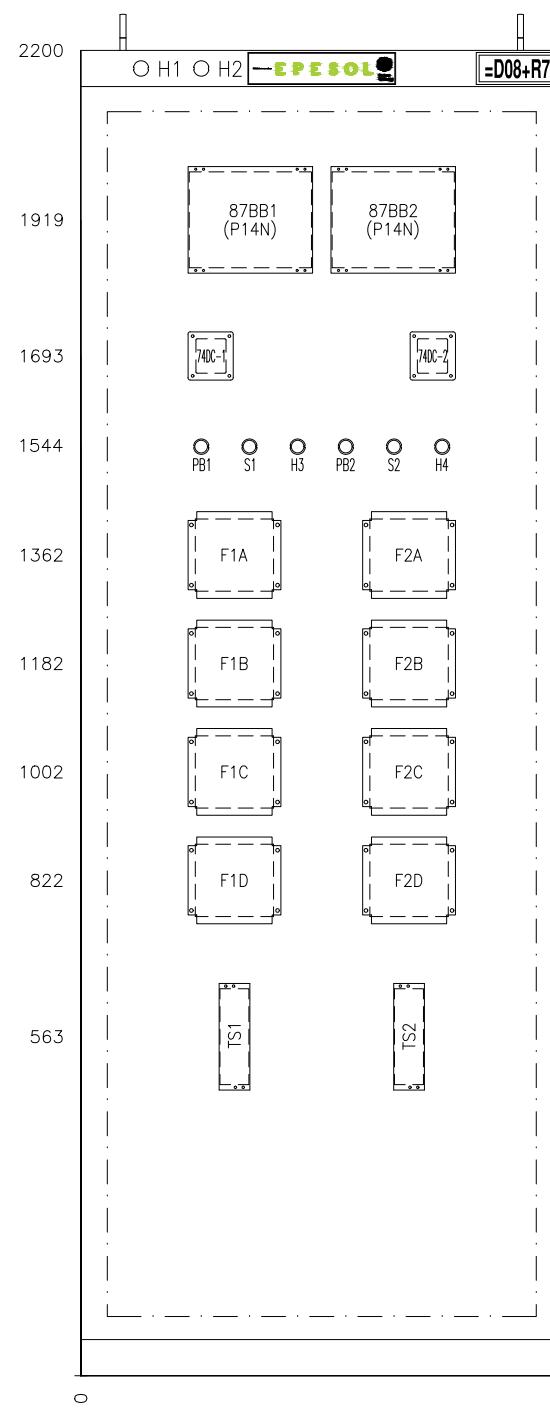


LAYOUT DIAGRAM

220kV BUSBAR PROTECTION PANEL

TYPE =D08+R7

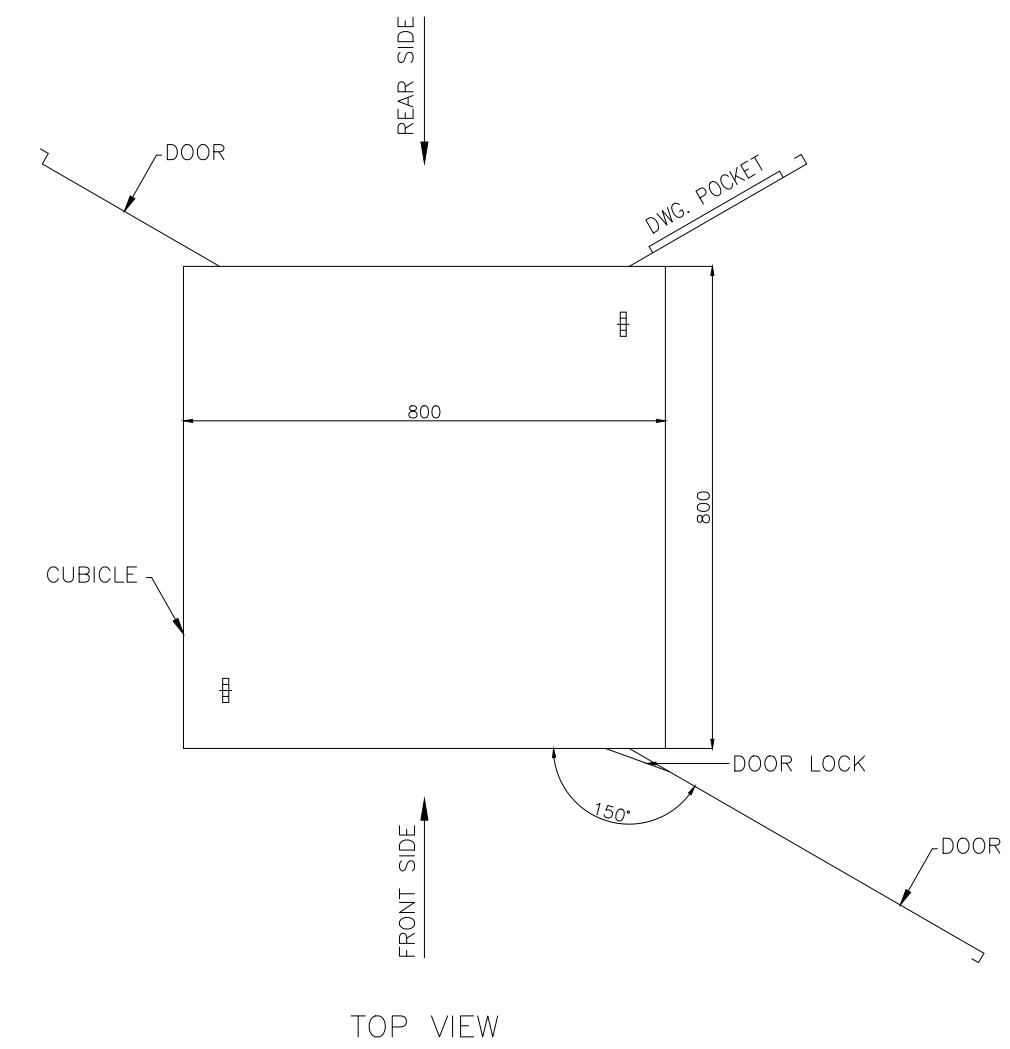
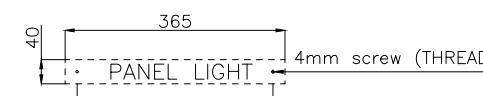
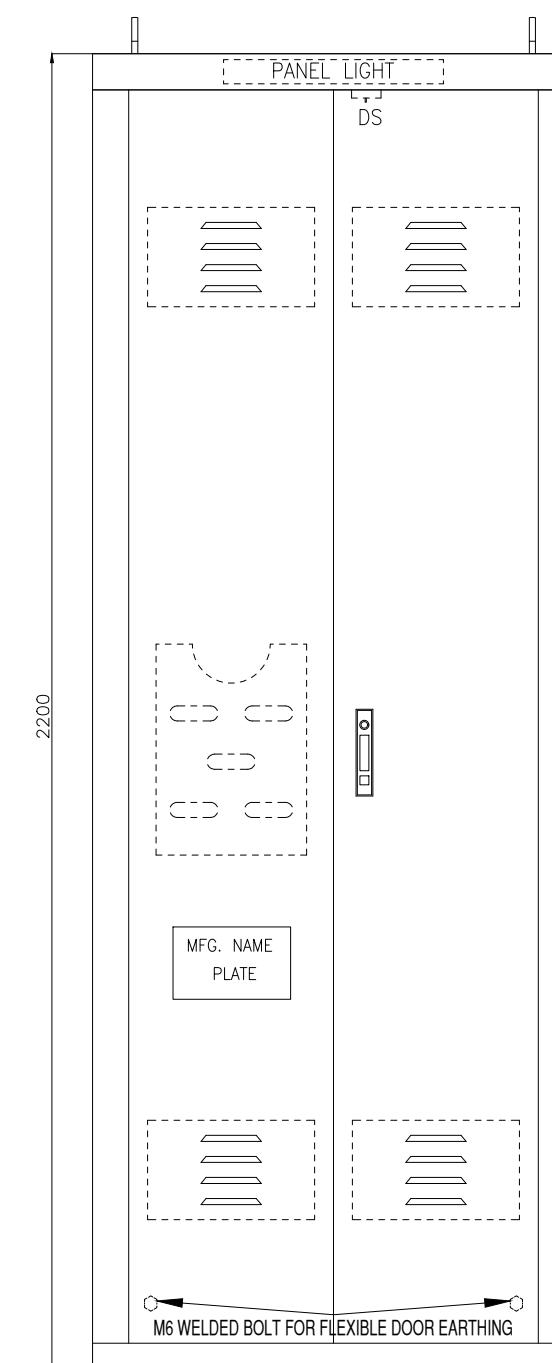
APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: COVER SHEET	DWG# EPE/ENU-18/D81564	SHT: 01 OF 03
NAH <i>[Signature]</i>	MSS <i>[Signature]</i>	MUR <i>[Signature]</i>		220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019 AS BUILT REV: 0



NOTES

1. RELAY PANEL: 800Wx800Dx2200H mm
2. EARTHING BUSBAR 25x5 mm²
3. FLEXIBLE EARTHING STRAP 16mm²
4. COLOUR: RAL7032
5. CLASS OF PROTECTION: IP51
6. APPLICABLE SPECS: P204:2008

APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: LAYOUT DIAGRAM 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	EWESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81564	SHT: 02 OF 03
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT



APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: LAYOUT DIAGRAM 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81564	SHT: 03 OF 03
NAH Q.	MSS M. Sohal	MUR B		EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019	AS BUILT

LIST OF APPARATUS

220kV BUSBAR PROTECTION PANEL

TYPE =D08+R7

APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE:	COVER SHEET	DWG# EPE/ENU-18/D81565	SHT: 01 OF 03
NAH 	MSS 	MUR 					



E P E S O L Pvt Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

DATE: 07.03.2019

AS BUILT

REV: 0

1	2	3	4	5	6	7	8			
SR.	ITEM DESIGNATION		DESCRIPTION		QTY	TYPE	MAKE	COUNTRY OF ORIGIN	ORDERING INFORMATION	SHEET NO
A	1	87BB1	HIGH IMPEDANCE BUSBAR PROTECTION RELAY FOR 220kV BUS – I		1	P14N	GE	UK	P14NB1BC6D0620A	
	2	87BB2	HIGH IMPEDANCE BUSBAR PROTECTION RELAY FOR 220kV BUS – II		1	P14N	GE	UK	P14NB1BC6D0620A	
B	3	F1A, F1B, F1C, F1D	TRIP RELAY HAND AND ELECTRICAL RESET, 16 C/O CONTACTS, HIGH BURDEN, 220 VDC		8	BI-16R	ARTECHE	SPAIN	BI-16RP-HB-220VDC	
		F2A, F2B, F2C, F2D								
B	4	M1, M2	METROSIL, 3 PHASE 600-A/S3/I/S1195		2	–	GE	–	ZB9411571	
	5	R11, R12, R13, R14	RESISTOR ADJUSTABLE WIREWOUND, 1500 OHMS, 180W		12	–	GE	–	ZB9016774	
C		R15, R16, R21, R22								
		R23, R24, R25, R26								
C	6	74DC1, 74DC2	DC SUPERVISION RELAY 220 VDC		2	VDF-10	ARTECHE	SPAIN	VDF10-OP2-220VDC	
	7	PB1, PB2	PUSH BUTTON (RESET)		2	YS-AP	YONGSUNG	SOUTH KOREA	YS-AP1-2-40-Y-D-W	
D	8	TS1, TS2	TEST BLOCK (14 FINGERS)		2	saTECH TSB 14	ARTECHE	SPAIN	TSB-14-11111111AAAB	
	9	H3, H4	INDICATION LAMP RED		2	YS	YONGSUNG	SOUTH KOREA	YS-PL-2-AL-22-R-W	
D	10	H1, H2	INDICATION LAMP GREEN		2	YS	YONGSUNG	SOUTH KOREA	YS-PL-2-AL-22-G-W	
	11	K1 TO K13, KDC1,KDC2	MINIATURE RELAY, 220 VDC, WITH 4 C/O CONTACTS		15	PRC	GE	HUNGARY/POLAND	PRC4M40DCML	
E	12	KAC	MINIATURE RELAY, 220 VAC, WITH 4 C/O CONTACTS		1	PRC	GE	HUNGARY/POLAND	PRC4M40ANL	
	13	KC	CONTACTOR RELAY, 16A, 230 VDC, WITH 2NO+2NC CONTACTS		1	MCR	GE	HUNGARY/POLAND	MCRC022ATWN	
E	14	F110, F120	DC MCB, 2 POLE, 10A, 220VDC WITH 1 C/O CONTACTS, 10KA		2	EP-100	GE	HUNGARY/POLAND	EP102UCC10+CAH(1)	
	15	F100, F101	AC MCB, 2 POLE, 6A, 240VAC WITH 1 C/O CONTACT, 10KA		2	G60	GE	HUNGARY/POLAND	G62C06+CAH(1)	
F	16	F102	RCBO, RATED 16A, 1P+N, 240V AC, WITH 1 C/O CONTACTS		1	DM100	GE	HUNGARY/POLAND	DM100C16/030+CAH(1)	
	17	TH+HS	THERMOSTAT AND HUMIDISTAT		1	ELH-220	E-LABS	PAKISTAN		
F	18	SH	SPACE HEATER		1	ELH-220	E-LABS	PAKISTAN		
	21	DS	DOOR SWITCH WITH COVER		1	YSP	YONGSUNG	SOUTH KOREA	YSP3315GWB+YSMS-C	
F	22	TPS	240 VAC, 16A, THREE PIN SOCKET OUTLET		1		LEAR	CHINA		
APPROVED NAH	CJ	CHECKED MSS M Sohail	DRAWN MUR	15	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: LIST OF APPARATUS 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPE SOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81565 DATE: 07.03.2019	SHT: 02 OF 03 AS BUILT REV: 0	

1	2	3	4	5	6	7	8	
SR.	ITEM DESIGNATION	DESCRIPTION	QTY	TYPE	MAKE	COUNTRY OF ORIGIN	ORDERING INFORMATION	SHEET NO
A 23	S1, S2	2-POSITION KEY OPERATED SWITCH FOR BUSBAR PROTECTION IN/OUT	2	YS-AK	YONGSUNG	KOREA	YS-AK-2-2-44-D	A
A 24	TLS	TELEPHONE SOCKET	1		LOCAL	PAKISTAN	YS-T8-30-5W	A
A 25	IL	PANEL LIGHT, 5W, 220 VAC	1	YS	YONGSUNG	KOREA		A
B 26	X1	DISCONNECTING TERMINAL BLOCKS FOR CT CIRCUIT WITH SHORTING ARRANGEMENT	22	SCB-6	CABUR	ITALY		B
B 27	X120	TERMINAL BLOCKS FOR DC SUPPLY MAIN	10	CBD-4	CABUR	ITALY		B
B 28	X15	TERMINAL BLOCKS FOR COMMUNICATION CIRCUIT	8	CBD-4	CABUR	ITALY		B
B 29	X61	TERMINAL BLOCKS FOR TRIP CIRCUIT	18	CBD-4	CABUR	ITALY		B
B 30	X71	TERMINAL BLOCKS FOR TRIP CIRCUIT	18	CBD-4	CABUR	ITALY		B
c 31	X62	TERMINAL BLOCKS FOR TRIP CIRCUIT	18	CBD-4	CABUR	ITALY		c
c 32	X72	TERMINAL BLOCKS FOR TRIP CIRCUIT	18	CBD-4	CABUR	ITALY		c
c 33	X81	TERMINAL BLOCKS FOR TRIP CIRCUIT	106	CBD-4	CABUR	ITALY		c
c 34	X82	TERMINAL BLOCKS FOR TRIP CIRCUIT	106	CBD-4	CABUR	ITALY		c
D 35	X3	TERMINAL BLOCKS FOR CONTROL CIRCUIT	50	CBD-4	CABUR	ITALY		D
D 36	X9	TERMINAL BLOCKS FOR ANNUNCIATION CIRCUIT	20	CBD-4	CABUR	ITALY		D
D 37	X13	TERMINAL BLOCKS FOR EVENT RECORDER & FAULT RECORDER CIRCUIT	20	CBD-4	CABUR	ITALY		D
E 38	X14	TERMINAL BLOCKS FOR SCADA CIRCUIT	15	CBD-4	CABUR	ITALY		E
E 39	X100	TERMINAL BLOCKS FOR AC DISTRIBUTION	14	CBD-4	CABUR	ITALY		E
F								F
APPROVED NAH	CHECKED MSS	DRAWN MUR	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: LIST OF APPARATUS 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81565 DATE: 07.03.2019	SHT: 03 OF 03 AS BUILT REV: 0	

SCHEMATIC DIAGRAM OF 220kV BUSBAR PROTECTION PANEL TYPE =D08+R7

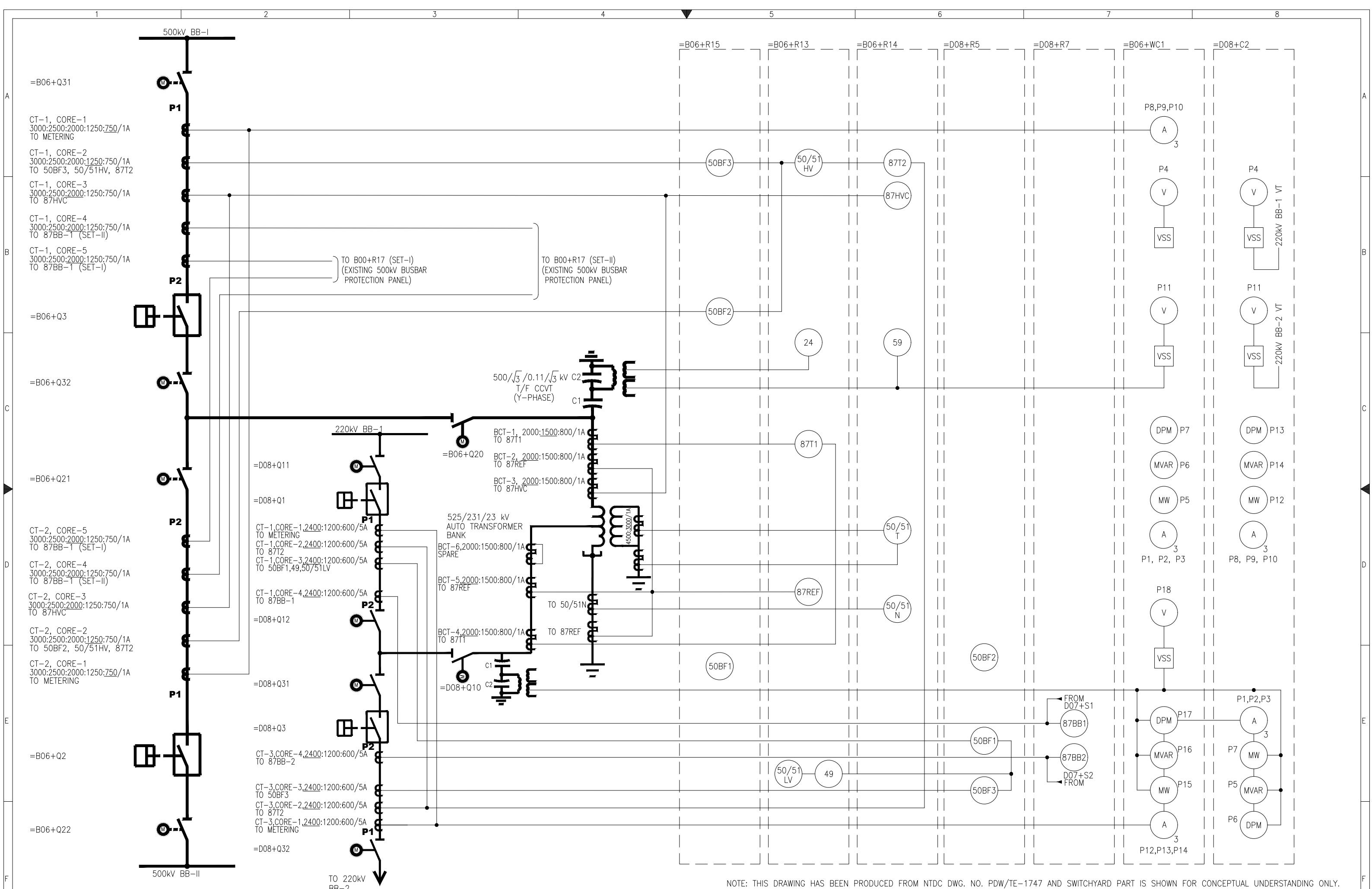
APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE:	COVER SHEET	DWG# EPE/ENU-18/D81566	SHT: 01 OF 26
NAH 	MSS 	MUR 				71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019 AS BUILT REV: 0

DESCRIPTION	SHEET NO	DESCRIPTION	SHEET NO	DESCRIPTION	SHEET NO
COVER SHEET	01	CONTROL CIRCUIT	11	SIGNALING CIRCUIT	21
LIST OF CONTENTS	02	=D07+Q1 / =D08+Q1 TRIP CIRCUIT	12	COMMUNICATION CIRCUIT	22
LIST OF SYMBOLS	03	=D07+Q2 / =D08+Q2 TRIP CIRCUIT	13	AC SUPPLY DISTRIBUTION	23
SINGLE LINE DIAGRAM	04	WIRED SPARE CONTACTS	14	DEVICE DETAIL FOR 87BB1	24
DC SUPPLY DISTRIBUTION	05	WIRED SPARE CONTACTS	15	DEVICE DETAIL FOR 87BB2	25
BUSBAR-1 DIFFERENTIAL PROT. CT CIRCUIT	06	WIRED SPARE CONTACTS	16	DEVICE DETAIL FOR TEST BLOCKS	26
BUSBAR-2 DIFFERENTIAL PROT. CT CIRCUIT	07	WIRED SPARE CONTACTS	17		
BUSBAR-1 DIFFERENTIAL PROT. DC CIRCUIT	08	CONTROL SIGNALING FOR DIA-7 & DIA-8	18		
BUSBAR-2 DIFFERENTIAL PROT. DC CIRCUIT	09	SIGNALING CIRCUIT	19		
CONTROL CIRCUIT	10	SIGNALING CIRCUIT	20		

