



SI EA
Main Cover Sheet

Drawing approval subject to valid vendor registration

EPC works only

CRP WITH BCU- 72.5kV SIDE OF 400/220KV TRAF0
PANEL REF: 301R

Integration of the CRP with existing SAS in the scope EPC contractor

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

End Customer
APTRANSCO



Cons

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Proje

Ref.

d: 26-03-

Subs

Title

kV Trafo

Drawing No.
(3)G719EA-QG9101-00-301

S.NO	TYPE OF DOCUMENT	DOCUMENT NUMBER
1	Equipment List	(3)G719EA-QG9101-00-E301
2	General Arrangement	(3)G719EA-QG9101-00-F301
3	Internal Layout	(3)G719EA-QG9101-00-V301
4	Wiring Schematics	(3)G719EA-QG9101-00-W301

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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo 301 01

AUX VOLTAGE: 220V DC

Revision	Remarks	Date	Name	Appr By	MS
C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA



CRP with BCU- 72.5kV side of 400/220kV
Main Cover Sheet
For CRP
Main Cover Sheet

FOR
301R
Sh. 01 of 2
<02>

E-Base Version: 7.3.005
 DB Version: SL-V 1.1-08/01/19
 Sheet Version: 1.1
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 400/220kV GIS SUBSTATION AT THALLA APALLEM CRP with BCU- 72.5kV side of 400/220kV Trafo
 301 02

8901502/2024/EEMRT-ENE51

Procedure for carrying out Amendments

1. The revision no. of the drawing is changed whenever changes are asked by client. The revision no. is continuous from 0, A, B, C..... & so on.
2. The version no. of the drawing is changed whenever the drawing is revised whether due to client's comments, engineering changes, factory changes, site comments etc. The version no. is continuous from 0, 1, 2, 3..... & so on.
3. The sheets which are changed can be tracked from the sheet "Summary of Amendments". The revision no., version no. and the corresponding reason for amendment is reflected on the "Summary of Amendments" sheet.
4. Date format used is MM/DD/YYYY.

EPC works only

Integration of the CRP with existing SAS in the scope EPC contractor

**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**

SUMMARY OF AMENDMENTS

Sl. No.	Revision	Version	Remarks	Date	Drawn By	Chkd By
01	0	0	First Submission	04/10/2024	RNG	BALA
02	A	1	Customer Comments	04/17/2024	MM	BALA
03	A	2	Customer Comments	04/17/2024	MM	BALA
04	B	3	Customer Comments	05/29/2024	RNG	BALA
05	C	4	ESW Deleted	06/07/2024	RNG	BALA
06	--	--	--	--	--	--
07	--	--	--	--	--	--
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14	--	--	--	--	--	--
15	--	--	--	--	--	--

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 Summary of Amendments
 Replaced by: Main Cover Sheet

301R	30102
-00-301	Sh. 02 of 2
	<01->



SI EA

Equipment List

Integration of the CRP with existing SAS in the scope EPC contractor

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Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
COVER SHEET

Replaced by:

Equipment List

8991502/2024/EEMRT-ENE51

DESIGNATION	NAME PLATE LEGEND	DETAILS	MANUFACTURER	MODEL	DESCRIPTION	MOUNTING	QTY.
50/51N/59N	NON DIR. O/C & E/F PROTN. RELAY 50/51N/59N	Numerical Relay Non Dir.O/C & E/F Protn. Relay	Siemens, India	7SJ66 7SJ6611-5DB90-1FE0+L0S	Case Size: 1/3 19", 4x1, 4xV, 16 BI, 7 BO, 1 Live Status, 7 LED, Flush Mounting CT Sec: 1A, PT Sec: 110V AC, Aux Supply: 110-250V DC, 115-230V AC, BI Threshold 88V IEC 61850, 100 Mbit Ethernet, Optical, Double, LC Connector	Front Mount	1
BCU	BAY CONTROL UNIT BCU	Numerical Relay Bay Control Unit	Siemens, India	7SJ66 7SJ6631-5JB90-1FA4+L0S	Case Size: 1/2 19", 4x1, 4xV, 36 BI, 23 BO, 1 Live Status, 14 LED, Flush Mounting CT Sec: 1A, PT Sec: 110V AC, Aux Supply: 110-250V DC, 115-230V AC, BI Threshold 88V IEC 61850, 100 Mbit Ethernet, Optical, Double, LC Connector, Graphical Display	Front Mount	1
195	CB TC-1 SUPVN RELAY 195	Relay, Contactor Trip Circuit-1 Supervision Relay	Siemens, India	7PJ13 7PJ1321-5AA21-0AA0	Aux Voltage: 24-230V DC, 24-230V AC, Contacts: 2CO, S/R	Front Mount	1
295	CB TC-2 SUPVN RELAY 295	Relay, Contactor Trip Circuit-2 Supervision Relay	Siemens, India	7PJ13 7PJ1321-5AA21-0AA0	Aux Voltage: 24-230V DC, 24-230V AC, Contacts: 2CO, S/R	Front Mount	1
80.1	80.1	Relay, Contactor Supervision Relay	Hitachi, India	TSR-B 1MYN 569 339-A	Aux Voltage: 110/220V DC, Contacts: 1NO+2NC, S/R, Flag: Yes (LED) Case Size: 2U 6C, Dropout Delay ≥ 300ms	Front Mount	1
80.2	80.2	Relay, Contactor Supervision Relay	Hitachi, India	TSR-B 1MYN 569 339-A	Aux Voltage: 110/220V DC, Contacts: 1NO+2NC, S/R, Flag: Yes (LED) Case Size: 2U 6C, Dropout Delay ≥ 300ms	Front Mount	1
95	95	Relay, Contactor Supervision Relay for Trip Relay	Hitachi, India	TSR-B 1MYN 569 339-A	Aux Voltage: 110/220V DC, Contacts: 1NO+2NC, S/R, Flag: Yes (LED) Case Size: 2U 6C, Dropout Delay ≥ 300ms	Front Mount	1
50ZX	50ZX	Relay, Contactor LBB Trip Relay	Hitachi, India	RXMS1 RK 216 263-AS	Aux Voltage: 220V DC, Contacts: 6NO, S/R, Flag: No Case Size: 2U 6C	Front Mount	1
52A	52A	Relay, Contactor CB Trip Multiplication Relay	Hitachi, India	RXMS1 RK 216 263-AS	Aux Voltage: 220V DC, Contacts: 6NO, S/R, Flag: No Case Size: 2U 6C	Front Mount	1
52B	52B	Relay, Contactor CB Close Multiplication Relay	Hitachi, India	RXMS1 RK 216 263-AS	Aux Voltage: 220V DC, Contacts: 6NO, S/R, Flag: No Case Size: 2U 6C	Front Mount	1
86X	86X	Relay, Contactor Inter Trip Relay	Hitachi, India	RXMS1 RK 216 263-AS	Aux Voltage: 220V DC, Contacts: 6NO, S/R, Flag: No Case Size: 2U 6C	Front Mount	1
DCCO	DCCO	Relay, Contactor DC Change Over	Hitachi, India	RXME1 RK 221 052-AS	Aux Voltage: 220-250V DC, Contacts: 2NO+2NC, S/R, Flag: No Case Size: 2U 6C	Front Mount	1
86	86	Relay, Contactor Trip Relay	Hitachi, India	RXMVB2 RK 251 204-AH	Aux Voltage: 48V DC, Contacts: 4NO+4NC, H/R or E/R, Flag: No Case Size: 2U 12C	Front Mount	1
30A	30A	Relay, Contactor TRAF0 TROUBLE RELAY	Hitachi, India	RXSF1 RK 271 018-AS	Aux Voltage: 220-250V DC, Contacts: 6NO (3NO Per Coil), S/R, Flag: Yes Case Size: 2U 6C	Front Mount	1
30B	30B	Relay, Contactor TRAF0 TROUBLE RELAY	Hitachi, India	RXSF1 RK 271 018-AS	Aux Voltage: 220-250V DC, Contacts: 6NO (3NO Per Coil), S/R, Flag: Yes Case Size: 2U 6C	Front Mount	1
ABB CASE		Accessory- Relay, Contactor RHGX-19" Rack	Hitachi, India	RHGX YN1M 251 263-PA	Relay Frame With Base, RHGX-19" Rack Case Size: 4U 60C	Front Mount	1
PB01	86 RESET PUSH BUTTON PB01	Push Button Push Button for Trip Relay Reset 86	Siemens, India	3SB5 3SB50 00-0AB01+3SB54 00-0E	Contacts: 2NO Actuator Colour: Black, Type: With Plastic Front Ring	Front Mount	1
BLK-50/51N/59N	TEST BLOCK BLK-50/51N/59N	Test Block MPG	Alstom, India	MPG MPG	Relay Test Block, Type:MPG	Front Mount	1
CS52	CIRCUIT BREAKER CONTROL SWITCH CS52	Switch CB Control Switch	Switron, India	SWI SWI	3 Positions, 15 Ways, Handle Type: Pistol Grip, Spring Return To Neutral Non-Lockable, Postions: Trip (T)-Neutral (N)-Close (C) POS1 (-45°): T-12Ways, POS 2 (0°): N-1Ways, POS3 (+45°): C-2Ways	Front Mount	1
TTB-EM	TEST TERMINAL BLOCK TTB-EM	Test Terminal Block Test Terminal Block for EM	Nelster, India	NW34LBC NW34LBC	3P4W, Type: Link, Connection Type: Back	Front Mount	1