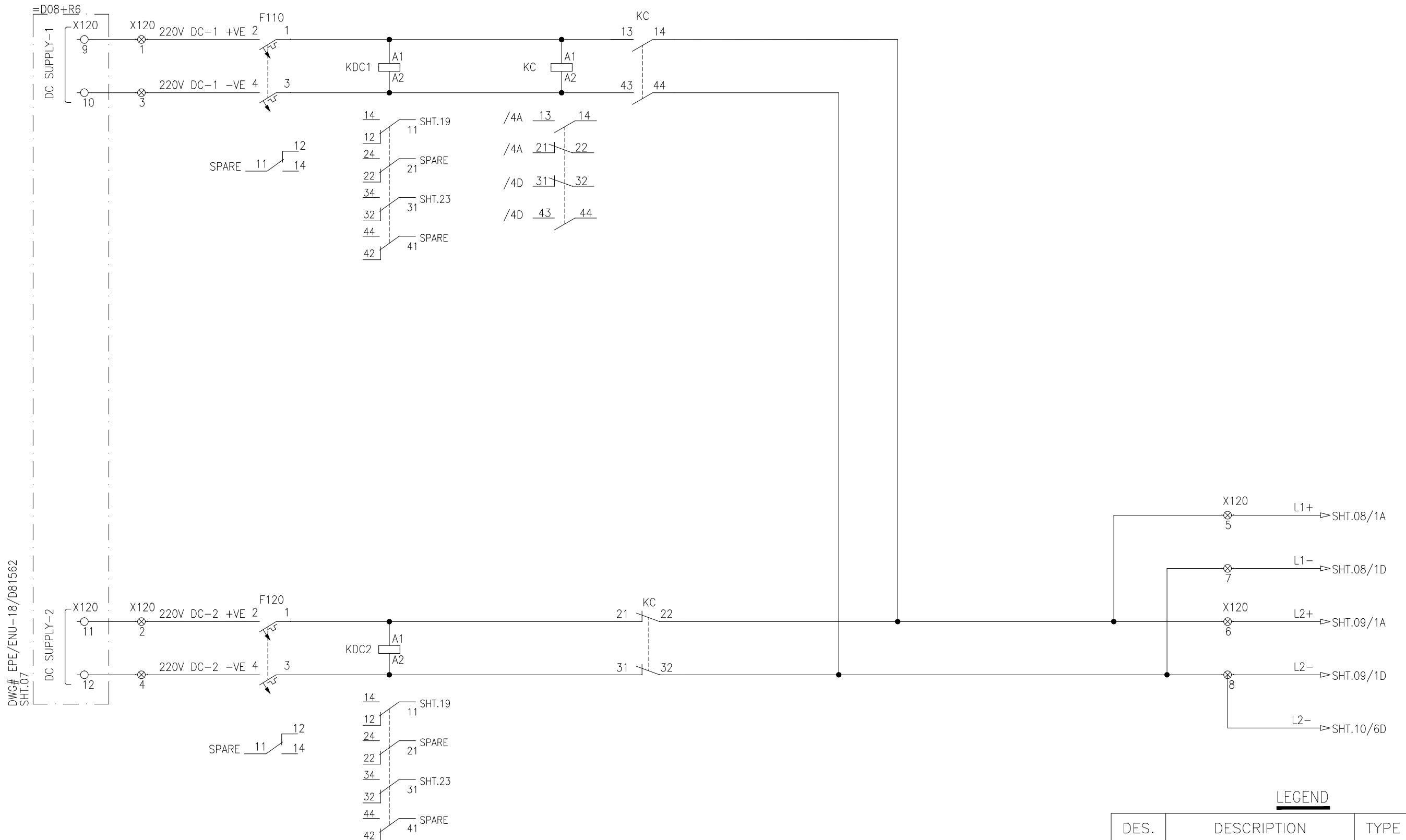
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NAH Q.	MSS M. Sohail	MUR Iy		E P E S O L P v t . L t d . 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019	AS BUILT

A
A
LIST OF SYMBOLS AND DESIGNATIONS

	MOTORIZED HV DISCONNECTOR		BUSBAR-1 DIFFERENTIAL PROTECTION RELAY
	HV CIRCUIT BREAKER		BUSBAR-2 DIFFERENTIAL PROTECTION RELAY
	525/231/23 kV AUTO TRANSFORMER	74-DC	DC CIRCUIT SUPERVISION RELAY
	CAPACITOR VOLTAGE TRANSFORMER	X	TERMINAL BLOCKS
	RELAY PANEL TERMINAL BLOCK	K	AUXILIARY RELAY/CONTACTOR
	CONTROL PANEL TERMINAL BLOCK		
	EARTH CONNECTION		
	NORMALLY CLOSED CONTACT		
	NORMALLY OPEN CONTACT		
	CHANGE OVER CONTACT		
	MINIATURE CIRCUIT BREAKER		
	INDICATING BULB/LED/CUBICLE LIGHT		
	220V SOCKET		
	SPACE HEATER		
	COIL		
	EQUIPMENT WITHIN PANEL		
	INDEPENDENT PANEL		
	INDEPENDENT PANEL		

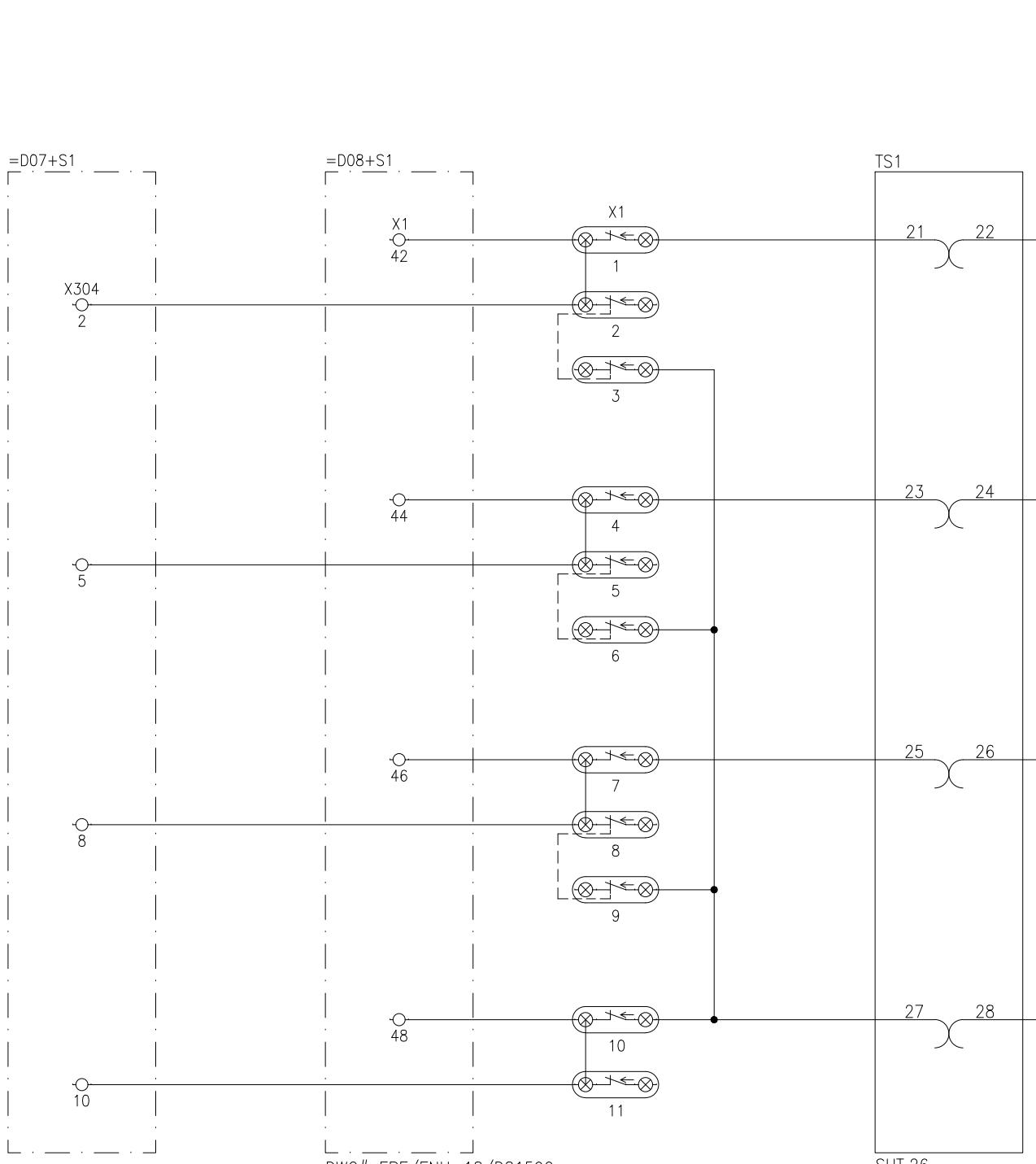


APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: SINGLE LINE DIAGRAM 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81566	SHT: 04 OF 26
NAH [Signature]	MSS [Signature]	MUR [Signature]		E P E S O L P v t. L t d. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019	AS BUILT REV: 0



APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: DC SUPPLY DISTRIBUTION 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81566 SHT: 05 OF 26
NAH [Signature]	MSS [Signature]	MUR [Signature]		EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019 AS BUILT REV: 0

TEST BLOCK

METROSIL RESTABILIZING BUSBAR-1 DIFF.
RESISTOR PROTECTION RELAYDWG# EPE/ENU-18/D81590
SHT.09

TITLE:

BUSBAR-1 DIFF. PROTECTION CT CIRCUIT
220KV BUSBAR PROTECTION PANEL TYPE =D08+R7

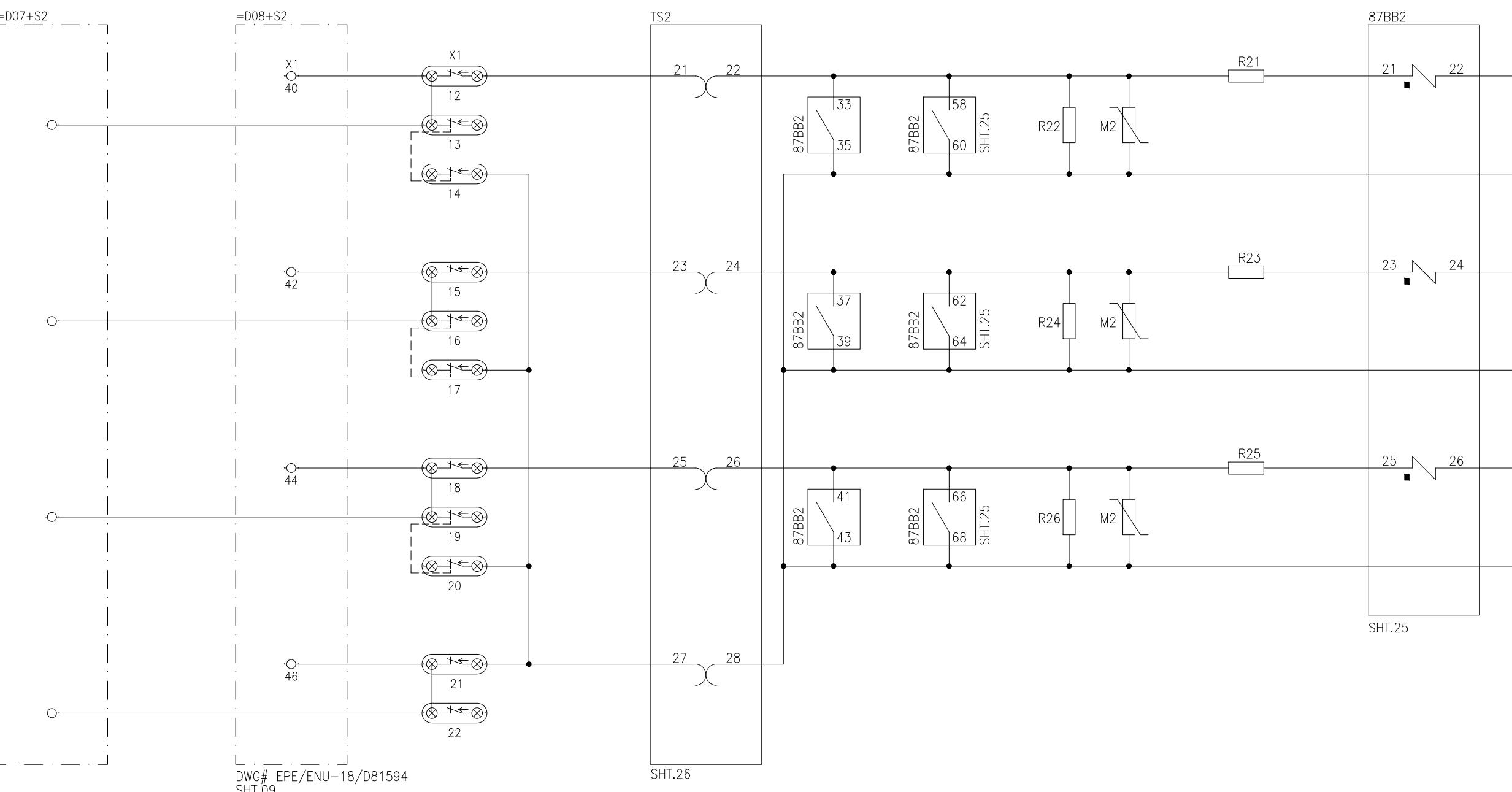
LEGEND

DES.	DESCRIPTION	TYPE	MAKE
87BB1	BUSBAR DIFF PROTECTION RELAY	P14N	GE
RX	ADJUSTABLE RESISTOR, 1.5kΩ	ZB9016774	GE
MX	NON-LINEAR METROSIL RESISTOR	ZB9411571	GE
TSX	TEST BLOCK (14 FINGERS)	sqTECH-TSB 14	ARTECHE

APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: BUSBAR-1 DIFF. PROTECTION CT CIRCUIT 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81566	SHT: 06 OF 26
NAH	MSS	MUR			DATE: 07.03.2019	AS BUILT

TEST BLOCK

METROSIL RESTABILIZING BUSBAR-2 DIFF.
RESISTOR PROTECTION RELAY



LEGEND

DES.	DESCRIPTION	TYPE	MAKE
87BB2	BUSBAR DIFF PROTECTION RELAY	P14N	GE
RX	ADJUSTABLE RESISTOR, 1.5kΩ	ZB9016774	GE
MX	NON-LINEAR METROSIL RESISTOR	ZB9411571	GE
TSX	TEST BLOCK (14 FINGERS)	saTECH-TSB 14	ARTECHE

APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: BUSBAR-2 DIFF. PROTECTION CT CIRCUIT 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt. Ltd 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81566	SHT: 07 OF 26	
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT	REV: 0

50BF STAGE-2

87BB1 87BB1

DC SUPPLY

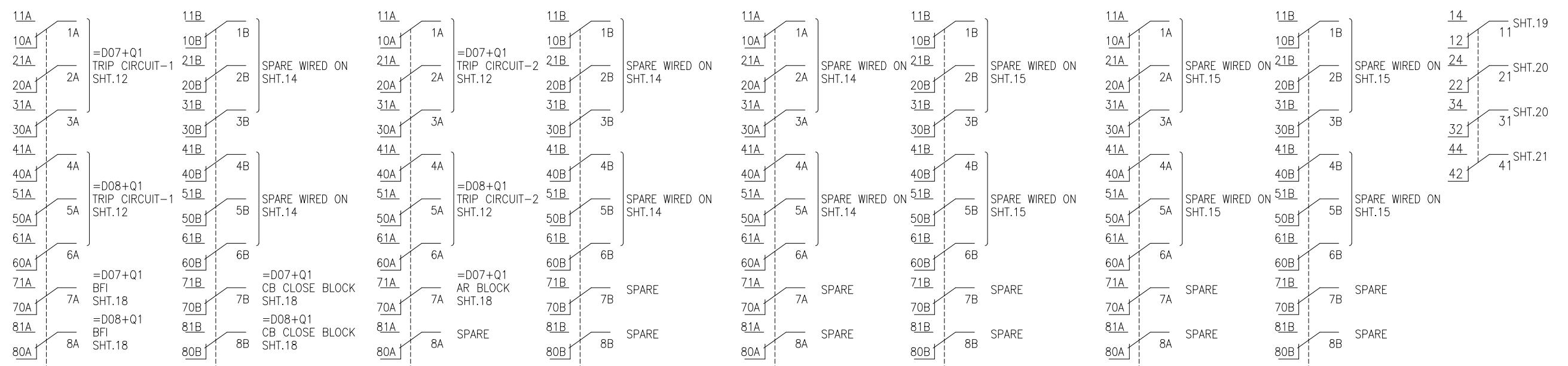
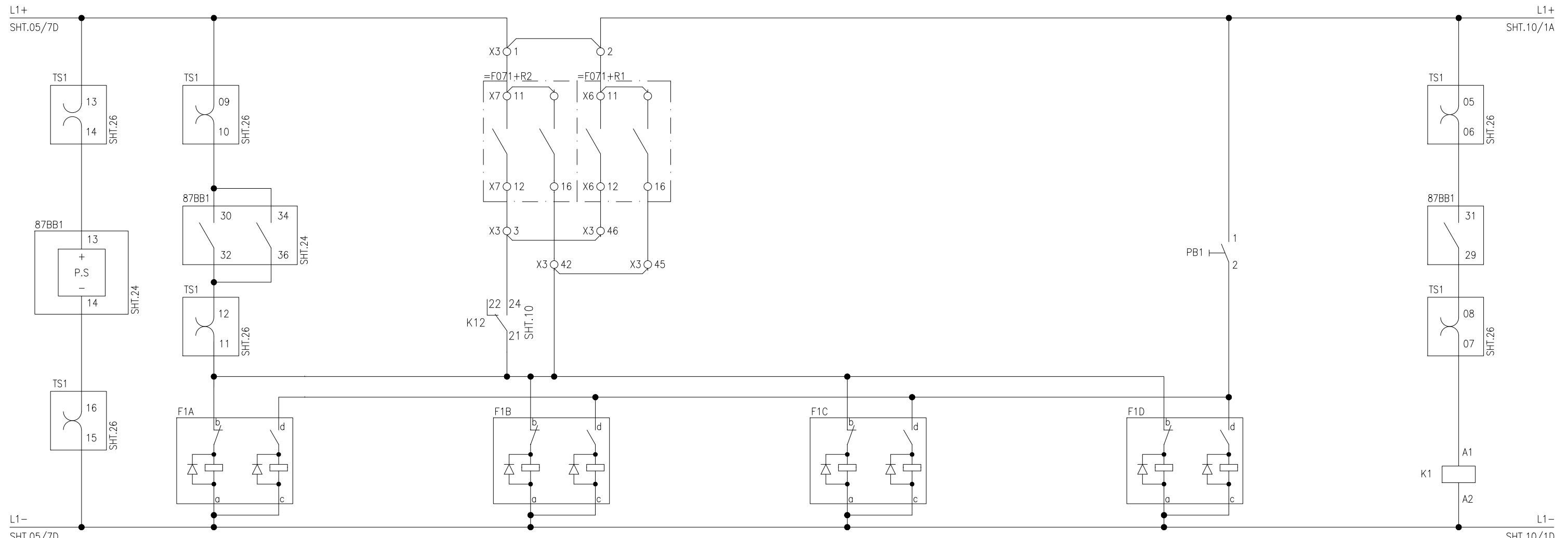
TRIP

TRIP FROM
ADJACENT DIA =D08+Q1

BUSBAR-1 LOCKOUT RESET

PUSH BUTTON

DES.	DESCRIPTION	TYPE	MAKE
FXA, FXB	LOCKOUT RELAY	BI16RP	ARTECHE
KX	AUXILIARY RELAY	PRC	GE



50BF STAGE-2

87BB2

87BB2

TRIP FROM

BUSBAR-2 LOCKOUT RESET

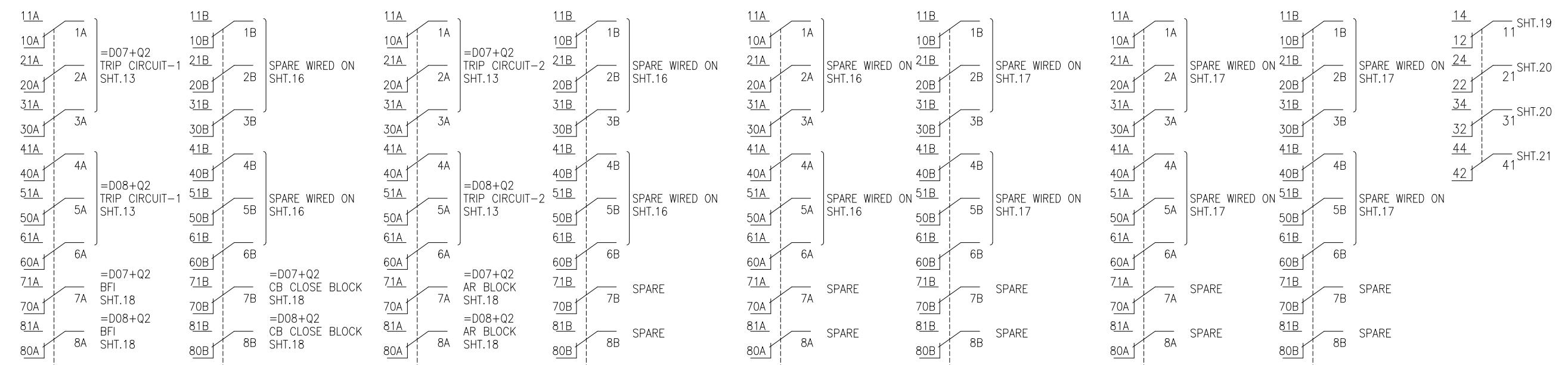
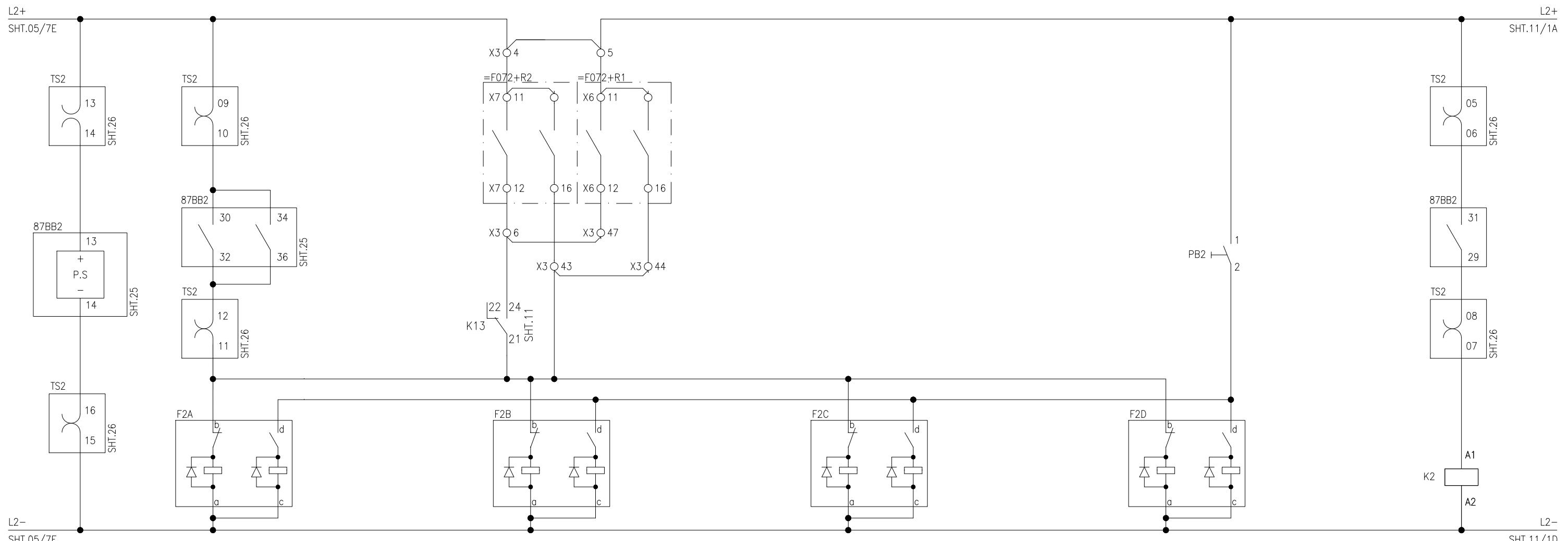
DC SUPPLY

TRIP

ADJACENT DIA =D08+Q2

PUSH BUTTON

DES.	DESCRIPTION	TYPE	MAKE
FXA, FBX	LOCKOUT RELAY	BI16RP	ARTECHE
KX	AUXILIARY RELAY	PRC	GE

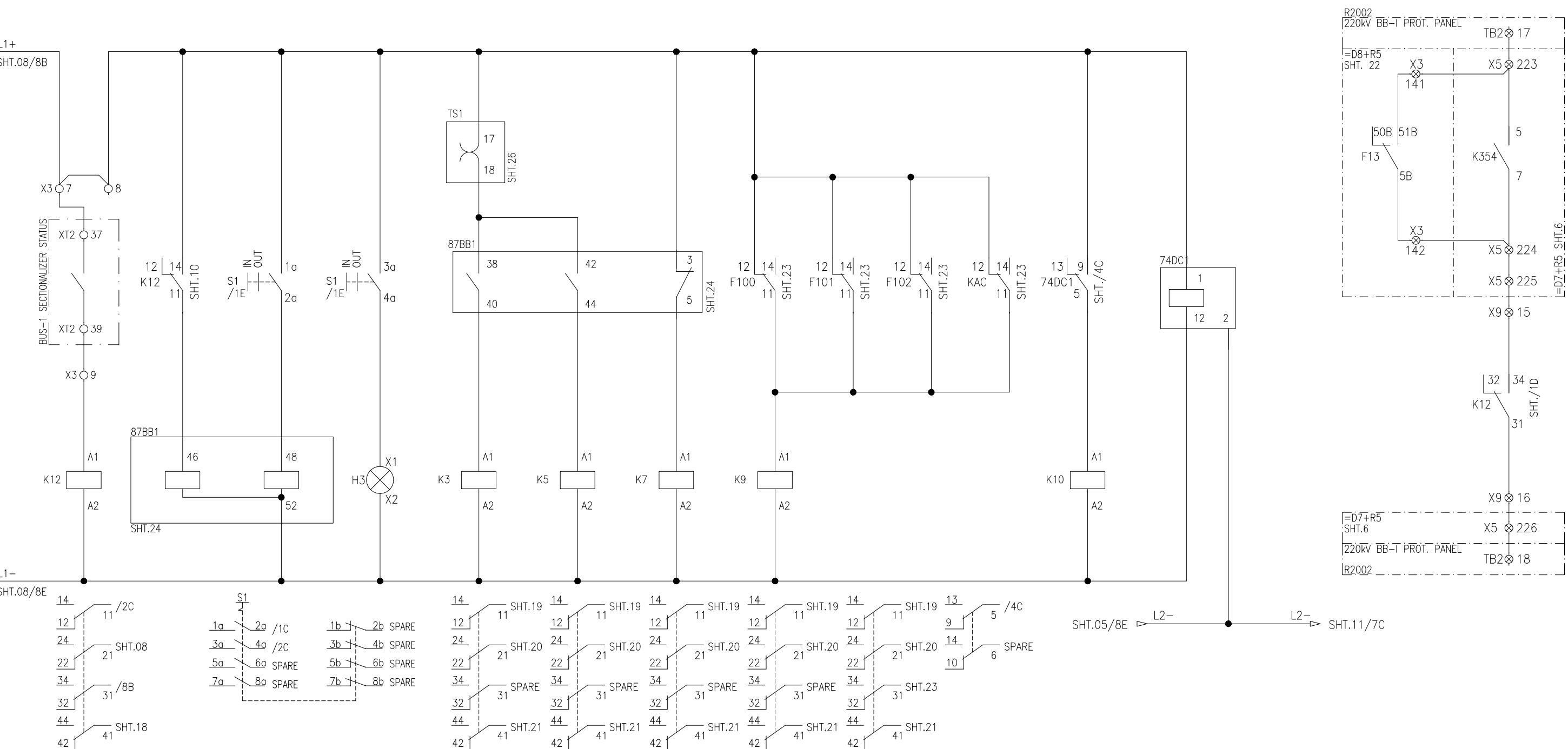


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NAH <i>[Signature]</i>	MSS <i>[Signature]</i>	MUR <i>[Signature]</i>				DATE: 07.03.2019	AS BUILT

BB-1 DIFFERENTIAL PROTECTION

=D8+Q1 CBF STG-2

BB-1 SECTIONALIZER CLOSED	BB-1 DIFF. PROT. BLOCKED	PROT. BLOCKED INDICATION	SUPERVISION OPERATED	OUT OF SERVICE / BLOCKED	BB-1 DIFF. PROT. FAULTY	PANEL AC SUPPLY FAIL	DC SUPPLY HEALTHY	DC SUPPLY SUPERVISION	TRIP FOR ADJ. DIA's
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LEGEND

DES.	DESCRIPTION	TYPE	MAKE
87BB	BUSBAR DIFF PROTECTION RELAY	P14N	GE
KX	MINIATURE RELAY	PRC	GE
SX	BUSBAR PROTECTION IN/OUT SWITCH	YSAK	GE
H	INDICATION LAMP	YSPL	YONGSUNG

BB-2 DIFFERENTIAL PROTECTION

**BB-2 SECTIONALIZER
CLOSED**

BB-2 DIFF.
PROT. BLOCKED

PROT. BLOCK
INDICATION

SUPERVISION OPERATED

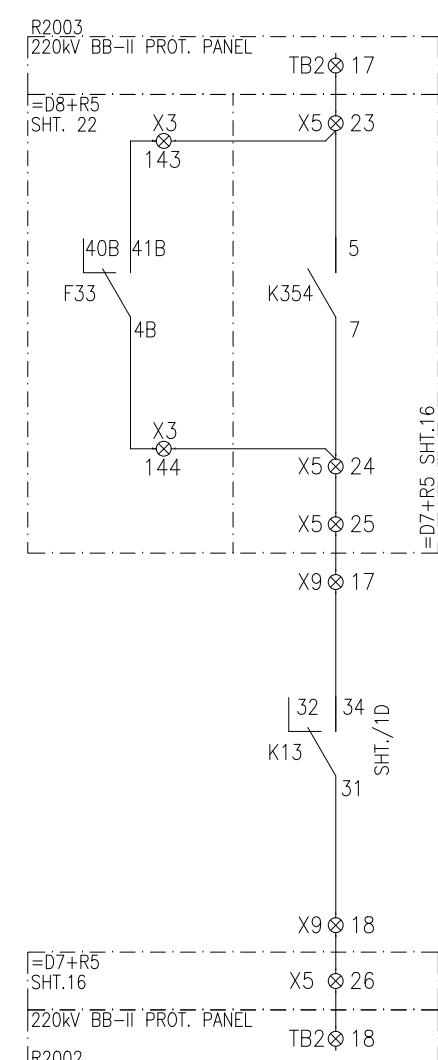
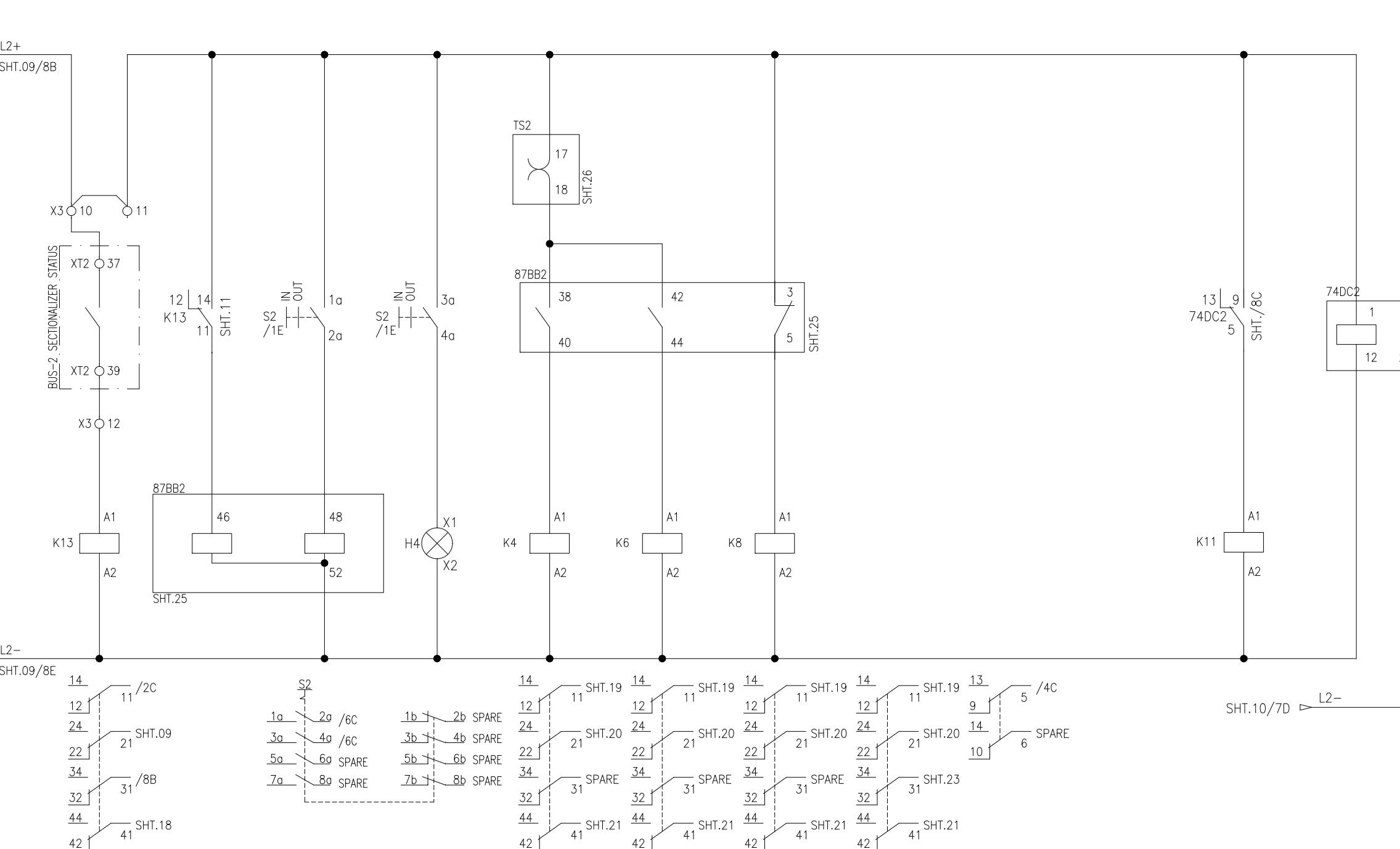
OUT OF
/ BLO

ERVICE BB-2 DIFF.
KED PROT. FAULTY

DC SUPPLY DC SUPPLY
HEALTHY SUPERVISION

=D8+02 CBF STG=2

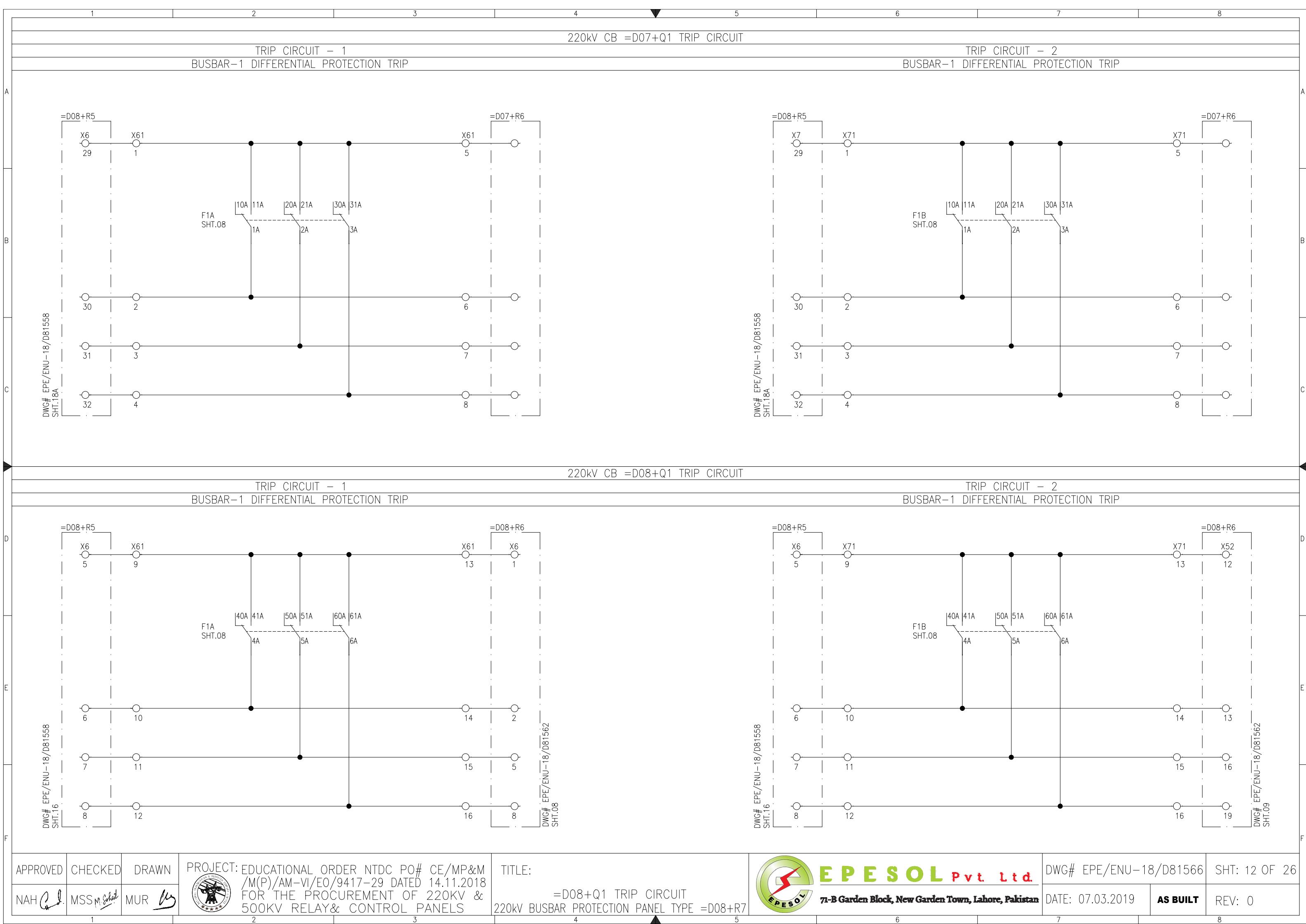
TRIP FOR
ADJ. DIA's



LEGEND

DES.	DESCRIPTION	TYPE	MAKE
87BB	BUSBAR DIFF PROTECTION RELAY	P14N	GE
KX	MINIATURE RELAY	PRC	GE
SX	BUSBAR PROTECTION IN/OUT SWITCH	YSAK	GE

H	INDICATION LAMP	YSPL	YONGSUNG				
APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: 220kV BUSBAR CONTROL CIRCUIT PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt Ltd 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81566	SHT: 11 OF 26
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT REV: 0



1

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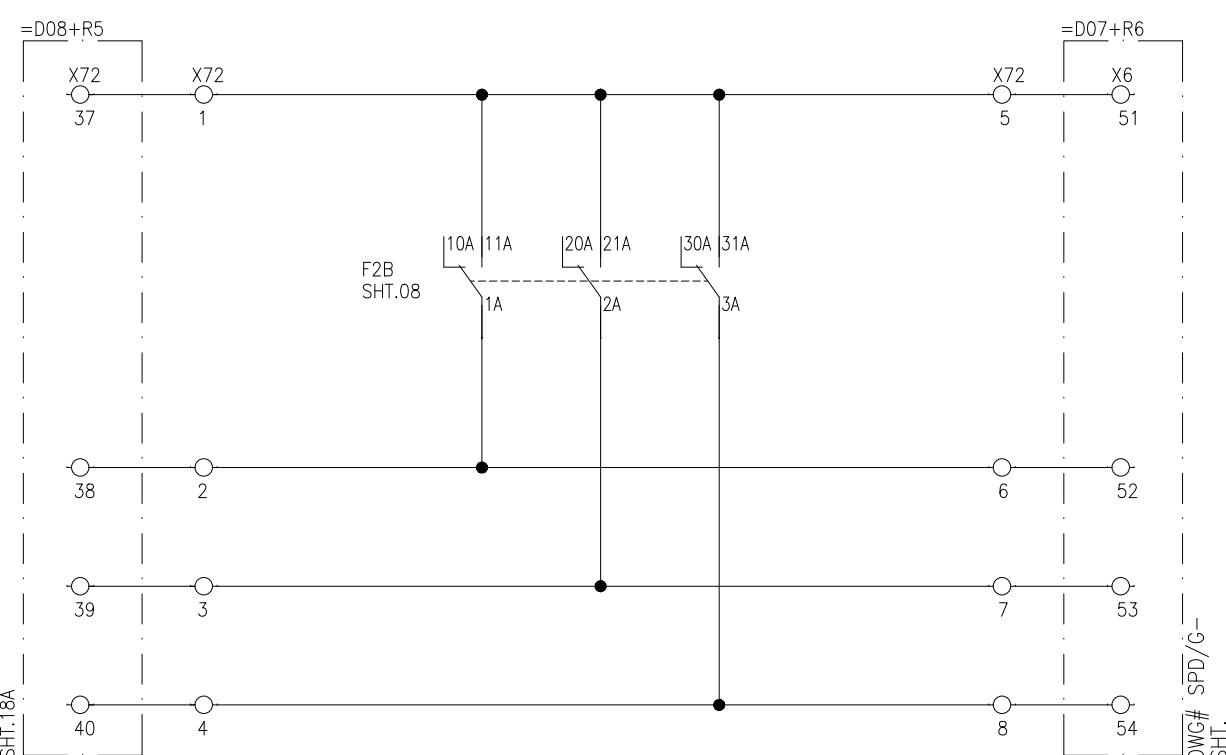
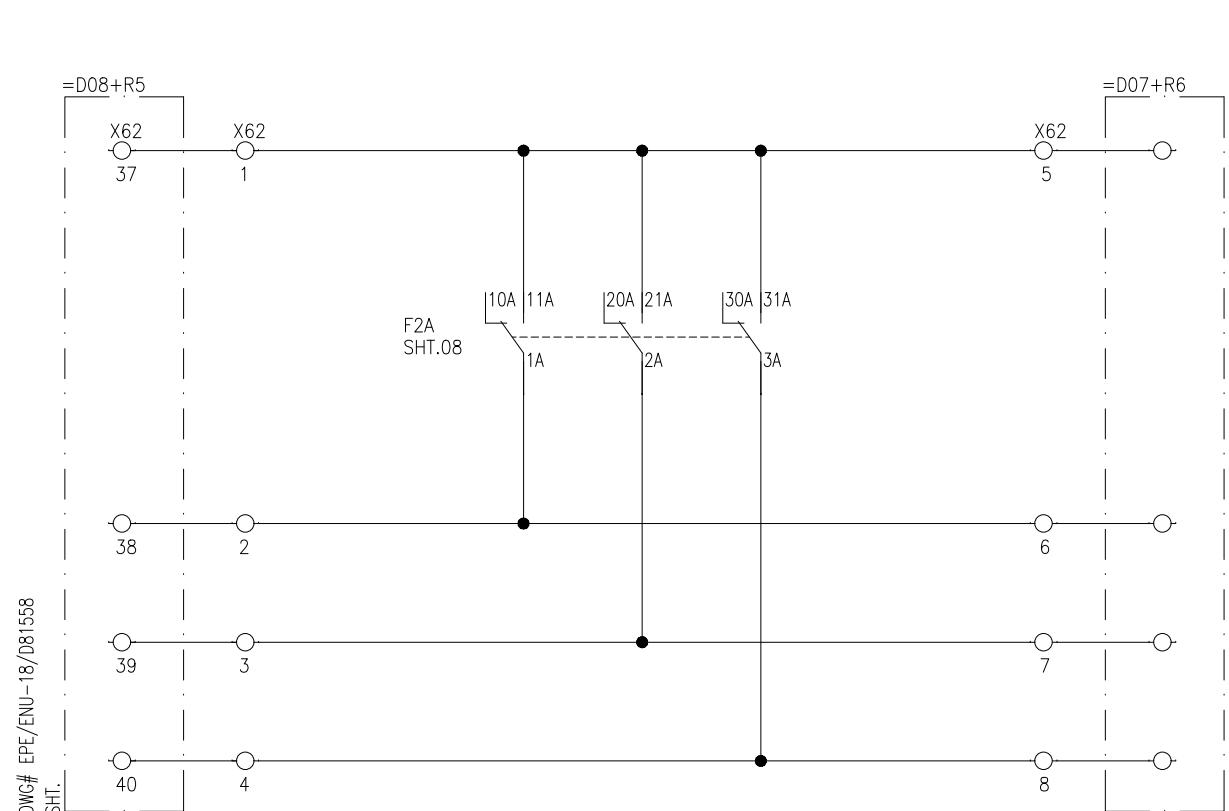
TRIP CIRCUIT - 1