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Restricted (C) Siemens Limited. 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo E301 02

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
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Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo E301 02	DR	E	301R
Bill of Materials			
Replaced by:	Equipment List		
			Sh. 02 of 5
			<01 03>

8991502/2024/EEMRT-ENE51

DESIGNATION	NAME PLATE LEGEND	DETAILS	MANUFACTURER	MODEL	DESCRIPTION	MOUNTING	QTY.
EM	ENERGY METER EM	Energy Meter Meter	Secure, India	Premier Premier300	3P4W, CTR: 25-15/1A, PTR: 33kV/110V, Class: 0.2S Import & Export Feature, Four Quadrant Meter Shall Be Provided With RS485 Port In Rear And RS232 Port In Front With Necessary Clamp For Flush Mounting	Front Mount	1
RU-86	RU-86	Resistor RXTMA	Hitachi, India	RXTMA1 INRK 711 004-AN	Aux Voltage: 220V DC Case Size: 2U 6C, With 4x820Ω 5W Resistors Use With RXMVB2 Relay	Front Mount	1
LIU	AUTOMATION LIU LIU	LIU 12 Multimode LC Port	Axis		Model: 12 Fiber LIU, Ports: Multimode, Cable Entries: 2 Nos, Wall Mounting Fully Loaded With Adaptors: 12 LC, Pig Tails: 12 LC Multimode 62.5/125µm, 1300nm With Complete Accessories	Internal Mount	1
80AC	AC SUPVN RELAY 80AC	Contacto AC SUPERVISION	Siemens, India	3RH21 3RH2122-1AP00	Aux Voltage: 230V AC, Contacts: 2NO+2NC	Internal Mount	1
89C	ISOLATOR CLOSING MULTI.RELAY 89C	Contacto 89 ISOLATOR CLOSE	Siemens, India	3RH21 3RH2140-1BM40	Aux Voltage: 220V DC, Contacts: 4NO	Internal Mount	1
89O	ISOLATOR OPENING MULTI.RELAY 89O	Contacto 89 ISOLATOR OPEN	Siemens, India	3RH21 3RH2140-1BM40	Aux Voltage: 220V DC, Contacts: 4NO	Internal Mount	1
Converter	CONVERTER Converter	Converter Converter	Moxa/Eqv.		Converter: RS232/485/422 To Ethernet Interface, DIN Rail Mounting Arrangement/Clips RS-232/422/485 To Ethernet Interface (10/100) mbps Baud Rate: 50 bps To 921.6 kbps, Input Voltage: 12-48V DC (Power Adapter To Be Provided)	Internal Mount	1
ACMCB	AC SUPPLY AC MCB ACMCB-16A	MCB AC MCB+Aux Contact	Siemens, India	5SL4 5SL42167RC+5ST3010	Double Pole, Rating: 16A, Aux Contacts: 1NO+1NC Aux. Voltage: 230 V AC	Internal Mount	1
DCMCB11	SPARE DC MCB DCMCB11-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB21	SPARE DC MCB DCMCB21-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB31	BCU DC MCB DCMCB31-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB33	86 RELAY DC MCB DCMCB33-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB34	51/51N/59N RELAY DC MCB DCMCB34-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB35	TRAFO TROUBLE DC MCB DCMCB35-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB37	SMPS CKT DC MCB DCMCB37-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB38	CB INDICATION CKT DC MCB DCMCB38-4A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52047RC+5ST3010	Double Pole, Current Rating: 4A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB12	CB TC-1 DC MCB DCMCB12-10A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52107RC+5ST3010	Double Pole, Current Rating: 10A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB22	CB TC-2 DC MCB DCMCB22-10A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52107RC+5ST3010	Double Pole, Current Rating: 10A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB32	ISOL I/L DC MCB DCMCB32-10A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52107RC+5ST3010	Double Pole, Current Rating: 10A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB36	CB CLOSING CKT DC MCB DCMCB36-10A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52107RC+5ST3010	Double Pole, Current Rating: 10A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo E301 03

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Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 Bill of Materials
 Equipment List

E	301R
Sh. 03 of 5	
<02 04>	

8991502/2024/EEMRT-ENE51

DESIGNATION	NAME PLATE LEGEND	DETAILS	MANUFACTURER	MODEL	DESCRIPTION	MOUNTING	QTY.
DCMCB1	DC SOURCE-1 DC MCB DCMCB1-32A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52327RC+5ST3010	Double Pole, Current Rating: 32A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
DCMCB2	DC SOURCE-2 DC MCB DCMCB2-32A	MCB DC MCB+Aux Contact	Siemens, India	5SL5 5SL52327RC+5ST3010	Double Pole, Current Rating: 32A, Aux Contacts: 1NO+1NC Aux. Voltage: 220 V DC	Internal Mount	1
HTS	HTS	ON/OFF SWITCH SWITCH	Anchor, India	39992 39992	Rating: 20A, 240V AC, Switch With Box	Internal Mount	1
TH	TH	THERMOSTAT THERMOSTAT	APT Control, India	TH3090 TH3090240VAC	Rating: 30-90°C, 240V AC	Internal Mount	1
LKN-50/51N/ 59N	51/51N/59N LINK LKN-50/51N/59N	Link Holder+Link 3NW	Siemens, India	3NW 3NW20NNSF+3NWNSL	Solid Link With Holder	Internal Mount	1
LKN-B2	SYNCH LINK LKN-B2	Link Holder+Link 3NW	Siemens, India	3NW 3NW20NNSF+3NWNSL	Solid Link With Holder	Internal Mount	1
LKN-BCU	BCU LINK LKN-BCU	Link Holder+Link 3NW	Siemens, India	3NW 3NW20NNSF+3NWNSL	Solid Link With Holder	Internal Mount	1
LKN-MET	BCU LINK LKN-MET	Link Holder+Link 3NW	Siemens, India	3NW 3NW20NNSF+3NWNSL	Solid Link With Holder	Internal Mount	1
FSB-50/51N/ 59N	51/51N/59N B-PH PT FUSE FSB-50/51N/59N-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSB-BCU	BCU B-PH PT FUSE FSB-BCU-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSB-MET	METERING B-PH PT FUSE FSB-MET-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSR-50/51N/ 59N	51/51N/59N R-PH PT FUSE FSR-50/51N/59N-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSR-B2	SYNCH PT FUSE FSR-B2-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSR-BCU	BCU R-PH PT FUSE FSR-BCU-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSR-MET	METERING R-PH PT FUSE FSR-MET-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSY-50/51N/ 59N	51/51N/59N Y-PH PT FUSE FSY-50/51N/59N-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSY-BCU	BCU Y-PH PT FUSE FSY-BCU-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
FSY-MET	METERING Y-PH PT FUSE FSY-MET-2A	Fuse Holder+Fuse 3NW	Siemens, India	3NW 3NW20NNSF+3NWNS2	Rating: 2A	Internal Mount	1
HT	HT	PANEL ACCESSORY SPACE HEATER	APT Control, India	SH100 SH100W240	Rating: 100W, 240V AC	Internal Mount	1
CFL	CFL	Panel Accessory Cubicle Illumination	Philips, India	LED LED-14W	Rating: 14W, 240V AC, Type: LED	Internal Mount	1

**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**

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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo E301 04

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Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo E301 04	DR	E	301R
Bill of Materials			
Replaced by:	Equipment List		
		Sh. 04 of 5	<03 05>

8991502/2024/EEMRT-ENE51

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DESIGNATION	NAME PLATE LEGEND	DETAILS	MANUFACTURER	MODEL	DESCRIPTION	MOUNTING	QTY.
PS	PS	POWER SOCKET WITH ON/OFF SWITCH COMBINED WITH BOX SOCKET+SWITCH	Anchor, India	39996 39996	Rating: 10/20A With Box, 3PIN, 240V AC	Internal Mount	1
SMPS	SWITCH MODE POWER SUPPLY SMPS	Power supply	Selec	RPS480 RPS480-24-CU	Input Voltage: 90-264V DC/100-240V AC, Din Rail Mounting Output Voltage: 24V DC (±1%)	Internal Mount	1
RU	BCU RESISTOR UNIT RU	Resistor Resistor For BCU	Sure, India	SSRA SSRA	R1=R2=R3=R4=3.3K-25W Silicon Coated Radial Terminal Wire Wound Resistors With Assembly Assembled On "Hylem" Plate With 10 Way Terminal Connector	Internal Mount	1
CFLS	CFLS	Panel Accessory Limit Switch	Siemens, India	3SE5 3SE5250-0CC05	Contacts: 1NO+1NC	Internal Mount	1
<p>Chief Engineer/Projects APTRANSCO/VS/Vijayawada.</p>							

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	
A	Customer cmnts	04/17/2024	MM	Chkd By	
Revision	Remarks	Date	Name	Appr By	



CRP with BCU- 72.5kV side of 400/220kV Trafo
 Bill of Materials
 Replaced by: Equipment List



SI EA

General Arrangement

Drawing approval subject to valid vendor registration

Integration of the CRP with existing SAS in the scope EPC contractor

**Chief Engineer/Projects
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Sheet Version: V 2.0
Last Used by: z004mx4y
Date: 05/30/2024

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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo F301 01