BUSBAR-2 DIFFERENTIAL PROTECTION TRIP

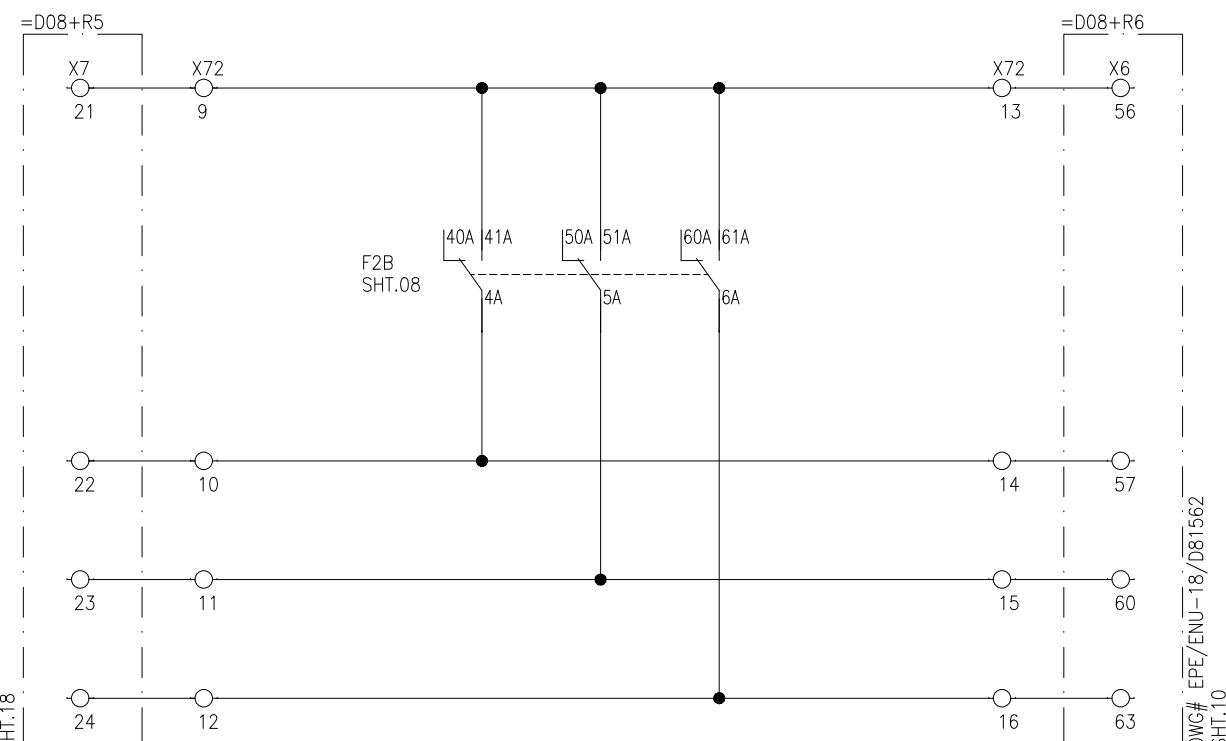
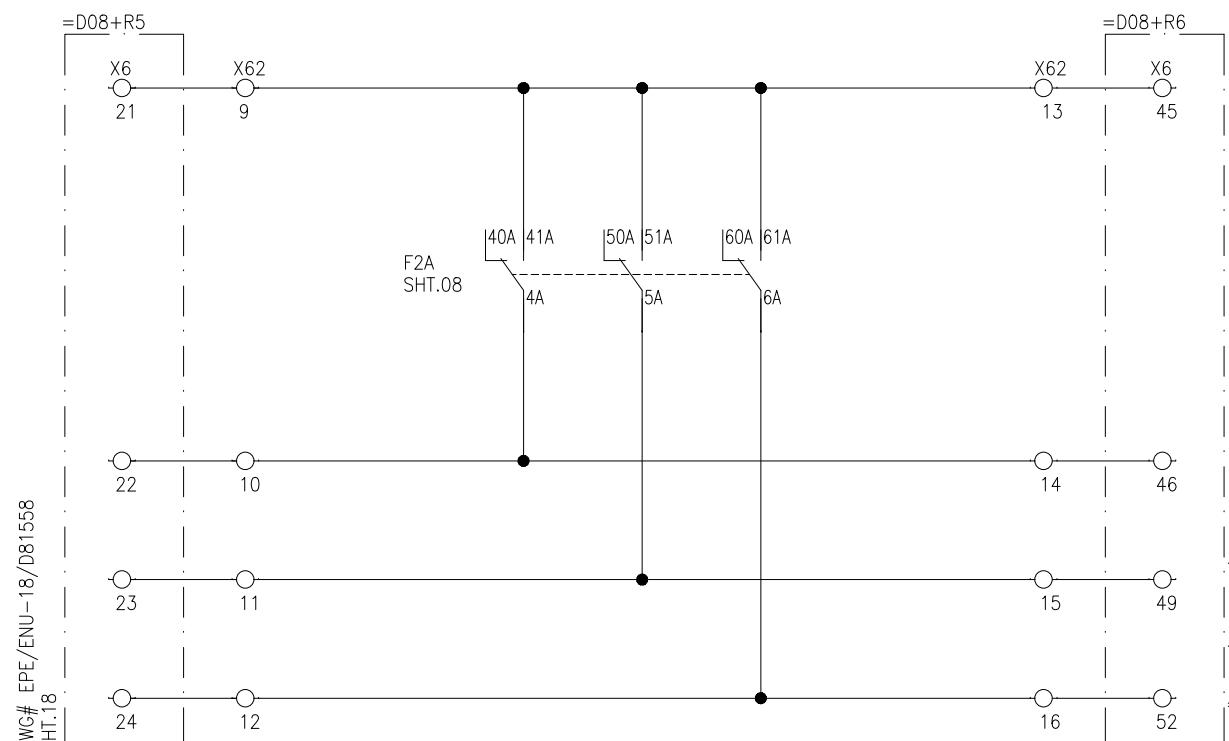
220kV CB =D07+Q2 TRIP CIRCUIT

TRIP CIRCUIT - 2

BUSBAR-2 DIFFERENTIAL PROTECTION TRIP

TRIP CIRCUIT - 1
BUSBAR-2 DIFFERENTIAL PROTECTION TRIP

220kV CB =D08+Q2 TRIP CIRCUIT

TRIP CIRCUIT - 2
BUSBAR-2 DIFFERENTIAL PROTECTION TRIP

APPROVED	CHECKED	DRAWN
NAH	MSS	MUR



PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018
FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS

TITLE:
=D07+Q2 TRIP CIRCUIT
220kV BUSBAR PROTECTION PANEL TYPE =D08+R7



DWG# EPE/ENU-18/D81566	SHT: 13 OF 26
DATE: 07.03.2019	AS BUILT

REV: 0

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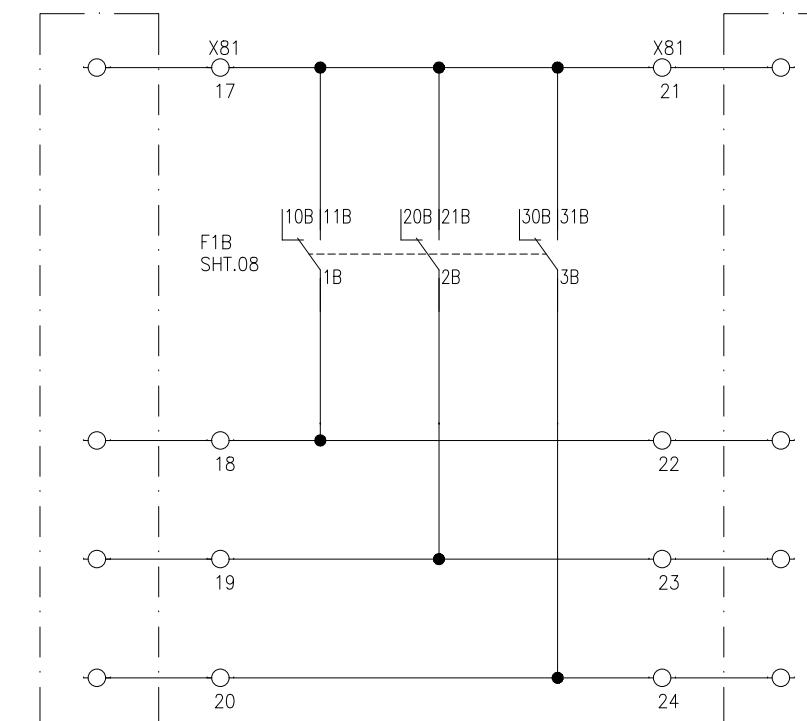
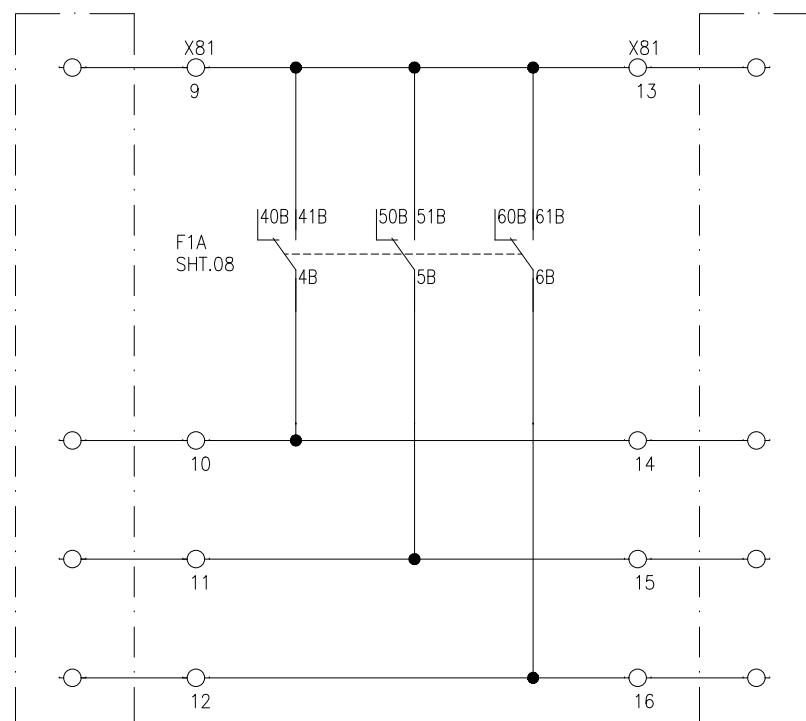
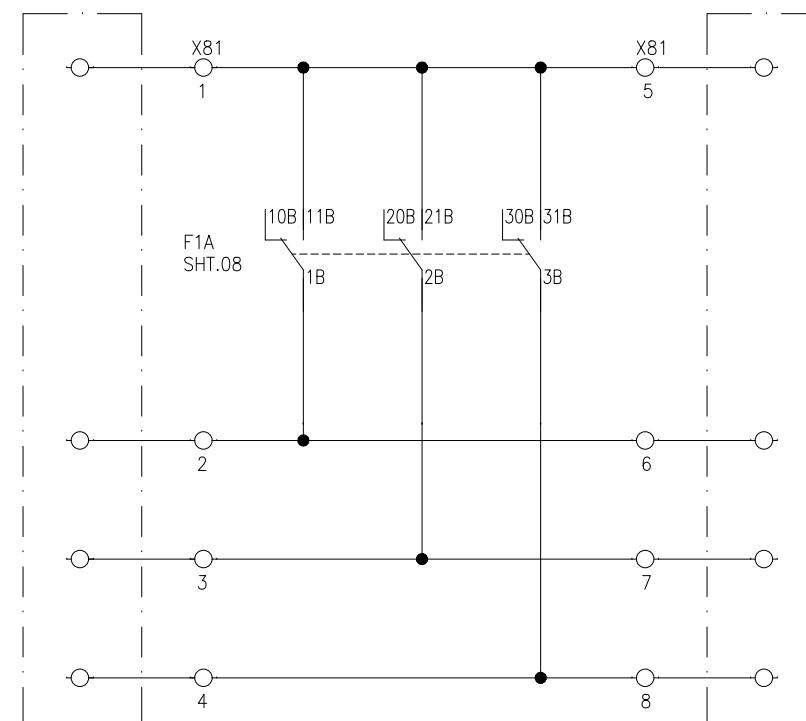
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BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

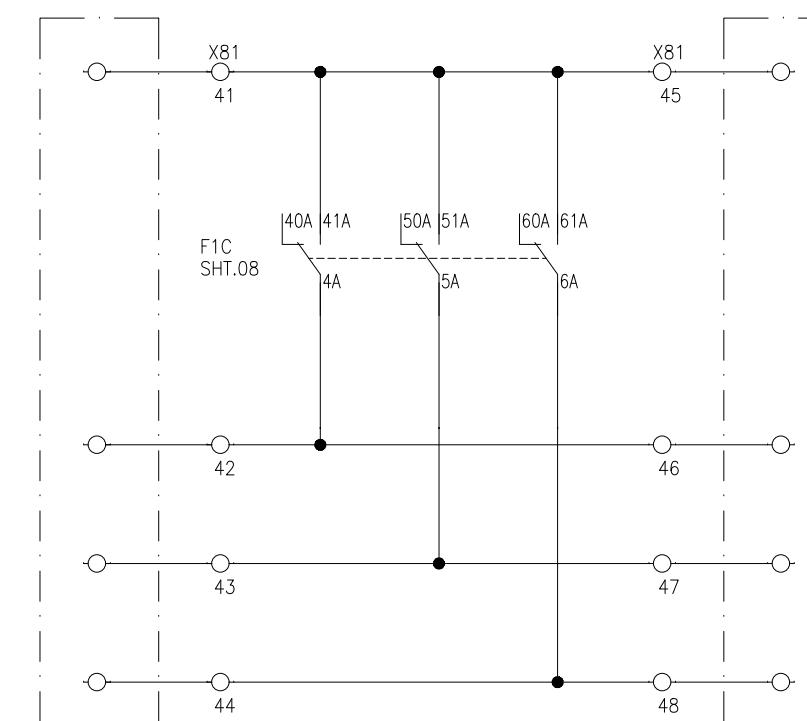
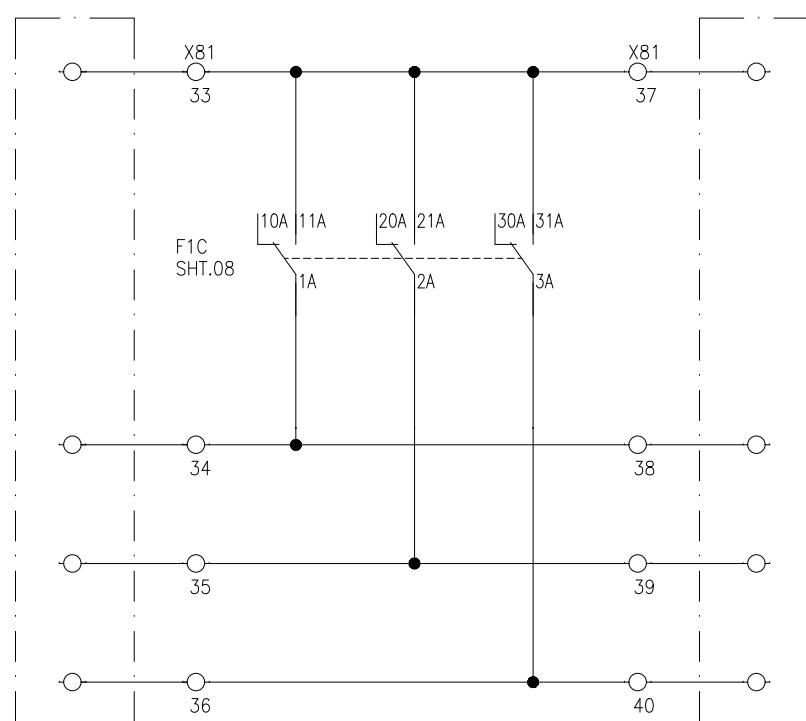
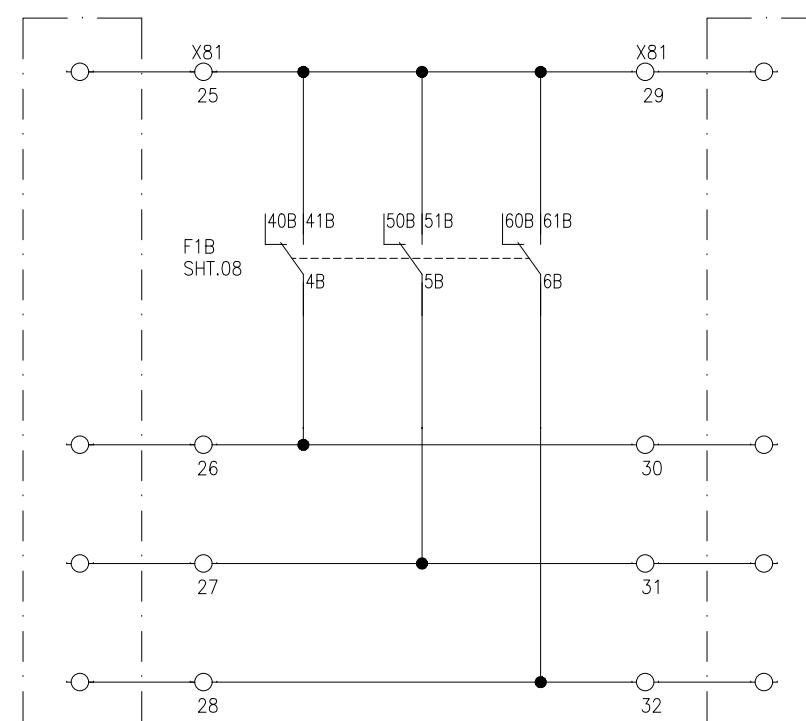
BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP



BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP



APPROVED	CHECKED	DRAWN
NAH	MSS	MUR



PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018
FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS

TITLE:
WIRED SPARE CONTACTS
220KV BUSBAR PROTECTION PANEL TYPE =D08+R7

 **EPESOL Pvt. Ltd.**
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/D81566 SHT: 14 OF 26
DATE: 07.03.2019 AS BUILT REV: 0

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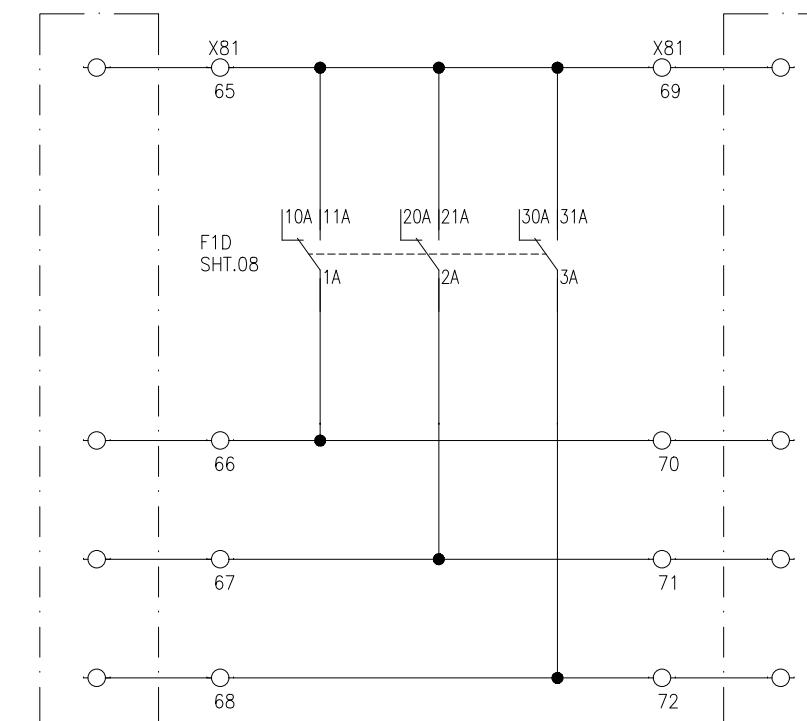
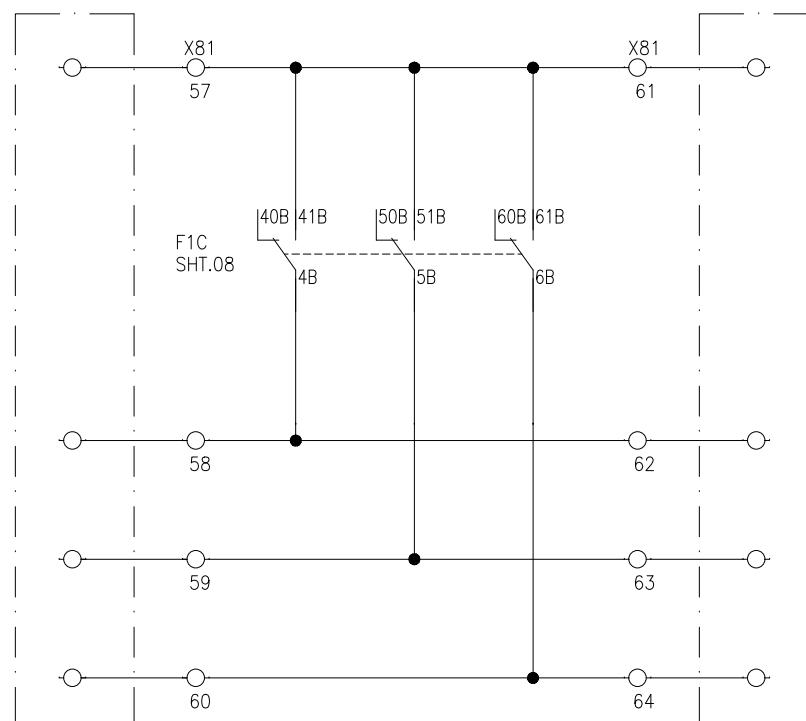
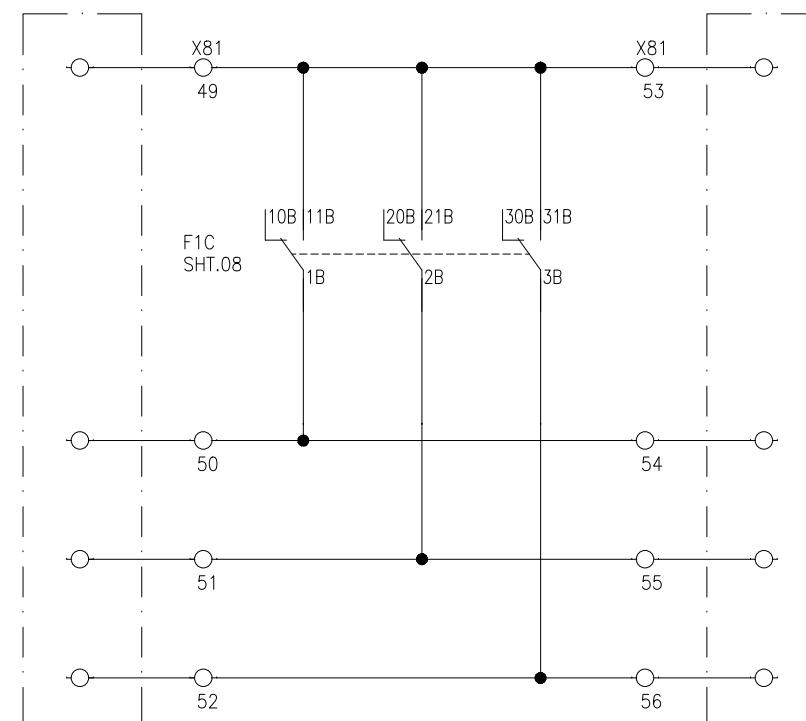
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BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