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

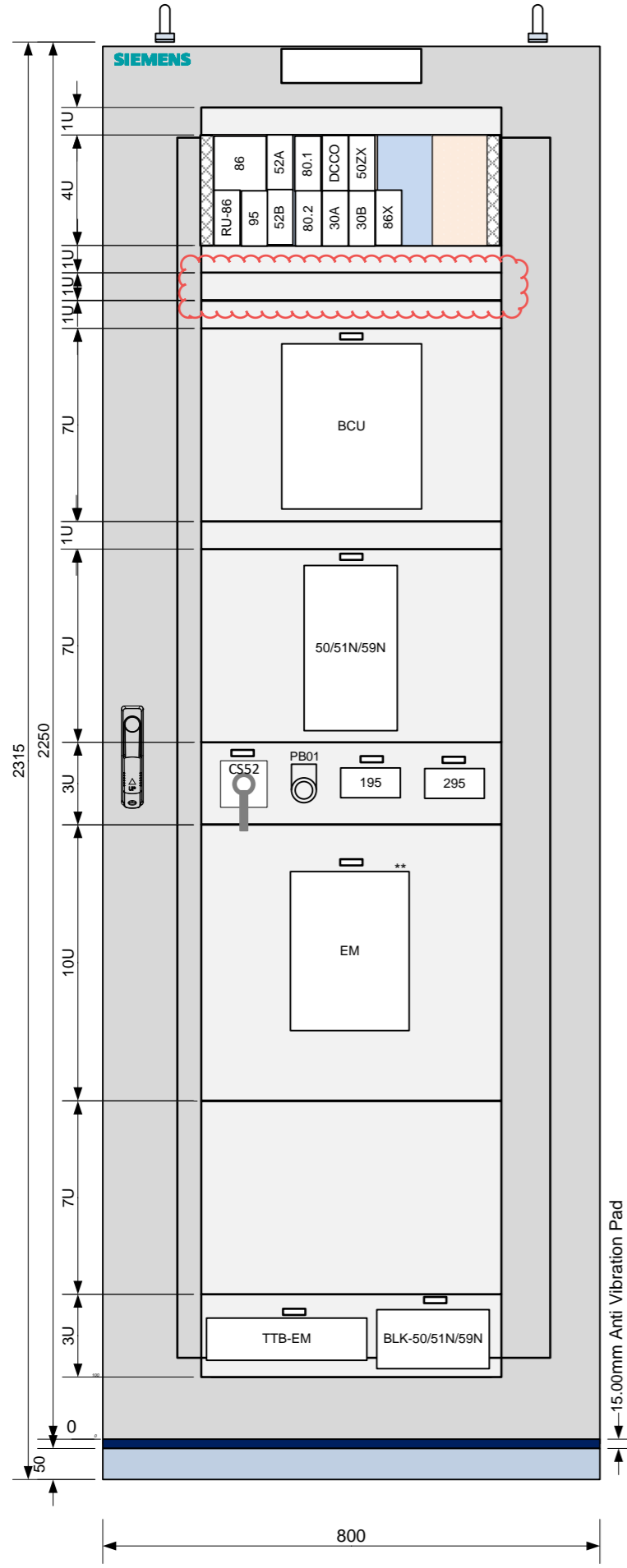


CRP with BCU- 72.5kV side of 400/220kV Trafo
COVER SHEET

Replaced by: General Arrangement

R	F	301R
0-F301	Sh. 01 of 3	
	<02 >	

E-Base Version: 7.3.0.1405
 Sheet Version: V 2.0
 Last Used by: z004mx4y
 Date: 06/07/2024
 Restricted (C) Siemens Limited.
 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo F301 02



Type	NPL Qty	Name Plate Description
A (Board)	2	CRP WITH BCU 72.5kV SIDE OF 400/220kV TRAF0 PANEL REF: 301R

QTY: 1X

NOTE:- ** - FLUSH MOUNTING BOX FOR ENERGY METER-EM

S. NO.	▲2 DESIGN.	DESCRIPTION	TYPE	MANUFACTURER
1	ABB CASE	RHGX-19" Rack	RHGX	Hitachi
2	50/51N/59N	Non Dir.O/C & E/F Protn. Relay	7SJ66	Siemens
3	BCU	Bay Control Unit	7SJ66	Siemens
4	30A	TRAF0 TROUBLE RELAY	RXSF1	Hitachi
5	30B	TRAF0 TROUBLE RELAY	RXSF1	Hitachi
6	50ZX	LBB Trip Relay	RXMS1	Hitachi
7	52A	CB Trip Multiplication Relay	RXMS1	Hitachi
8	52B	CB Close Multiplication Relay	RXMS1	Hitachi
9	80.1	Supervision Relay	TSR-B	Hitachi
10	80.2	Supervision Relay	TSR-B	Hitachi
11	86	Trip Relay	RXMVB2	Hitachi
12	86X	Inter Trip Relay	RXMS1	Hitachi
13	95	Supervision Relay for Trip Relay	TSR-B	Hitachi
14	195	Trip Circuit-1 Supervision Relay	7PJ13	Siemens, India
15	295	Trip Circuit-2 Supervision Relay	7PJ13	Siemens, India
16	DCCO	DC Change Over	RXME1	Hitachi
17	EM	Meter	Premier	Secure, India
18	RU-86	RXTMA	RXTMA1	Hitachi
19	CS52	CB Control Switch	SWI	Switron, India
20	PB01	Push Button for Trip Relay Reset 86	3SB5	Siemens, India
21	BLK-50/51N/5...	MPG	MPG	Alstom, India
22	TTB-EM	Test Terminal Block for EM	NW34LBC	Nelster, India

Integration of the CRP with existing SAS in the scope EPC contractor

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Revision	Remarks	Date	Name	Appr By	MS
C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA



CRP with BCU- 72.5kV side of 400/220kV Trafo
Front View
General Arrangement

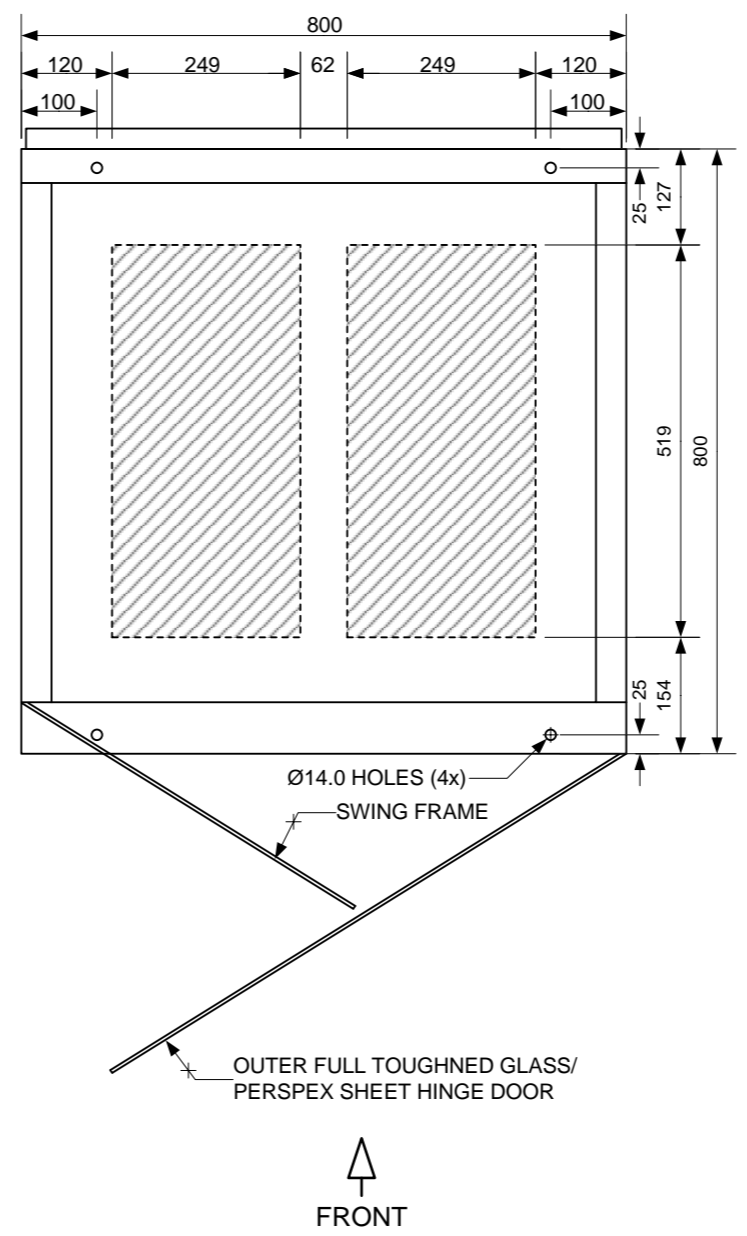
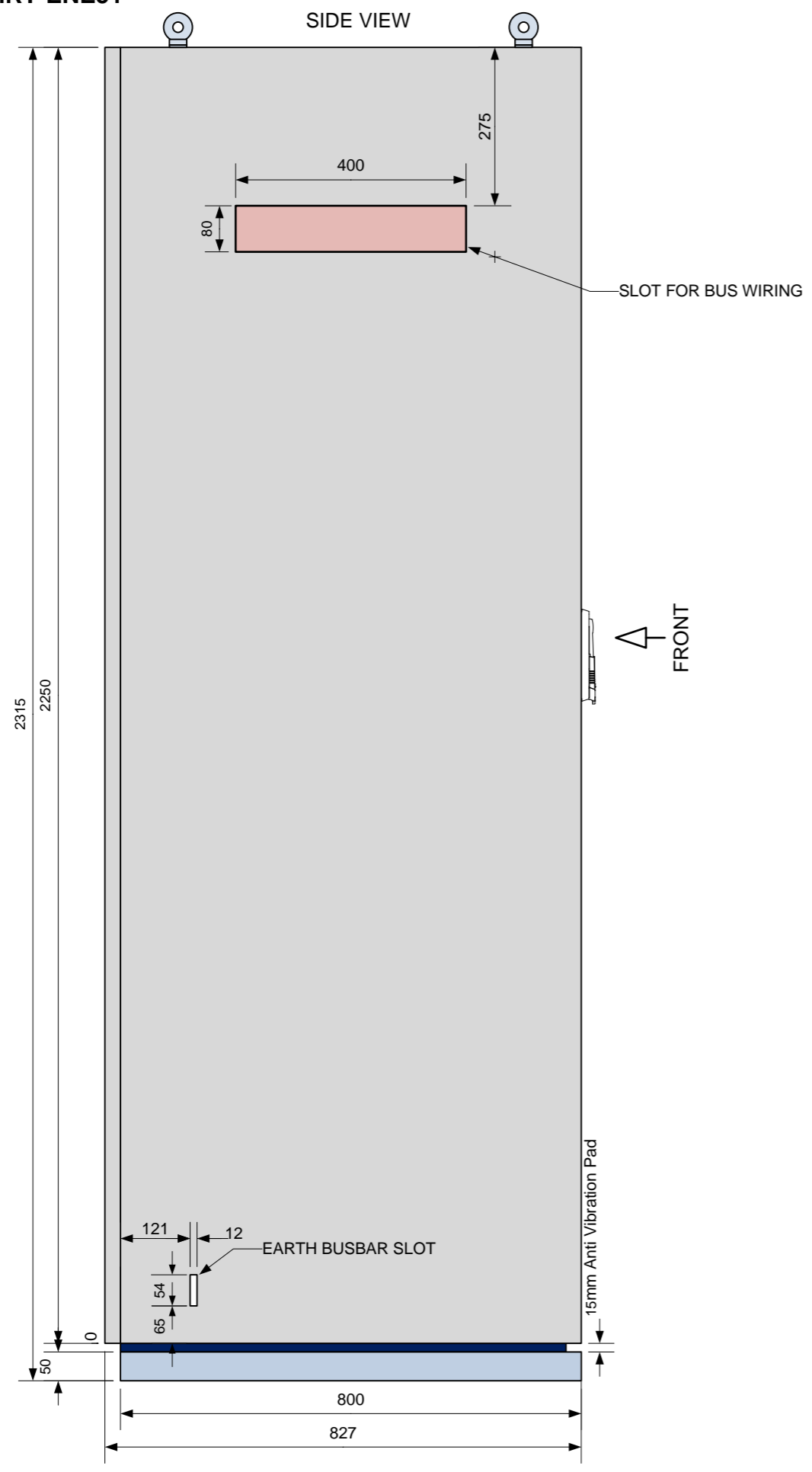
400/220kV	APTRA	301R
301R	Sh. 02 of 3	<01 03 >

Dimension Unit: mm. All Dimension Tolerance= ±5mm

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo F301 03



Drawing approval subject to valid vendor registration

**Chief Engineer/Projects
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Revision	Remarks	Date	Name	Appr By	MS
C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA

SIEMENS

CRP with BCU- 72.5kV side of 400/220kV Trafo
 Side View & Panel Fixing-Top View
 1 Cubicle per Bay
 General Arrangement

Replaced by:

F	301R
Sh. 03 of 3	
<02 ->	



SI EA

Internal Layout

Integration of the CRP with existing SAS in the scope EPC contractor

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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
COVER SHEET

Replaced by:

Internal Layout

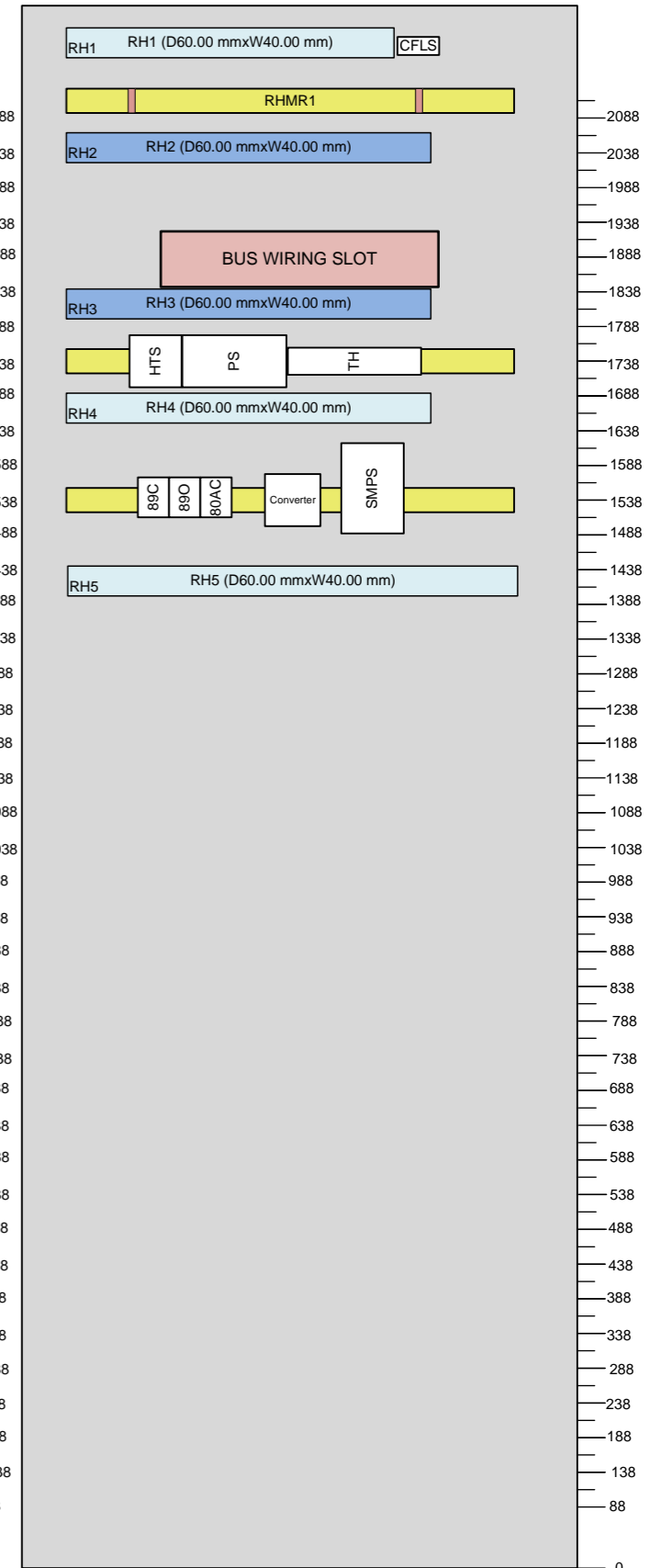