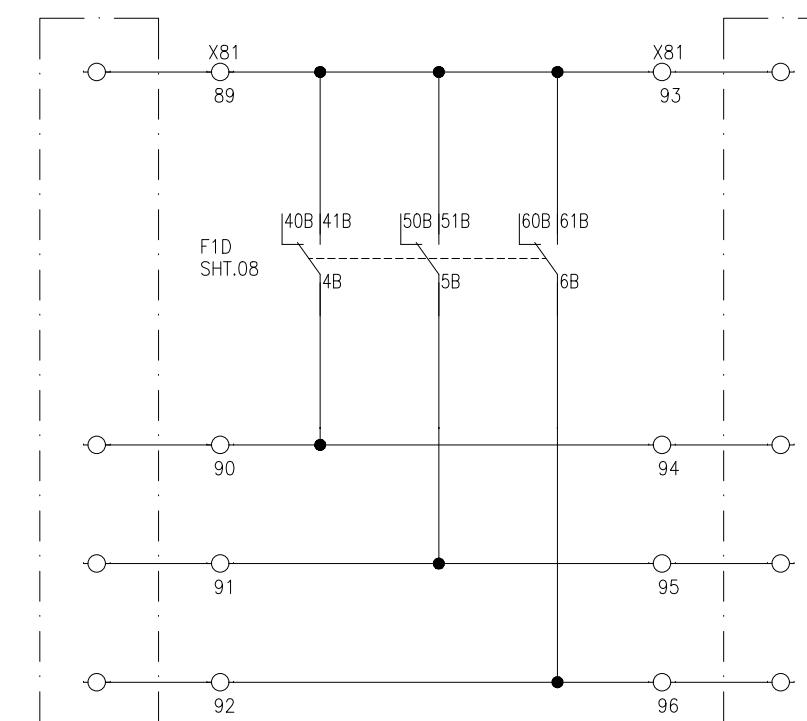
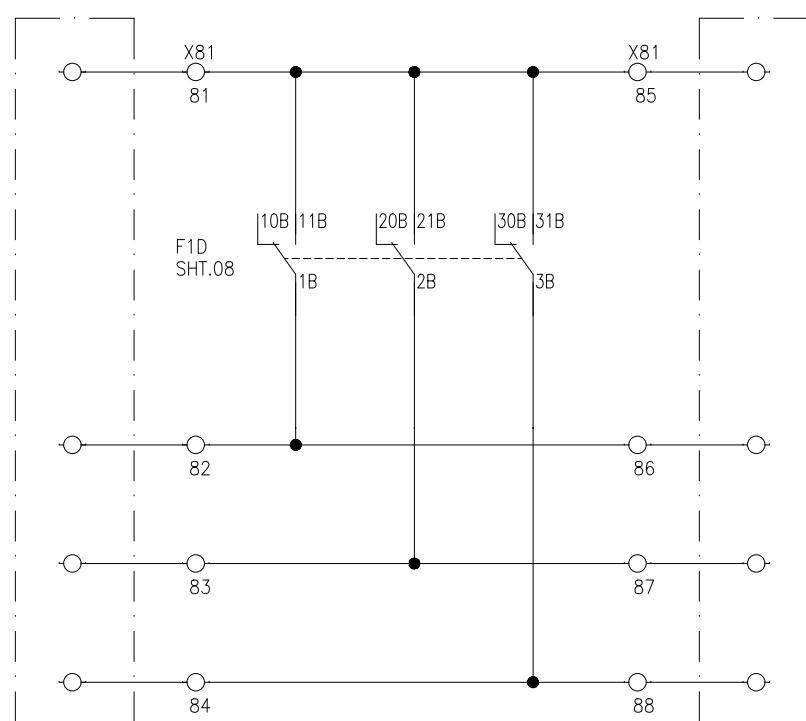
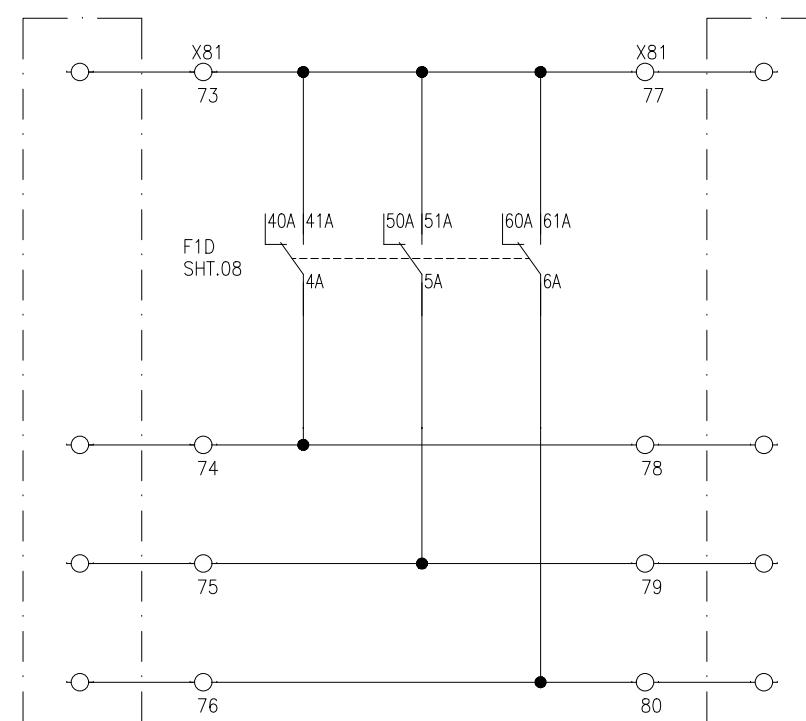
BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP



BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-1 DIFFERENTIAL
PROTECTION TRIP



APPROVED	CHECKED	DRAWN
NAH	MSS	MUR



PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018
FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS

TITLE:
WIRED SPARE CONTACTS
220KV BUSBAR PROTECTION PANEL TYPE =D08+R7



EPESOL Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/D81566 SHT: 15 OF 26
DATE: 07.03.2019 AS BUILT REV: 0

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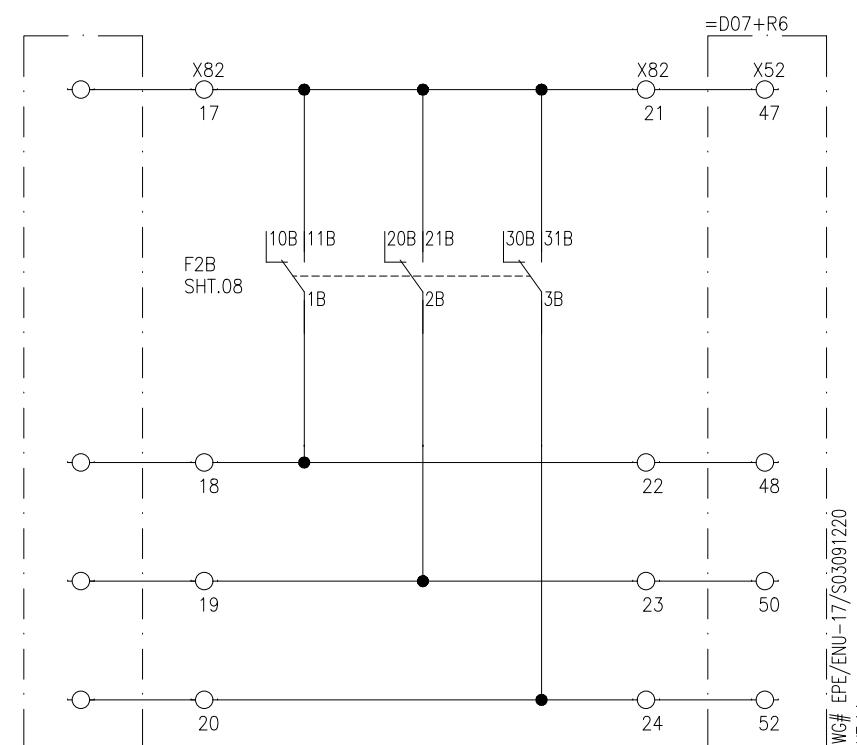
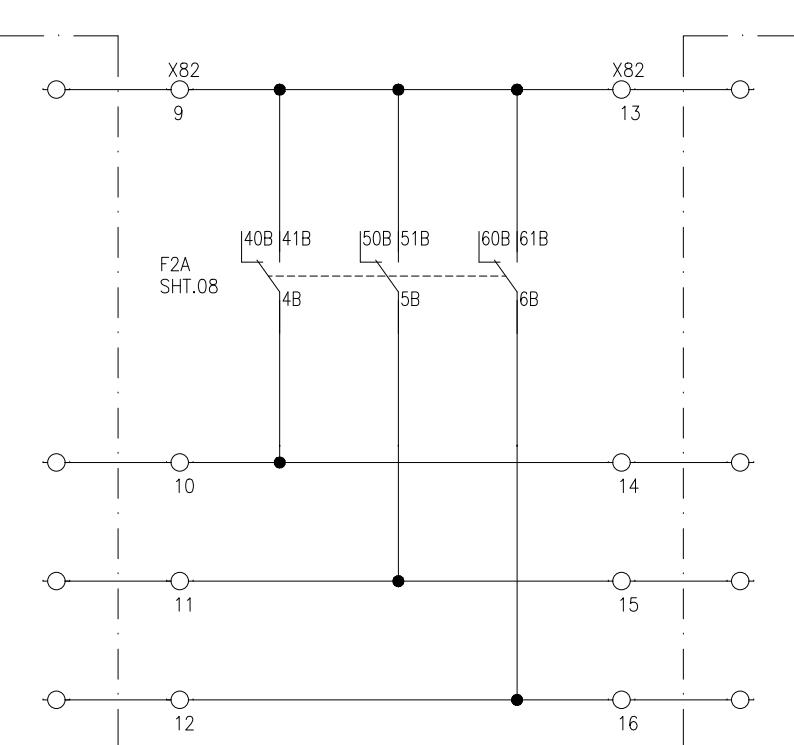
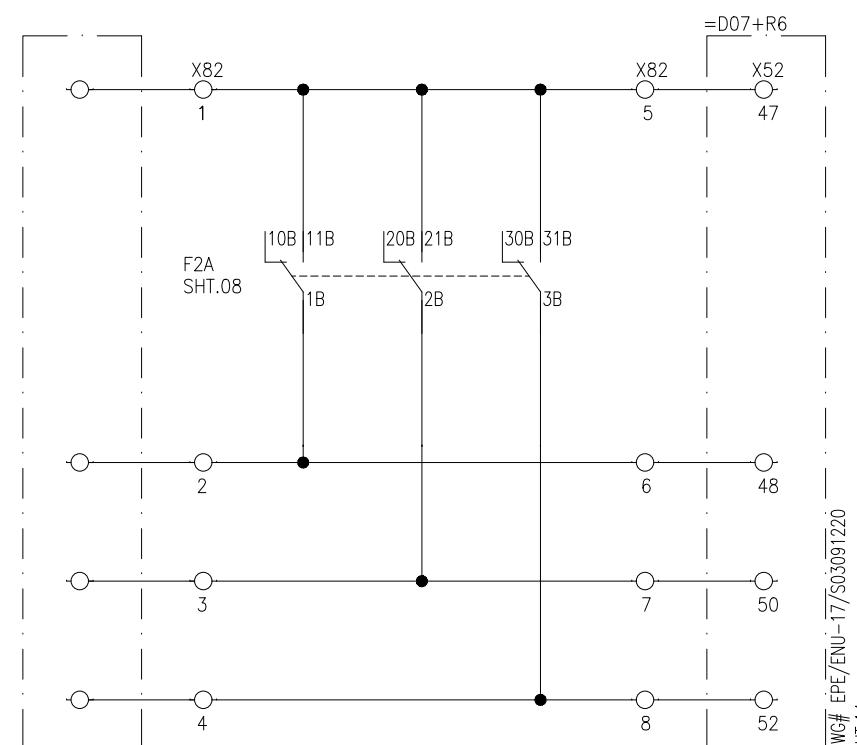
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8

BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

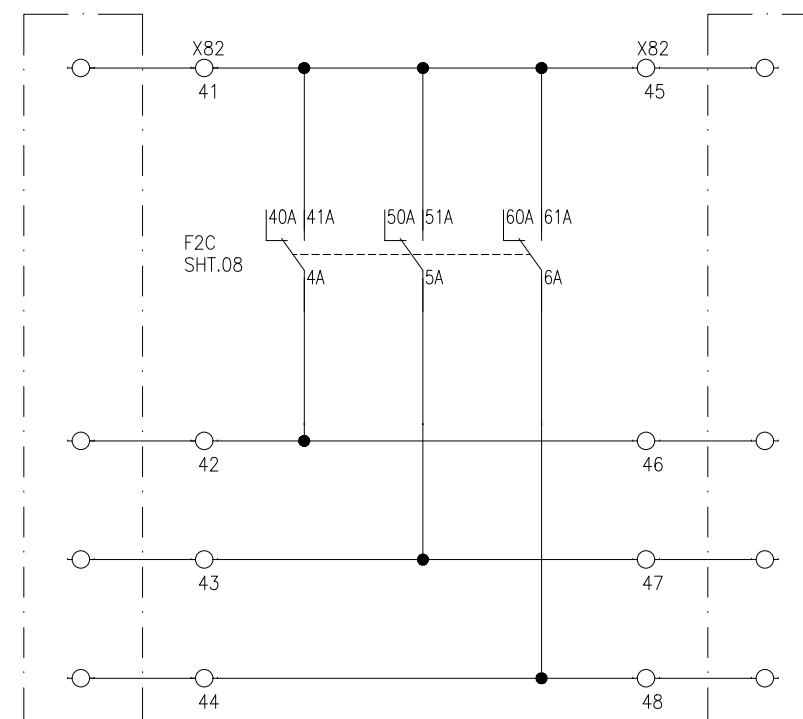
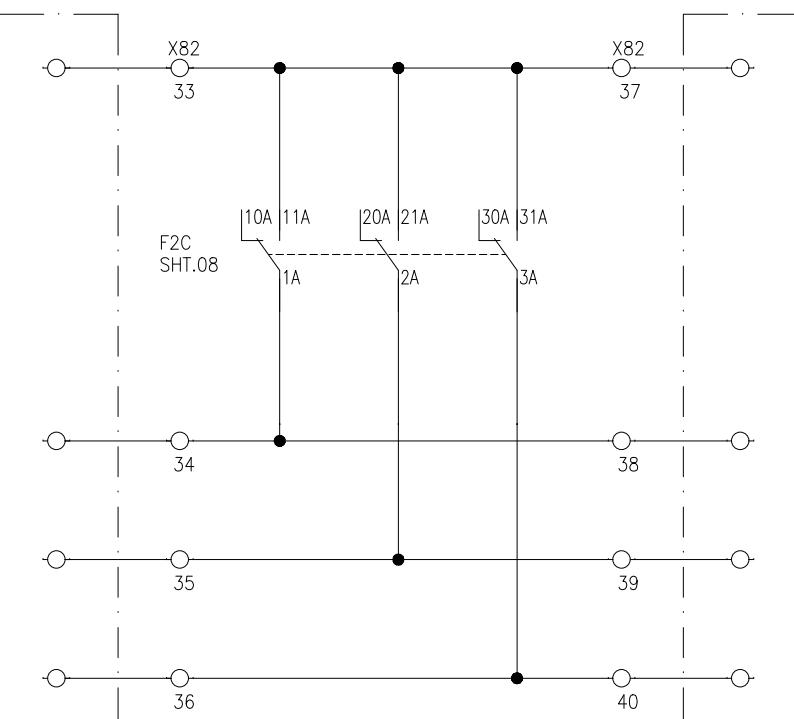
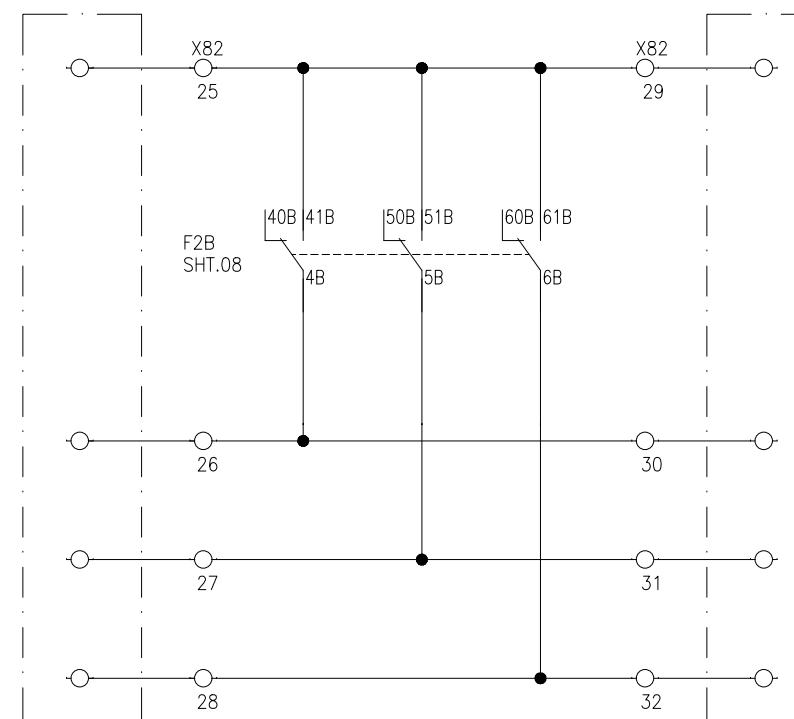
BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP



BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP



APPROVED	CHECKED	DRAWN
NAH	MSS	MUR



PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018
FOR THE PROCUREMENT OF 220KV & 500KV RELAY & CONTROL PANELS

TITLE:
WIRED SPARE CONTACTS
220KV BUSBAR PROTECTION PANEL TYPE =D08+R7



EPESOL Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/D81566	SHT: 16 OF 26
DATE: 07.03.2019	AS BUILT

REV: 0

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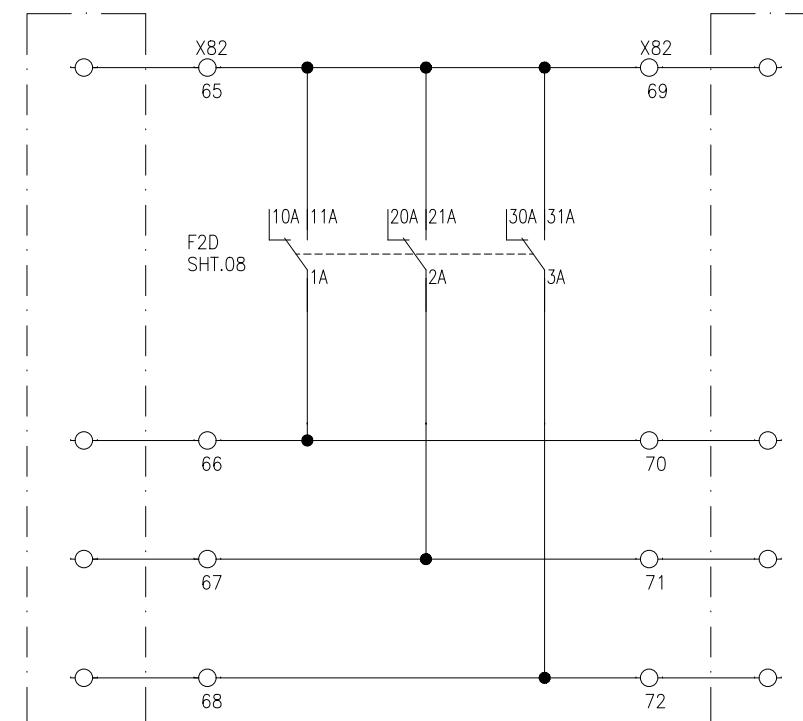
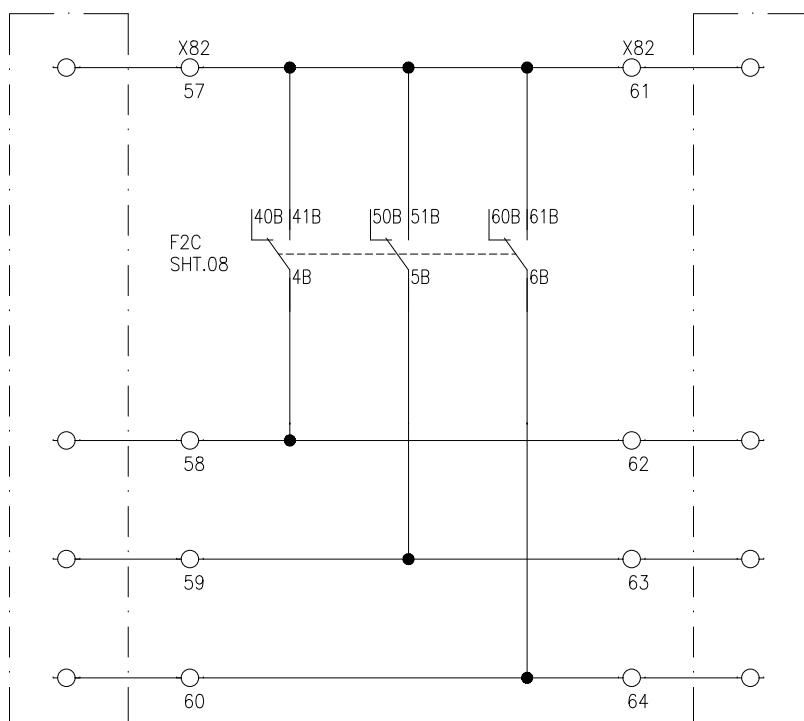
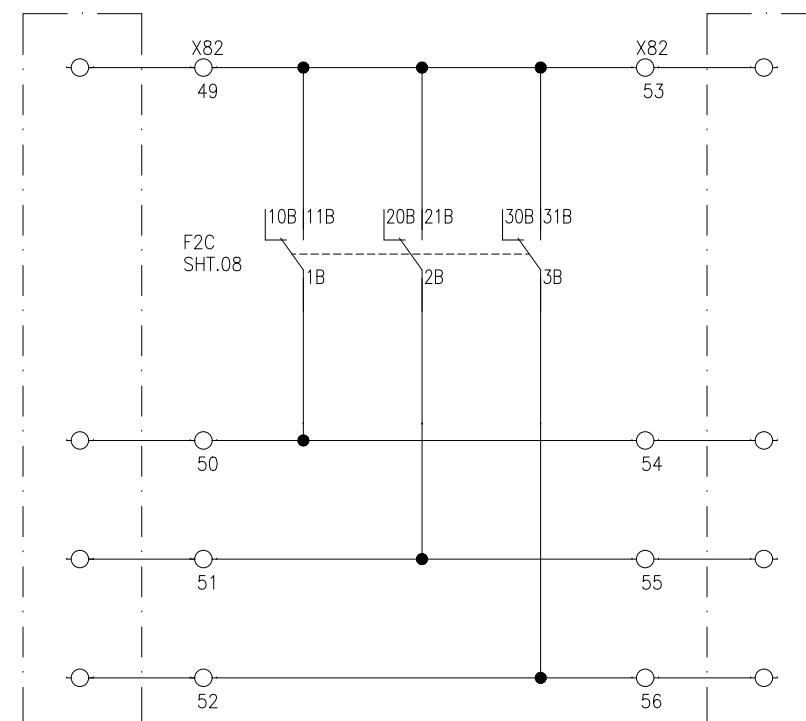
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BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

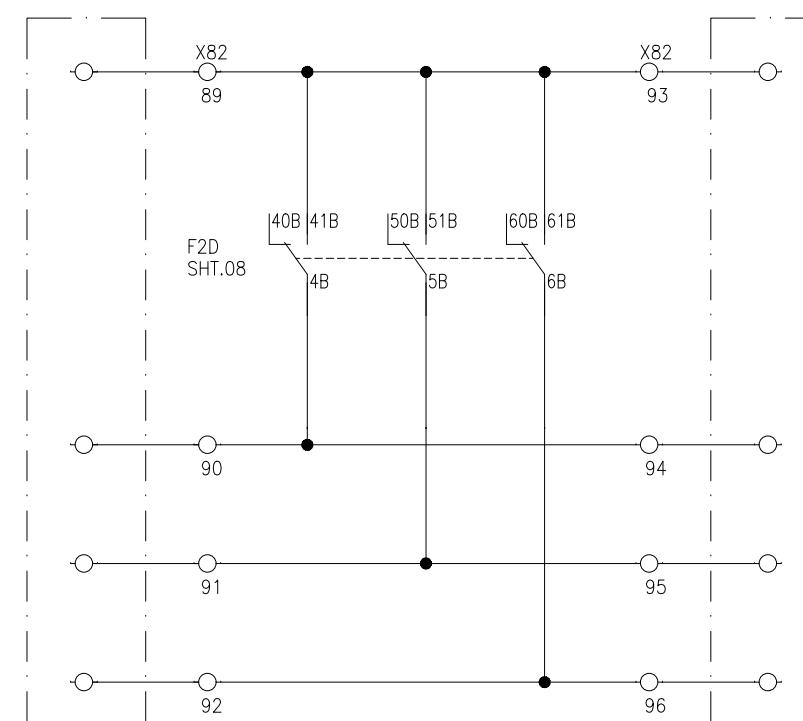
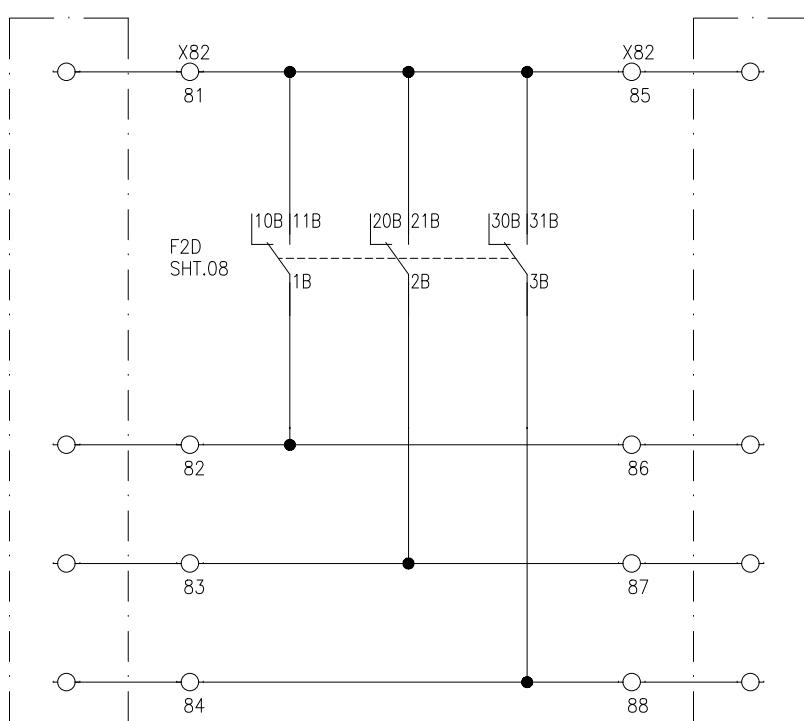
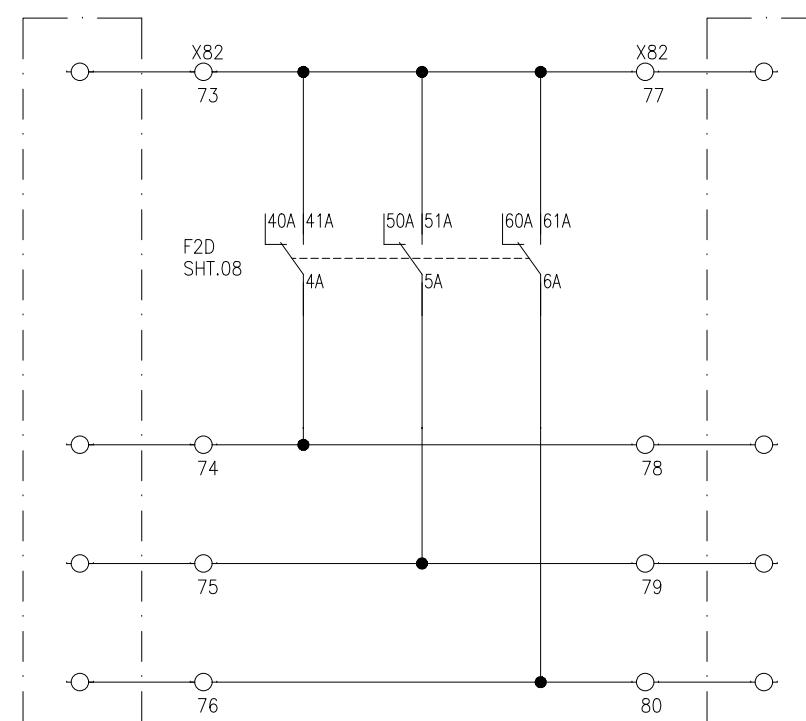
BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP



BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP

BUSBAR-2 DIFFERENTIAL
PROTECTION TRIP



APPROVED	CHECKED	DRAWN
NAH	MSS	MUR



PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018
FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS

TITLE:
WIRED SPARE CONTACTS
220KV BUSBAR PROTECTION PANEL TYPE =D08+R7



EPESOL Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/D81566	SHT: 17 OF 26
DATE: 07.03.2019	AS BUILT

REV: 0

1 2 3 4 5 6 7 8

BREAKER FAILURE INITIATION

=D07+Q1

=D07+Q2

BREAKER FAILURE INITIATION

=D08+Q1

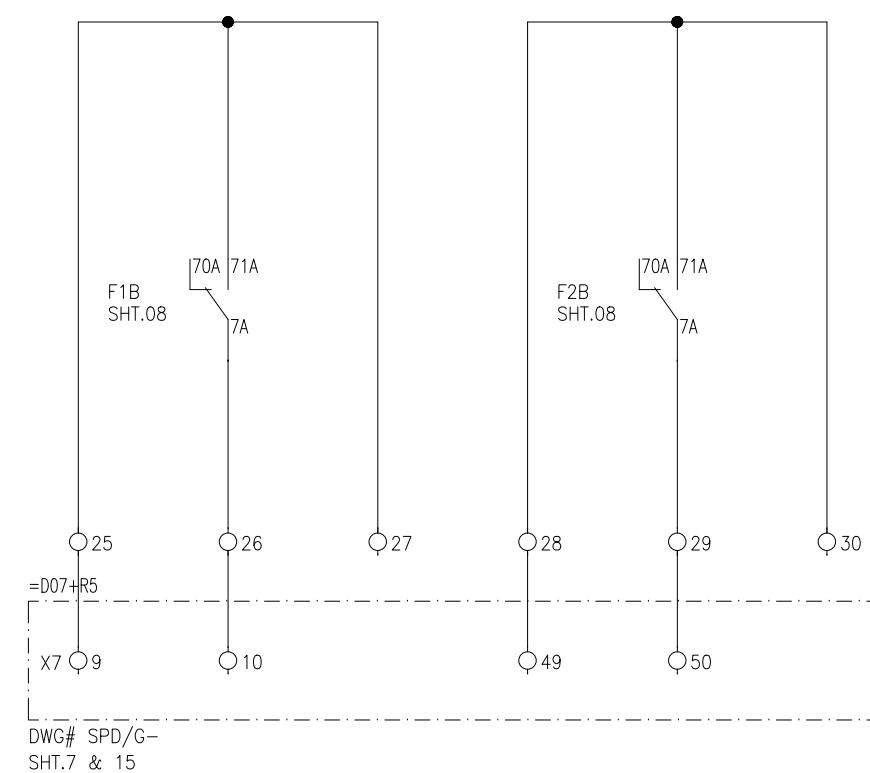
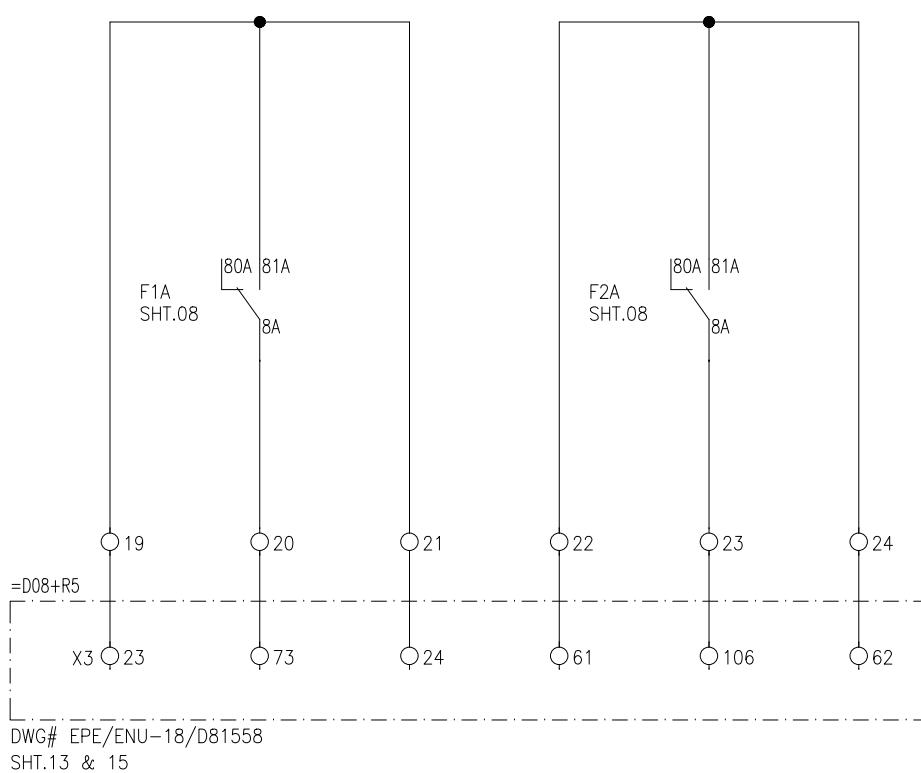
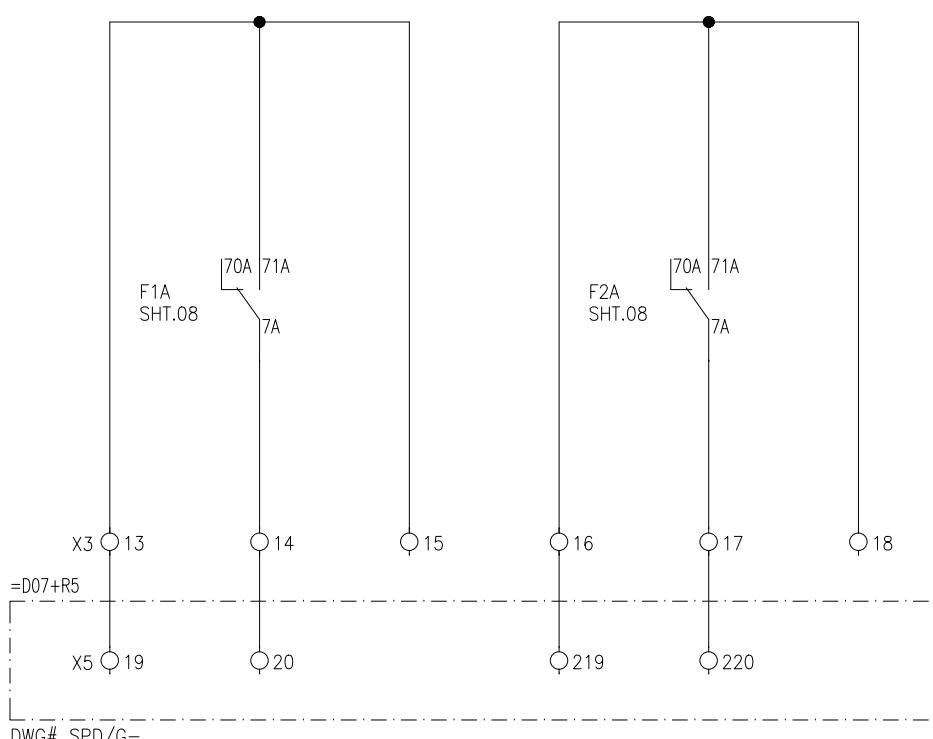
=D08+Q2

AR BLOCK

=D07+Q1

AR BLOCK

=D07+Q2



AR BLOCK (FUTURE)

=D08+Q2

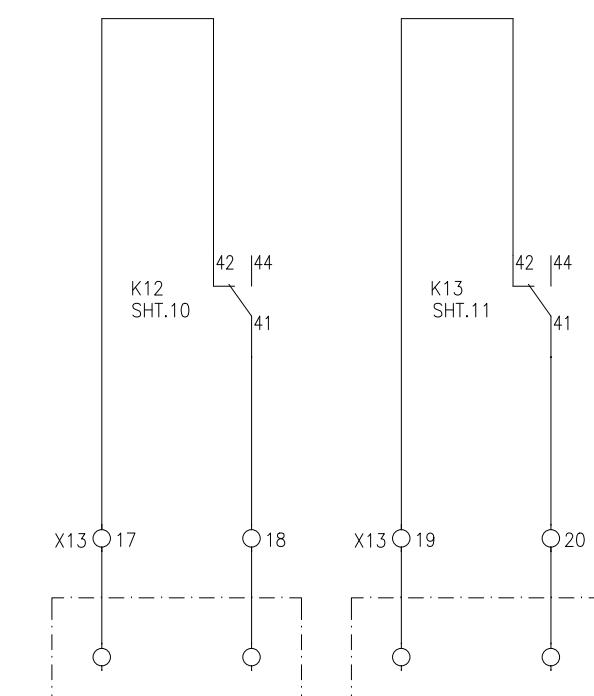
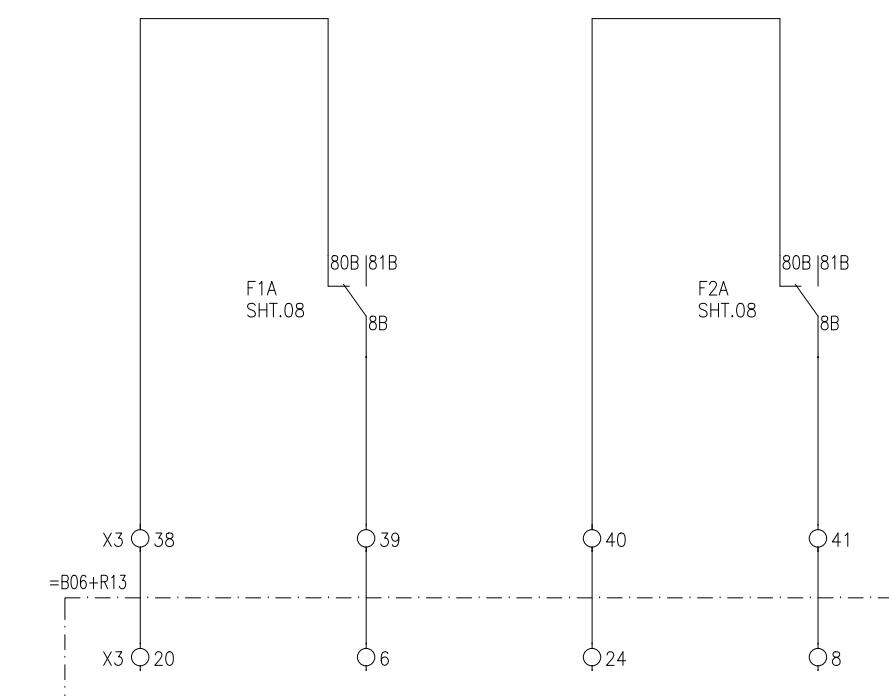
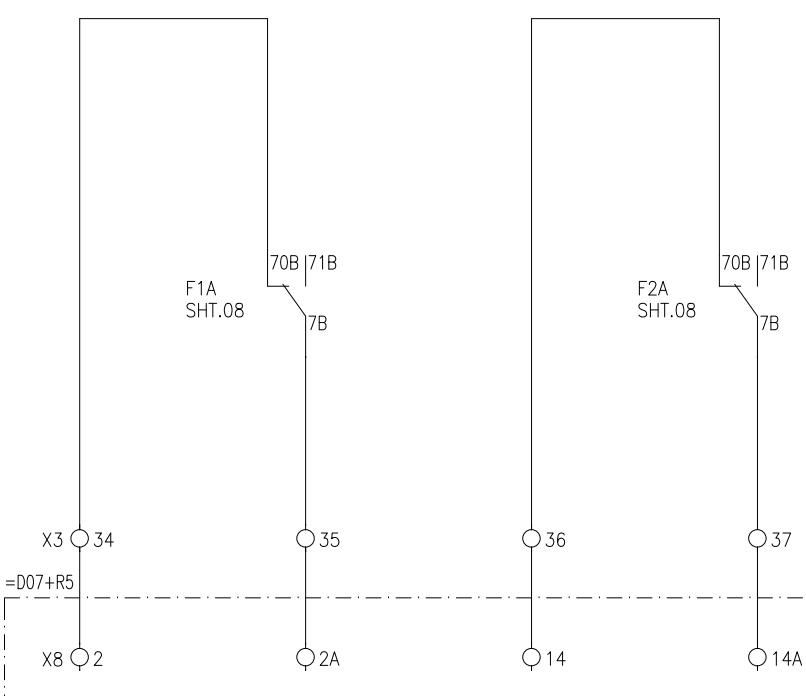
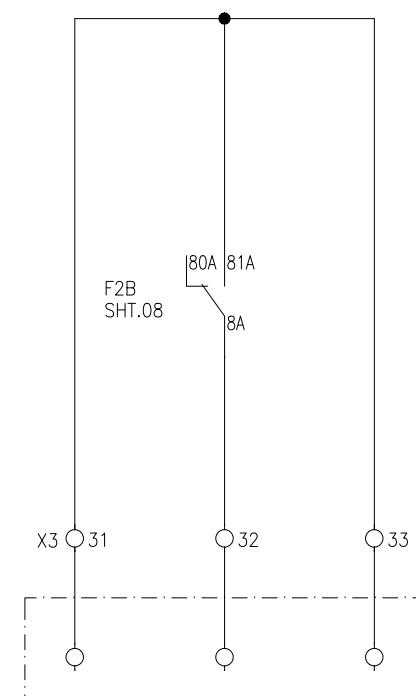
CB CLOSE BLOCK

=D07+Q1

CB CLOSE BLOCK

=D08+Q1

BB SECTIONALIZER STATUS FOR EXSITING BB BLOCKING



APPROVED	CHECKED	DRAWN
NAH	MSS	MUR



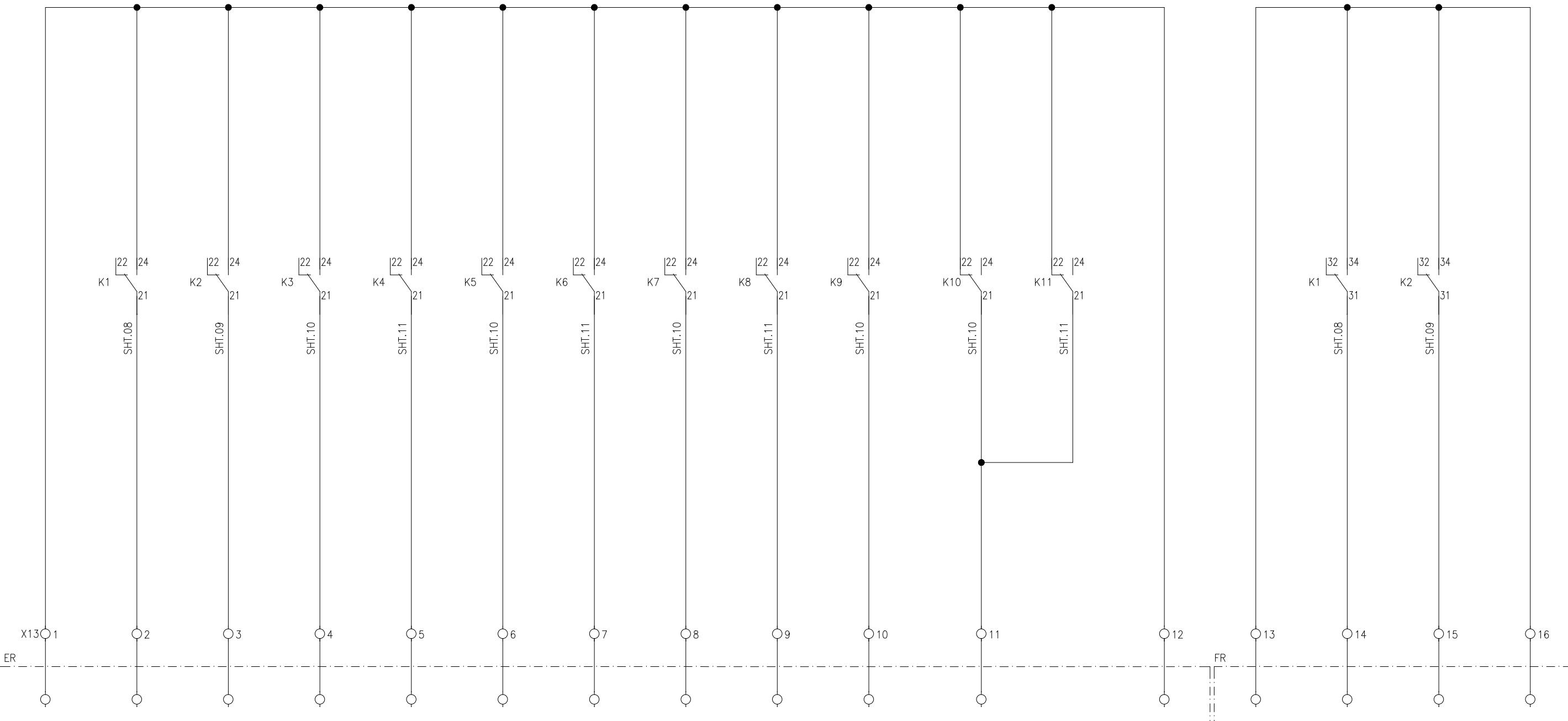
PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS