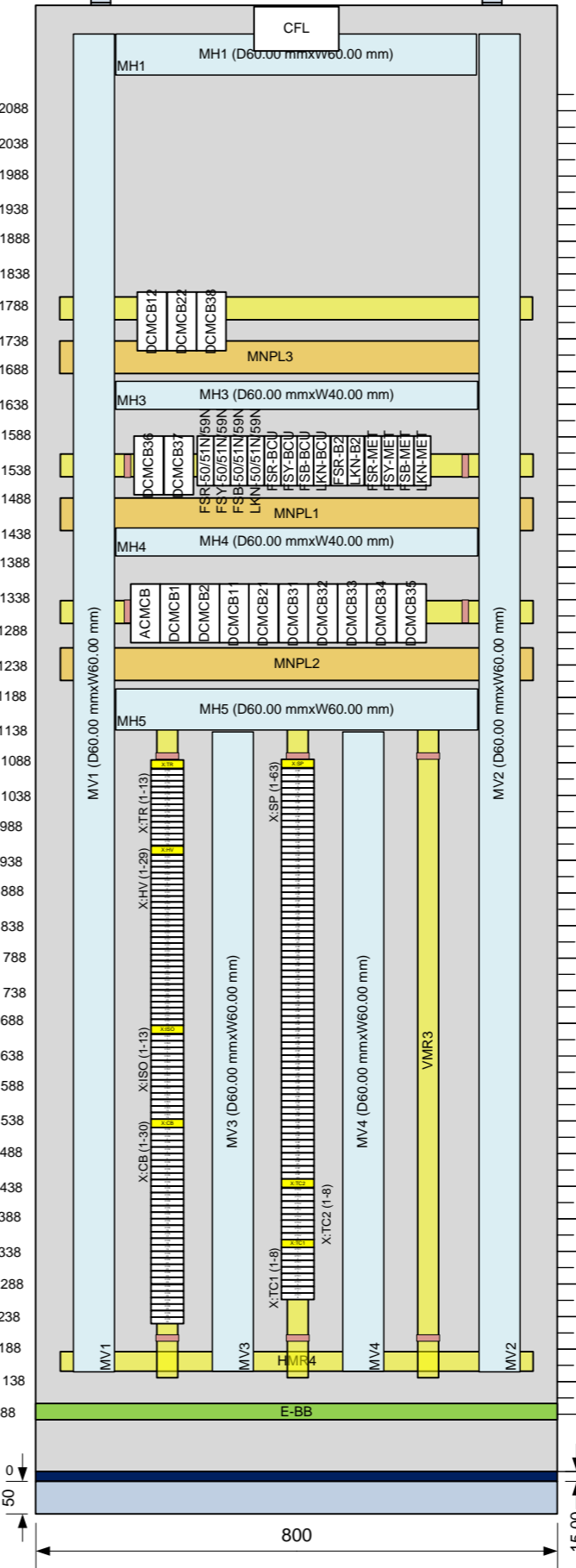
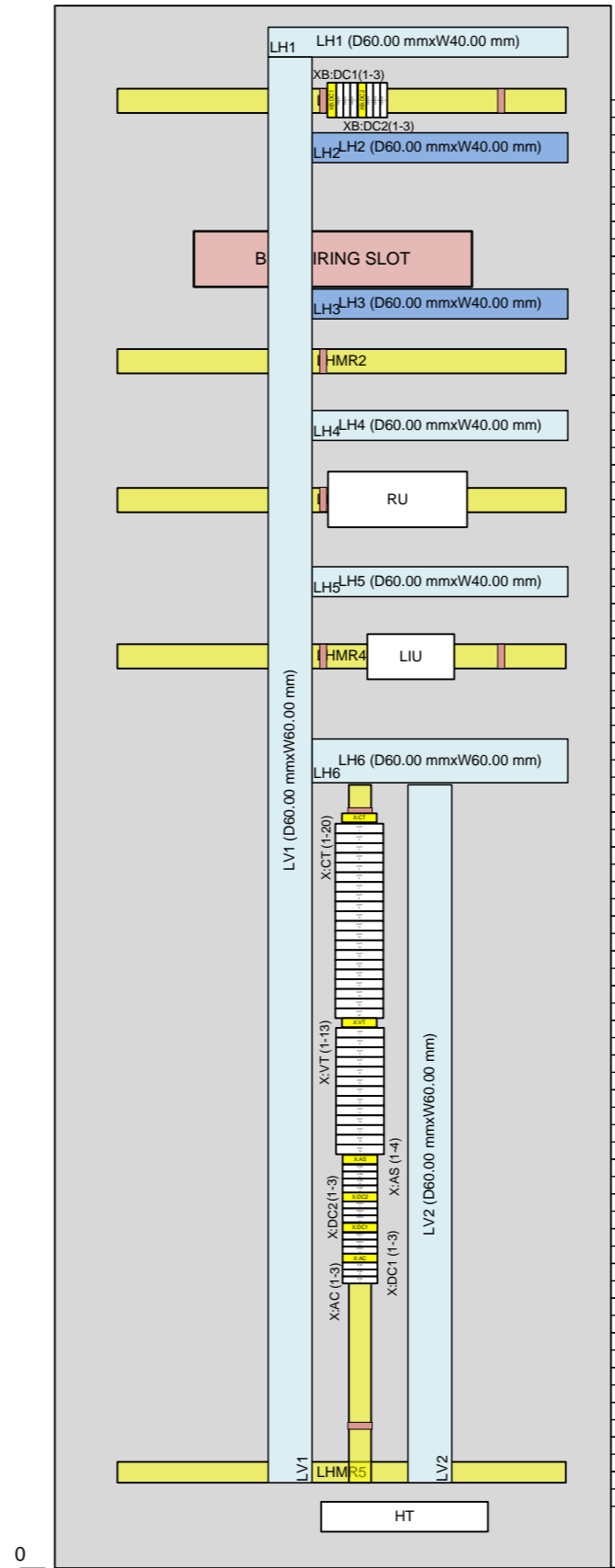
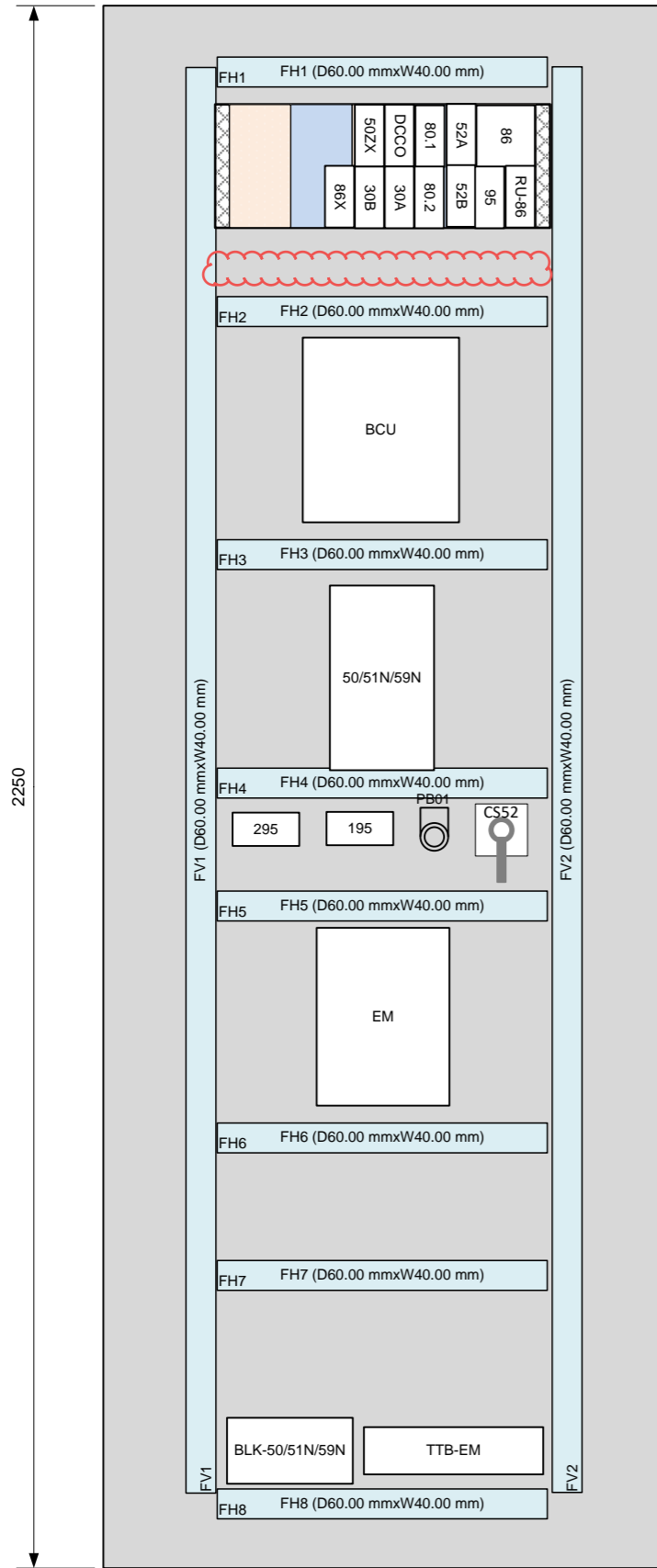
V	301R
Sh. 01 of 2	
< 02 >	

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo V301 02

Note: TB Mounting Sequence For Vertical Rail Is Top To Bottom & For Horizontal Rail Left To Right.