TITLE:
CONTROL SIGNALING FOR DIA-7 & DIA-8
220KV BUSBAR PROTECTION PANEL TYPE =D08+R7

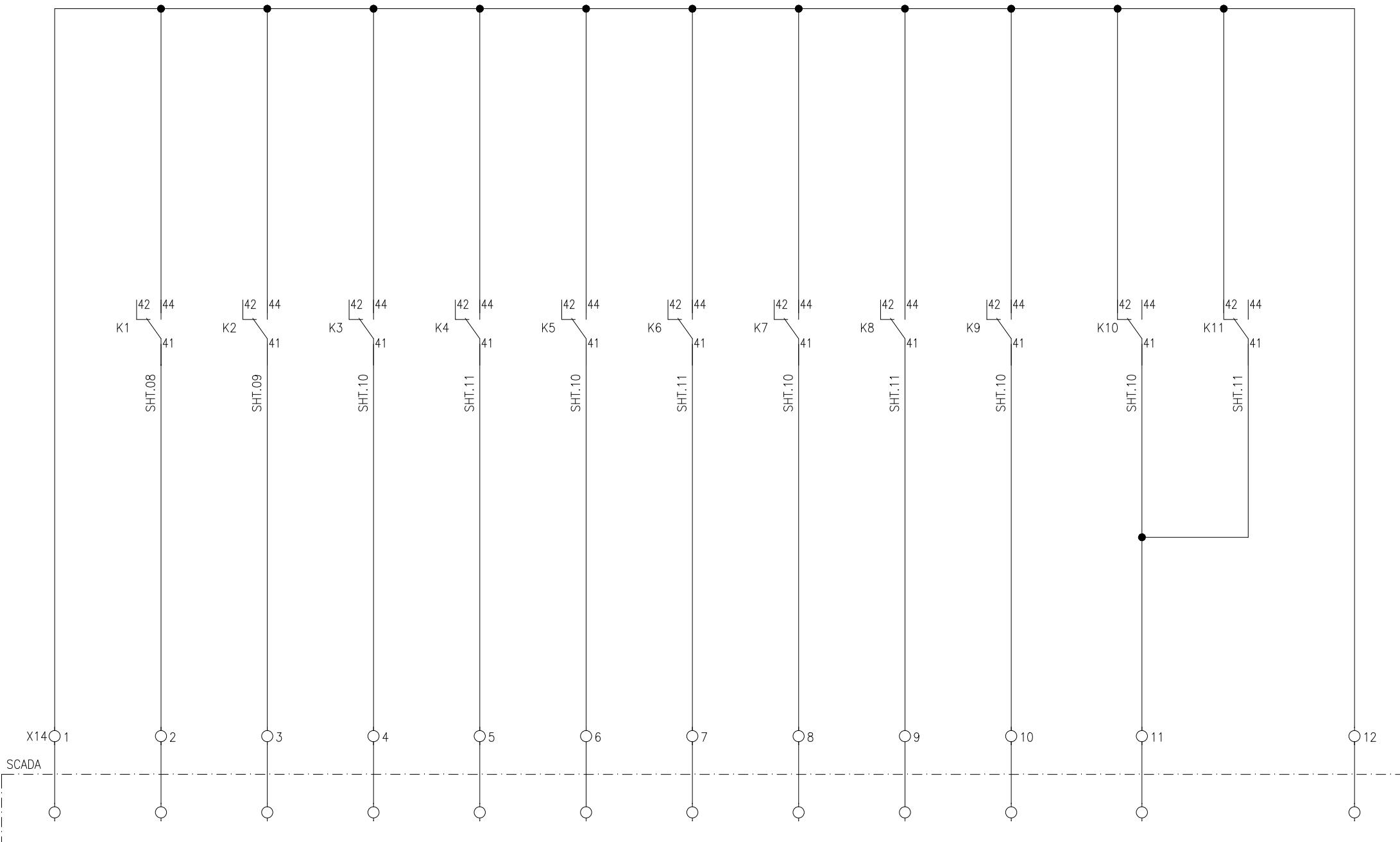
EPESOL Pvt Ltd
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/D81566
SHT: 18 OF 26
DATE: 07.03.2019
AS BUILT
REV: 0

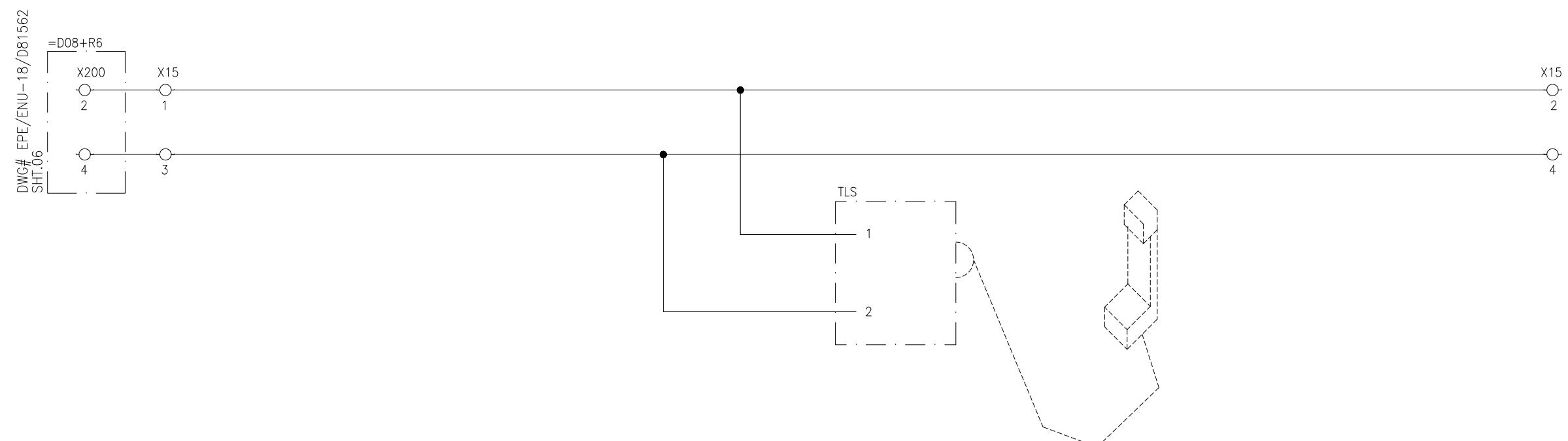
BUSBAR-1 PROTECTION TRIP	BUSBAR-2 PROTECTION TRIP	CT SUPERVISION OPERATED	PROT. OUT OF SERVICE / BLOCKED	BUSBAR-1 PROTECTION FAULTY	BUSBAR-2 PROTECTION FAULTY	PANEL AC SUPPLY FAIL	PANEL DC SUPPLY FAIL	BUSBAR-1 PROT. TRIP	BUSBAR-2 PROT. TRIP
87BB1	87BB2	87BB1	87BB2						



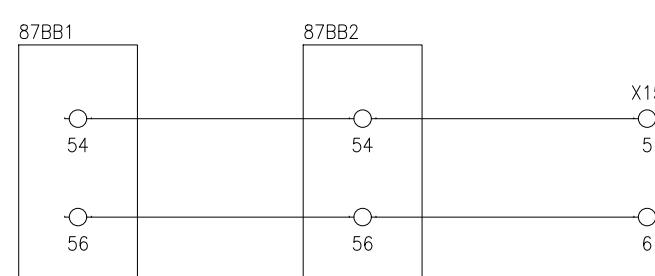
BUSBAR-1 PROTECTION TRIP	BUSBAR-2 PROTECTION TRIP	CT SUPERVISION OPERATED	PROT. OUT OF SERVICE / BLOCKED	BUSBAR-1 PROTECTION FAULTY	BUSBAR-2 PROTECTION FAULTY	PANEL AC SUPPLY FAIL	PANEL DC SUPPLY FAIL
87BB1	87BB2	87BB1	87BB2				



APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: SIGNALING CIRCUIT 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81566	SHT: 21 OF 26
NAH Q.	MSS M. Sohail	MUR Iy		EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019	AS BUILT REV: 0

TELEPHONE
SOCKET

RS-485 COMMUNICATION LOOP

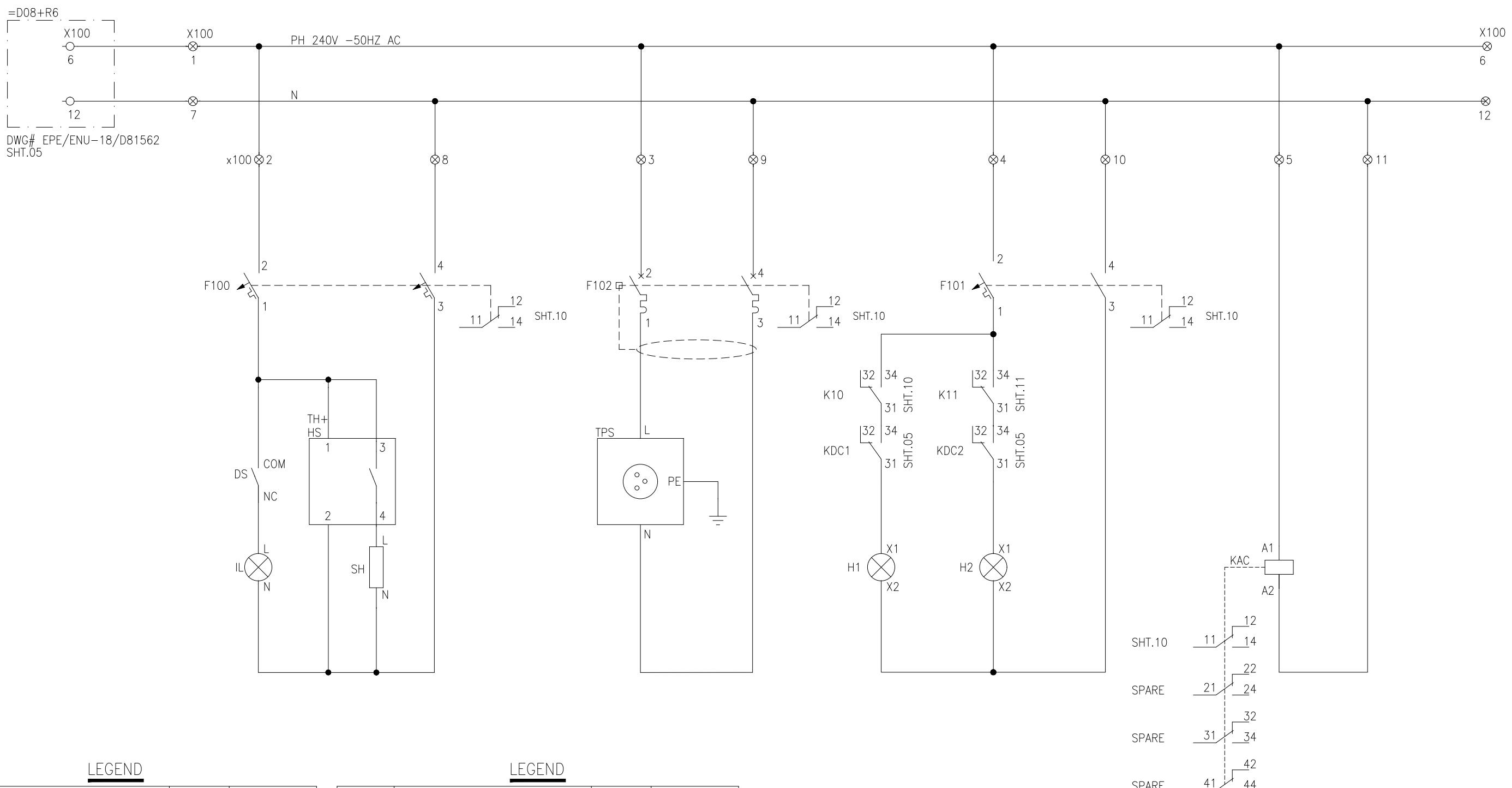


APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: COMMUNICATION CIRCUIT 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81566	SHT: 22 OF 26
NAH [Signature]	MSS [Signature]	MUR [Signature]		 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DATE: 07.03.2019	AS BUILT

AC SUPPLY DISTRIBUTION

DOOR SWITCH & SPACE HEATER
CUBICLE LIGHT THERMOSTAT

THREE PIN SOCKET

PANEL DC SUPPLY
HEALTHYPANEL AC SUPPLY
SUPERVISIONLEGEND

DES.	DESCRIPTION	TYPE	MAKE
F100, F101	TWO POLE AC MCB	G60	GE
F102	ELCB	DM100	GE
KAC	AUX. RELAY 240VAC	PRC	GE
H	INDICATION LAMP	YSPL	YONGSUNG

LEGEND

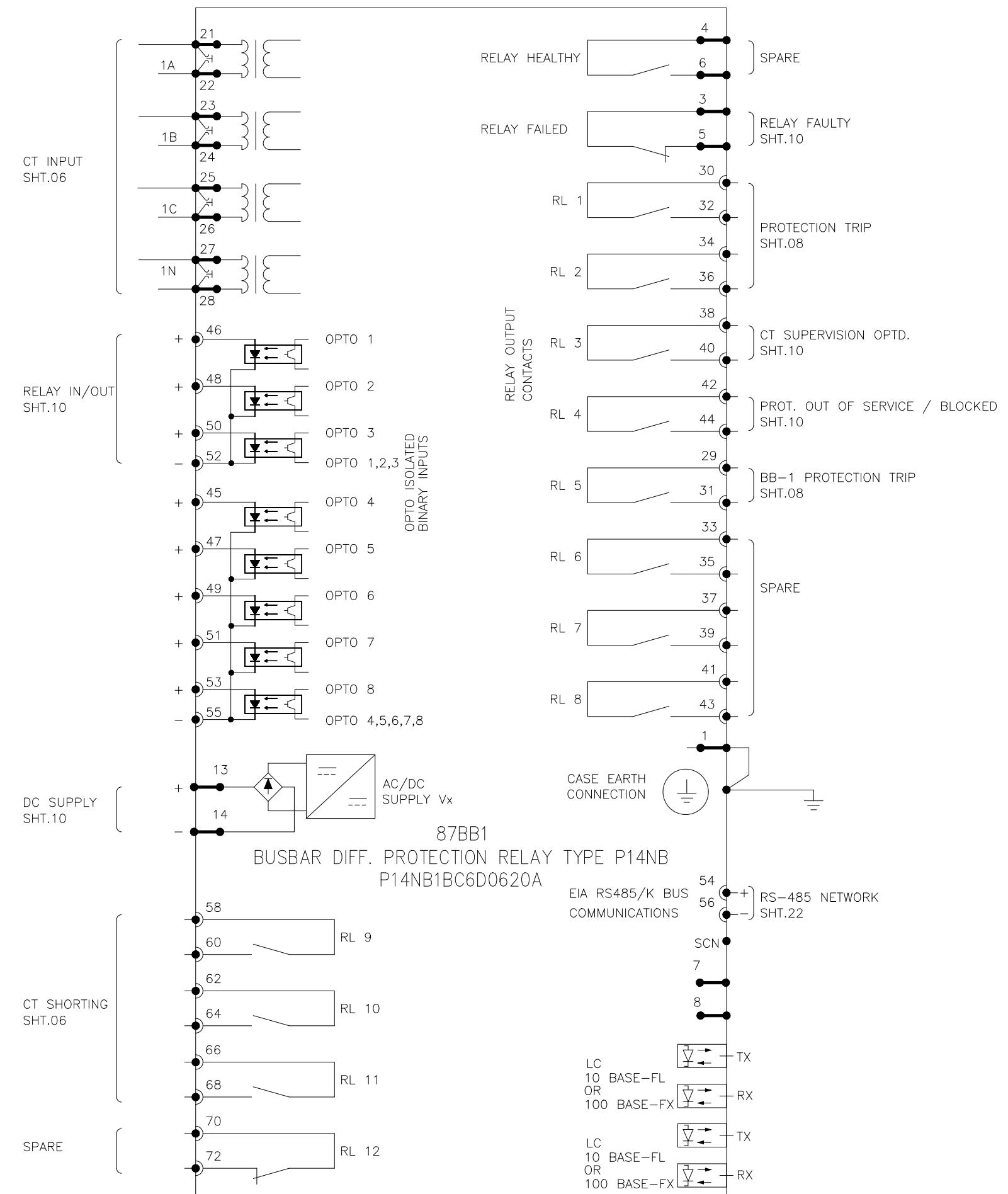
DES.	DESCRIPTION	TYPE	MAKE
TPS	THREE PIN SOCKET	220V SOCKET	GE
SH	SPACE HEATER	ELH220	GE
TH+HS	THERMOSTAT	ELH220	GE
IL	CUBICLE LIGHT	YST8	YONGSUNG

APPROVED DRAWN
NAH [Signature] MSS [Signature] MUR [Signature]

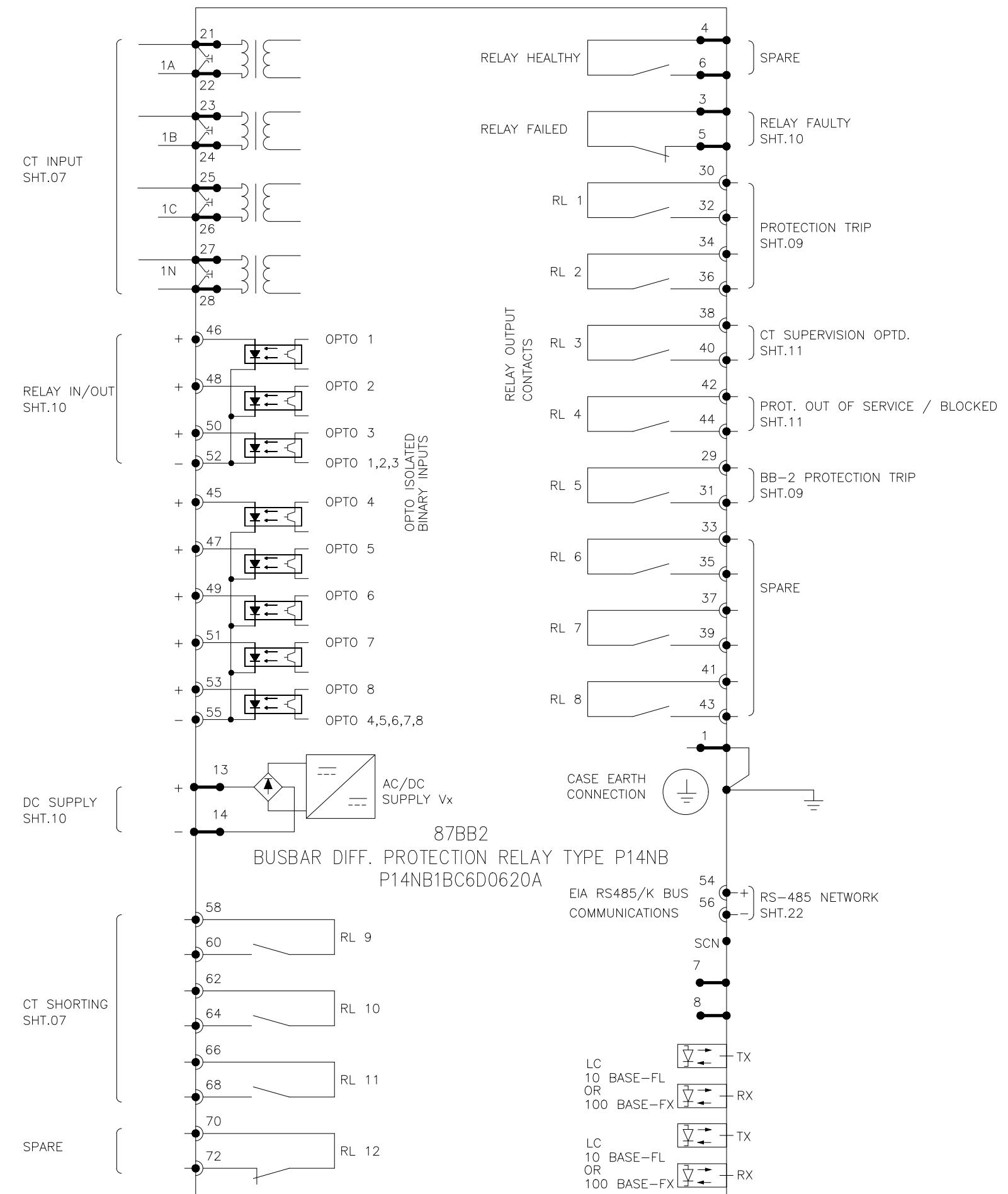
PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS

TITLE: AC SUPPLY DISTRIBUTION
220KV BUSBAR PROTECTION PANEL TYPE =D08+R7

EPE SOL Pvt. Ltd.
 71-B Garden Block, New Garden Town, Lahore, Pakistan
DWG# EPE/ENU-18/D81566 SHT: 23 OF 26
DATE: 07.03.2019 AS BUILT REV: 0



APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: DEVICE DETAIL FOR 87BB1 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81566	SHT: 24 OF 26
NAH [Signature]	MSS [Signature]	MUR [Signature]	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan		DATE: 07.03.2019	AS BUILT REV: 0

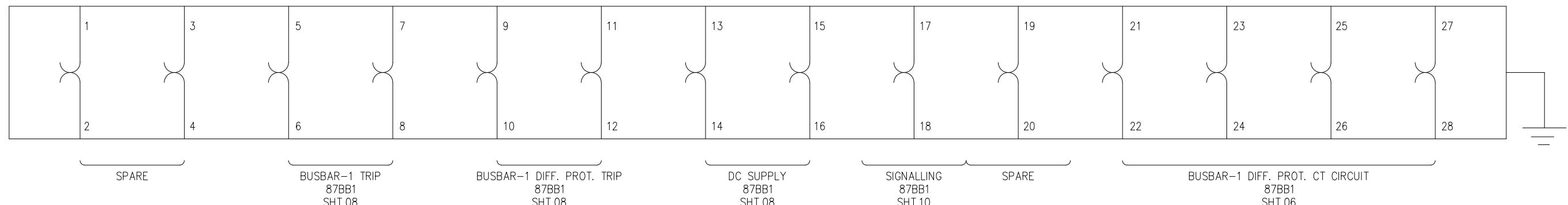


APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: DEVICE DETAIL FOR 87BB2 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	DWG# EPE/ENU-18/D81566	SHT: 25 OF 26
NAH [Signature]	MSS [Signature]	MUR [Signature]	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan		DATE: 07.03.2019	AS BUILT REV: 0

TS1

TEST BLOCK TYPE TSB-14

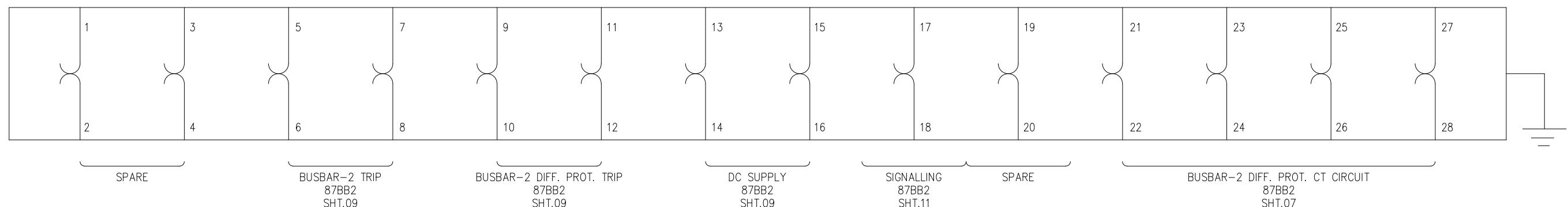
ORDERING CODE: TSB-14-111111111AAAB



TS2

TEST BLOCK TYPE TSB-14

ORDERING CODE: TSB-14-111111111AAAB



APPROVED	CHECKED	DRAWN	PROJECT: EDUCATIONAL ORDER NTDC PO# CE/MP&M /M(P)/AM-VI/E0/9417-29 DATED 14.11.2018 FOR THE PROCUREMENT OF 220KV & 500KV RELAY& CONTROL PANELS	TITLE: DEVICE DETAIL FOR TEST BLOCK 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	EPE SOL Pvt. Ltd 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81566	SHT: 26 OF 26
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT

Sr.	CABLE DESIGNATION	CORE CROSS SECTION		DESTINATION	
		1	2	3	4
A	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
B	9				
	10				
	11				
	12				
	1	2	3	4	5
					6
					7
					8
					9
					10
					11
					12
C					
D					
E					
F					

LEGEND



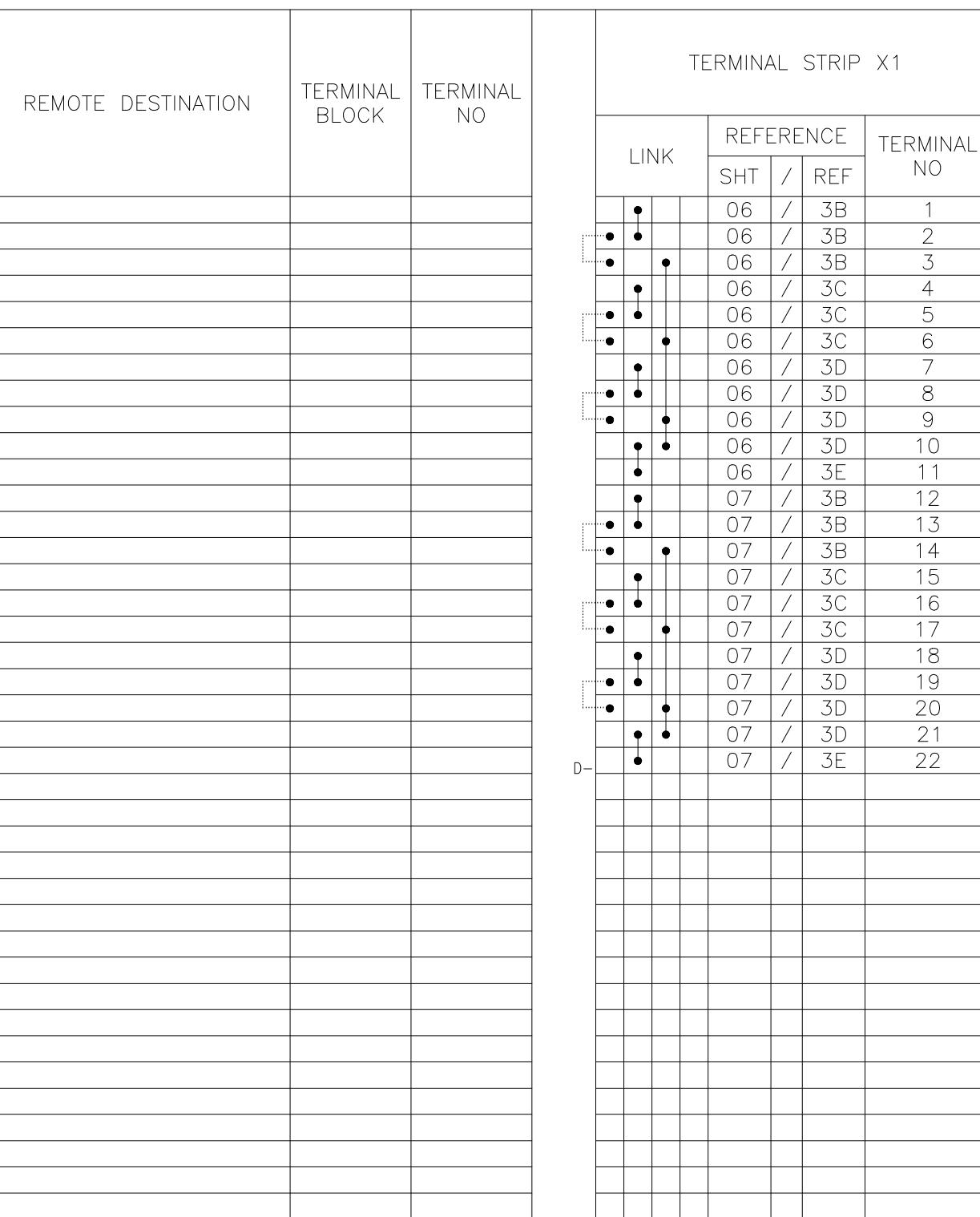
TEMPORARY SHORTENING LINK



PERMANENT LINK

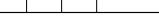


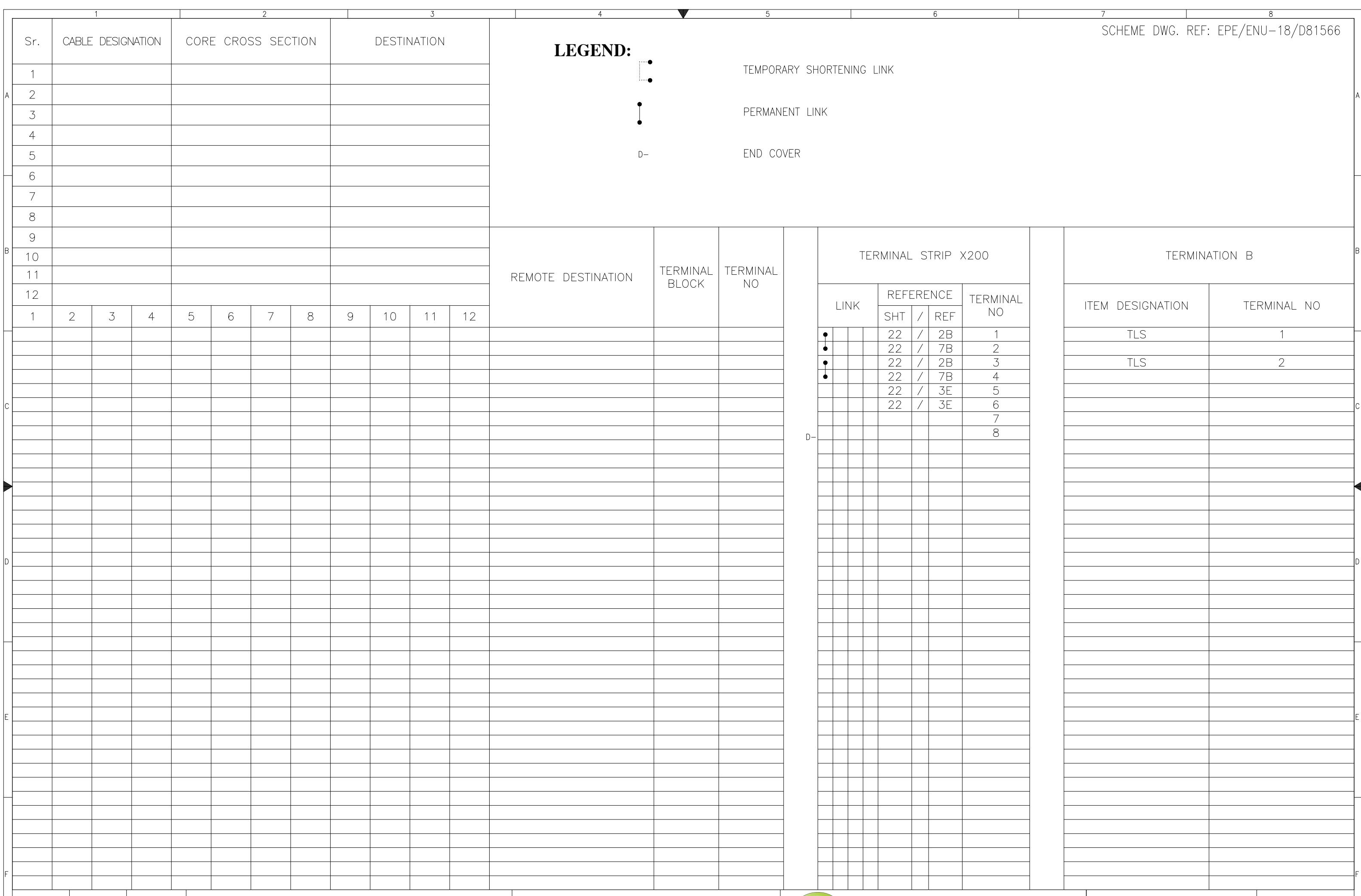
END COVER



SCHEME DWG. REF: EPE/ENU-18/D81566

APPROVED	CHECKED	DRAWN	PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 01 OF 19
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT

APPROVED	CHECKED	DRAWN	PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: 220kV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL PVT LTD. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 02 OF 19
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT



EPESOL Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan



PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/
9417-29 DATED 14.11.2018 FOR PROCUREMENT
OF SECURITY & PROTECTION & CONTROL PANEL

Page 1

TITLE: TERMINAL DETAIL
SHEET NUMBER: PROTECTION PANEL TYPE: PDS-1B7



E P E S O L P v t . L t d.

Figure 1. The relationship between the number of species and the area of forest cover.

DWG# EPE/ENU-

1 | Page

SHT: 04

Sr.	CABLE DESIGNATION	CORE CROSS SECTION		DESTINATION		LEGEND:	TEMPORARY SHORTENING LINK PERMANENT LINK END COVER	TERMINAL STRIP X71			TERMINATION B				
								LINK		REFERENCE	TERMINAL NO	ITEM DESIGNATION	TERMINAL NO		
								SHT	/	REF		F1B	11A		
												F1B	1A		
												F1B	2A		
												F1B	3A		
												F1B	31A		
												F1B	1A		
												F1B	2A		
												F1B	3A		
												F1B	41A		
												F1B	4A		
												F1B	5A		
												F1B	6A		
												F1B	61A		
												F1B	4A		
												F1B	5A		
												F1B	6A		
									</th						

APPROVED	CHECKED	DRAWN	PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 05 OF 19
NAH 	MSS 	MUR 				DATE: 07.03.2019	AS BUILT

SCHEME DWG. REF: EPE/ENU-18/D81566

LEGEND



TEMPORARY SHORTENING LINK



PERMANENT LINK



END COVER

REMOTE DESTINATION	TERMINAL BLOCK	TERMINAL NO	TERMINAL STRIP X62			
			LINK		REFERENCE	
SHT	/	REF	D-	1A	1	1
		13 /		1B	2	2
		13 /		1C	3	3
		13 /		1C	4	4
		13 /		3A	5	5
		13 /		3B	6	6
		13 /		3C	7	7
		13 /		3C	8	8
		13 /		1D	9	9
		13 /		1E	10	10
		13 /		1E	11	11
		13 /		1F	12	12
		13 /		3D	13	13
		13 /		3E	14	14
		13 /		3E	15	15
		13 /		3F	16	16
					17	17
					18	18

TERMINATION B

APPROVED	CHECKED	DRAWN	PR
NAH <i>o</i>	MSS <i>no school</i>	MUR <i>kg</i>	



PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/
9417-29 DATED 14.11.2018 FOR PROCUREMENT
OF 25.000M³ A. EGYPT PROTECTION A. CONTROL PANEL

TITLE: TERMINAL DETAIL
S-200-LV BUSBAR PROTECTION PANEL TYPE: PGS-PZ



E P E S O L P v t . L t d .

DWG# EPE/ENU-18/D81567	SHT: 06 OF 19
DATE: 07.03.2019	AS BUILT RFV: 0



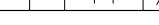
PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/E0/
9417-29 DATED 14.11.2018 FOR PROCUREMENT
CE 200KV & EGGING PROTECTION & CONTROL PANEL

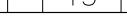
TITLE: TERMINAL DETAIL
S. 0001.V. BUSBAR PROTECTION PANEL TYPE PGS-PZ



E P E S O L Pvt. Ltd.

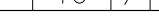
DWG# EPE/ENU-18/D81567 SHT: 07 OF 19

APPROVED	CHECKED	DRAWN	PROJECT:  NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220kV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 08 OF 19
NAH	MSS M. Sohail	MUR				DATE: 07.03.2019	AS BUILT

APPROVED	CHECKED	DRAWN	PROJECT:  NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 09 OF 19
NAH	MSS M. Sohail	MUR				DATE: 07.03.2019	AS BUILT REV: 0

SCHEME DWG. REF: EPE/ENU-18/D81566

APPROVED	CHECKED	DRAWN	PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220kV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL PVT LTD. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 10 OF 19
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT

APPROVED	CHECKED	DRAWN	PROJECT:  NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220kV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 11 OF 19
NAH	MSS	MUR				DATE: 07.03.2019	AS BUILT

Sr.	CABLE DESIGNATION			CORE CROSS SECTION			DESTINATION			LEGEND:												SCHEME DWG. REF: EPE/ENU-18/D81566			
A	1	2	3	4	5	6	7	8	9	10	11	12													
B	9	10	11	12																					
C	1	2	3	4	5	6	7	8	9	10	11	12													
D																									
E																									
F																									
REMOTE DESTINATION													TERMINAL BLOCK			TERMINAL NO			TERMINAL STRIP X82						
																			TERMINATION B						
																ITEM DESIGNATION			TERMINAL NO						
																LINK			REFERENCE			TERMINAL NO			
																SHT / REF									
																16 / 7D	41								
																16 / 7E	42								
																16 / 7E	43								
																16 / 7F	44								
																16 / 8D	45								
																16 / 8E	46								
																16 / 8E	47								
																16 / 8F	48								
																17 / 1A	49								
																17 / 1B	50								
																17 / 1C	51								
																17 / 2A	52								
																17 / 2B	54								
																17 / 2C	55								
																17 / 2C	56								
																17 / 4A	57								
																17 / 4B	58								
																17 / 4C	59								
																17 / 5A	61								
																17 / 5B	62								
																17 / 5C	63								
																17 / 5C	64								
																17 / 7A	65								
																17 / 7B	66								
																17 / 7C	67								
																17 / 7C	68								
																17 / 8A	69								
																17 / 8B	70								
																17 / 8C	71								

Sr.	CABLE DESIGNATION	CORE CROSS SECTION	DESTINATION	LEGEND:												SCHEME DWG. REF: EPE/ENU-18/D81566											
A	1																										
A	2																										
A	3																										
A	4																										
A	5																										
A	6																										
B	7																										
B	8																										
B	9																										
B	10																										
B	11																										
B	12																										
C	1	2	3	4	5	6	7	8	9	10	11	12															
C																											
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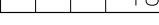


E P E S O L Pvt. Ltd.
71-B Garden Block, New Garden Town, Lahore, Pakistan

DWG# EPE/ENU-18/D81567 SHT: 13 OF 19
 DATE: 07.03.2019 **AS BUILT** REV: 0

APPROVED	CHECKED	DRAWN	PROJECT:
NAH	MSS	MUR	NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANEL

TITLE: TERMINAL DETAIL
ENT 220VAC BUSBAR PROTECTION PANEL TYPE -D08 LPZ

APPROVED	CHECKED	DRAWN	PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220kV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 14 OF 19
NAH 	MSS 	MUR 				DATE: 07.03.2019	AS BUILT REV: 0

SCHEME DWG. REF: EPE/ENU-18/D81566

APPROVED	CHECKED	DRAWN	P
NAH <i>[initials]</i>	MSS <i>M. Sohal</i>	MUR <i>[initials]</i>	<i>[initials]</i>

PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/EO/
9417-29 DATED 14.11.2018 FOR PROCUREMENT
OF GEARING & PROTECTION & CONTROL PANEL

	TITLE:			
NT		TERMINAL DETAIL		
IC 2221M	BLURBAP	PROTECTION	PANEL TYPE	P221P7



E P E S O L Pvt. Ltd.

DWG# EPE/ENU-18/D81567 SHT: 15 OF 19
DATE: 07.03.2019 AS BUILT REV: 0

Sr.	CABLE DESIGNATION		CORE CROSS SECTION		DESTINATION		LEGEND:		SCHEME DWG. REF: EPE/ENU-18/D81566											
A	1																			
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A	4																			
A	5																			
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B	7																			
B	8																			
B	9																			
B	10																			
B	11																			
B	12																			
C	1	2	3	4	5	6	7	8	9	10	11	12								
D																				
E																				
F																				
APPROVED			CHECKED		DRAWN		PROJECT:		TITLE:		DWG# EPE/ENU-18/D81567		SHT: 16 OF 19							
NAH Q.			MSS M. Sohail		MUR Iy		NTDC PO# CE/MP&M/M(P)/AM-VI/E0/		TITLE:		EPESOL Pvt Ltd		DWG# EPE/ENU-18/D81567		SHT: 16 OF 19					
							9417-29 DATED 14.11.2018 FOR PROCUREMENT		TERMINAL DETAIL		71-B Garden Block, New Garden Town, Lahore, Pakistan		DATE: 07.03.2019		AS BUILT		REV: 0			
							OF 220KV & 500KV PROTECTION & CONTROL PANELS		220KV BUSBAR PROTECTION PANEL TYPE =D08+R7											

LEGEND:



TEMPORARY SHORTENING LINK



PERMANENT LINK



END COVER

REMOTE DESTINATION

TERMINAL BLOCK

TERMINAL NO

TERMINAL STRIP X9

LINK	REFERENCE		TERMINAL NO
	SHT	/	

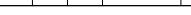
			19 / 1E 1
			19 / 2E 2
			19 / 2E 3
			19 / 2E 4
			19 / 3E 5
			19 / 3E 6
			19 / 4E 7
			19 / 4E 8
			19 / 5E 9
			19 / 5E 10
			19 / 5E 11
			19 / 6E 12
			19 / 6E 13
			19 / 8E 14
			15
			16
			17
			18
			19
			20

TERMINATION B

ITEM DESIGNATION	TERMINAL NO
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K1	14
K1	11
K2	11
K3	11
K4	11
K5	11
K6	11
K7	11
K8	11
K9	11
K9	14
K10	12
KDC2	11
KDC2	12

Sr.	CABLE DESIGNATION	CORE CROSS SECTION	DESTINATION	LEGEND:												SCHEME DWG. REF: EPE/ENU-18/D81566			
A	1																		
A	2																		
A	3																		
A	4																		
A	5																		
A	6																		
B	7																		
B	8																		
B	9																		
B	10																		
B	11																		
B	12																		
C	1	2	3	4	5	6	7	8	9	10	11	12				TERMINATION B			
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JJ																			
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MM																			
NN																			
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PP		</																	

APPROVED	CHECKED	DRAWN	PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/E0/ 9417-29 DATED 14.11.2018 FOR PRÓCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS	TITLE: TERMINAL DETAIL 220kV BUSBAR PROTECTION PANEL TYPE =D08+R7	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan	DWG# EPE/ENU-18/D81567	SHT: 17 OF 19
NAH Q.	MSS M. Sohail	MUR Iq				DATE: 07.03.2019	AS BUILT

Sr.	CABLE DESIGNATION			CORE CROSS SECTION			DESTINATION			LEGEND:												SCHEME DWG. REF: EPE/ENU-18/D81566		
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
B	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
APPROVED	CHECKED	DRAWN	PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/E0/ 9417-29 DATED 14.11.2018 FOR PROCUREMENT OF 220KV & 500KV PROTECTION & CONTROL PANELS			TITLE: TERMINAL DETAIL 220KV BUSBAR PROTECTION PANEL TYPE =D08+R7			TEMPORARY SHORTENING LINK PERMANENT LINK END COVER												TERMINATION B			
NAH	MSS	MUR	 EPESOL Pvt. Ltd. 71-B Garden Block, New Garden Town, Lahore, Pakistan			DWG# EPE/ENU-18/D81567			SHT: 18 OF 19			DATE: 07.03.2019			AS BUILT			REV: 0						

SCHEME DWG. REF: EPE/ENU-18/D81566

APPROVED	CHECKED	DRAWN	P
NAH <i>O</i>	MSS <i>n. Schat</i>	MUR <i>W</i>	



PROJECT: NTDC PO# CE/MP&M/M(P)/AM-VI/E0/
9417-29 DATED 14.11.2018 FOR PROCUREMENT
OF 220KV & 500KV PROTECTION & CONTROL PANEL

	TITLE:			
IT	TERMINAL DETAIL			
S 220LV RUGGED PROTECTION PANEL TYPE P08-LP7				



E P E S O L Pvt. Ltd.

DWG# EPE/ENU-18/D81567	SHT: 19 OF 19
DATE: 07.03.2019	AS BUILT REV: 0