Cable Duct for External Wire/Cable
 Name Plate Rail

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo V301 02
 Internal Layout
 Replaced by: Internal Layout

8991502/2024/EEMRT-ENE51



SI EA

Wiring Schematics

Drawing approval subject to valid vendor registration

Integration of the CRP with existing SAS in the scope EPC contractor

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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 01

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

	CRP with BCU- 72.5kV side of 400/220kV Trafo COVER SHEET
Replaced by:	Wiring Schematics

	W	301R
301	Sh. 01 of 36	
	<02>	

8991502/2024/EEMRT-ENE51

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301.02

SHEET NO.	DESCRIPTION	DRAWING NUMBER	PANEL REFERENCE
01	COVER SHEET Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
02	List of Documents Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
03	List Of Reference Drawings Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
04	Legend Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
05	CT AND VT DISTRIBUTION Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
06	COVER SHEET Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
07	TRIP LOGIC MATRIX Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
08	CB AND ISOL LOGIC Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
09	COVER SHEET Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
10	PT DISTRIBUTION CKT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
11	DC DISTRIBUTION CIRCUIT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
12	DC DISTRIBUTION CIRCUIT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
13	Ac Distribution Circuit Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
14	CT AND BI CIRCUIT FOR 51/51N/59N Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
15	BI CIRCUIT FOR51/51N/59N Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
16	CT AND VT CIRCUIT FOR EM Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
17	3-PH TRIP RELAY CIRCUIT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
18	MULTIPLICATION RELAY CIRCUIT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
19	TRAFO TROUBLE CKT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
20	CT AND VT CIRCUIT FOR BCU Wiring Schematics	(3)G719EA-QG9101-00-W301	301R

SHEET NO.	DESCRIPTION	DRAWING NUMBER	PANEL REFERENCE
21	BI CIRCUIT FOR BCU Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
22	BI CIRCUIT FOR BCU Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
23	BI CIRCUIT FOR BCU Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
24	BI CIRCUIT FOR BCU Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
25	CB TC-1 & TC-2 CIRCUIT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
26	CB MANUAL CLOSE AND TRIP CIRCUIT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
27	ISOL I/L CIRCUIT Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
28	SPARE CONTACT DISTRIBUTION Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
29	DEVICE REFERENCE Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
30	Configuration Architecture Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
31	COVER SHEET Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
32	DEVICE REFERENCE Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
33	DEVICE REFERENCE Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
34	DEVICE REFERENCE Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
35	BI/BO Table Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
36	BI/BO Table Wiring Schematics	(3)G719EA-QG9101-00-W301	301R
Chief Engineer/Projects APTRANSCO/VS/Vijayawada.			

C	ESW Deleted	06/07/2024	RNG	Version		LEM	CRP with BCU- 72.5kV side of 400/220kV Trafo		W	301R
B	Customer cmnts	05/29/2024	RNG	Drawn By			List of Documents			
A	Customer cmnts	04/17/2024	MM	Chkd By						Sh. 02 of 36
Revision	Remarks	Date	Name	Appr By		Replaced by:	Wiring Schematics		-W301	<01 03>

EPC works only

LIST OF REFERENCE DRAWINGS		
DESCRIPTION	DRAWING NO	MAKE OF THE EQUIPMENTS
SLD	018155-E-IS-SY-GA-0001A	L&T CONSTRUCTION
CURRENT TRANSFORMER	ME-66CT-NP-13772-01	MEHRU
POTENTIAL TRANSFORMER	ME-66PT-NP-13772-01	MEHRU
ISOLATOR	4. DN 4228 03	GR POWER SWITCHGEAR LTD
CIRCUIT BREAKER	EH1-7136-00	CG POWER AND INDUSTRIAL SOLUTIONS LIMITED
STATION TRANSFORMER	TPE-D-26-8374	TELAWNE POWER EQUIPMENTS PVT LTD

Integration of the CRP with existing SAS in the scope EPC contractor

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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 03

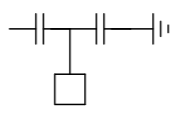
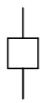




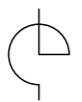


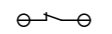

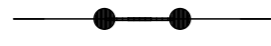

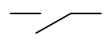
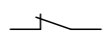

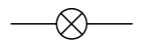
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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
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Revision	Remarks	Date	Name	Appr By	MS

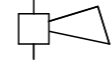




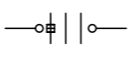
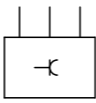
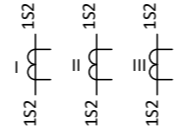

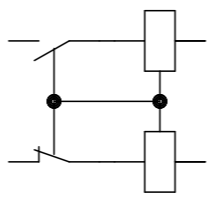
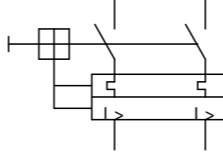
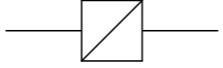
SIEMENS	CRP with BCU- 72.5kV side of 400/220kV Trafo W301	DR	W	301R
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Replaced by:	Wiring Schematics			

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 04

SYMBOL & DESCRIPTION
 CAPACITIVE VOLTAGE TRANSFORMER
 CIRCUIT BREAKER
 ISOLATOR
 CURRENT TRANSFORMER
 SURGE ARRESTER
 EARTH BAR
 WAVE TRAP
 FUSE
 LINK
 DISCONNECTING TERMINAL
 NON-DISCONNECTING TERMINAL
 RELAY TEST BLOCK
 CURRENT COIL
 LATCHED CONTACT-NO
 LATCHED CONTACT-NC
 SPACE HEATER
 FLOURCENT LAMP

SYMBOL & DESCRIPTION
 HOOTER
 BELL
 PUSH BUTTON
 STABLIZING RESISTOR
 VARIASTOR
 SWITCH CONTACT
 SOCKET
 CURRENT TRANSFORMER SECONDARY
 OPERATING COIL
 OPEARTING/REST COIL
 MCB
 BINARY INPUT

SYMBOL & DESCRIPTION	
 POWER SUPPLY	
Drawing approval subject to valid vendor registration	
Chief Engineer/Projects APTRANSCO/VS/Vijayawada.	

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

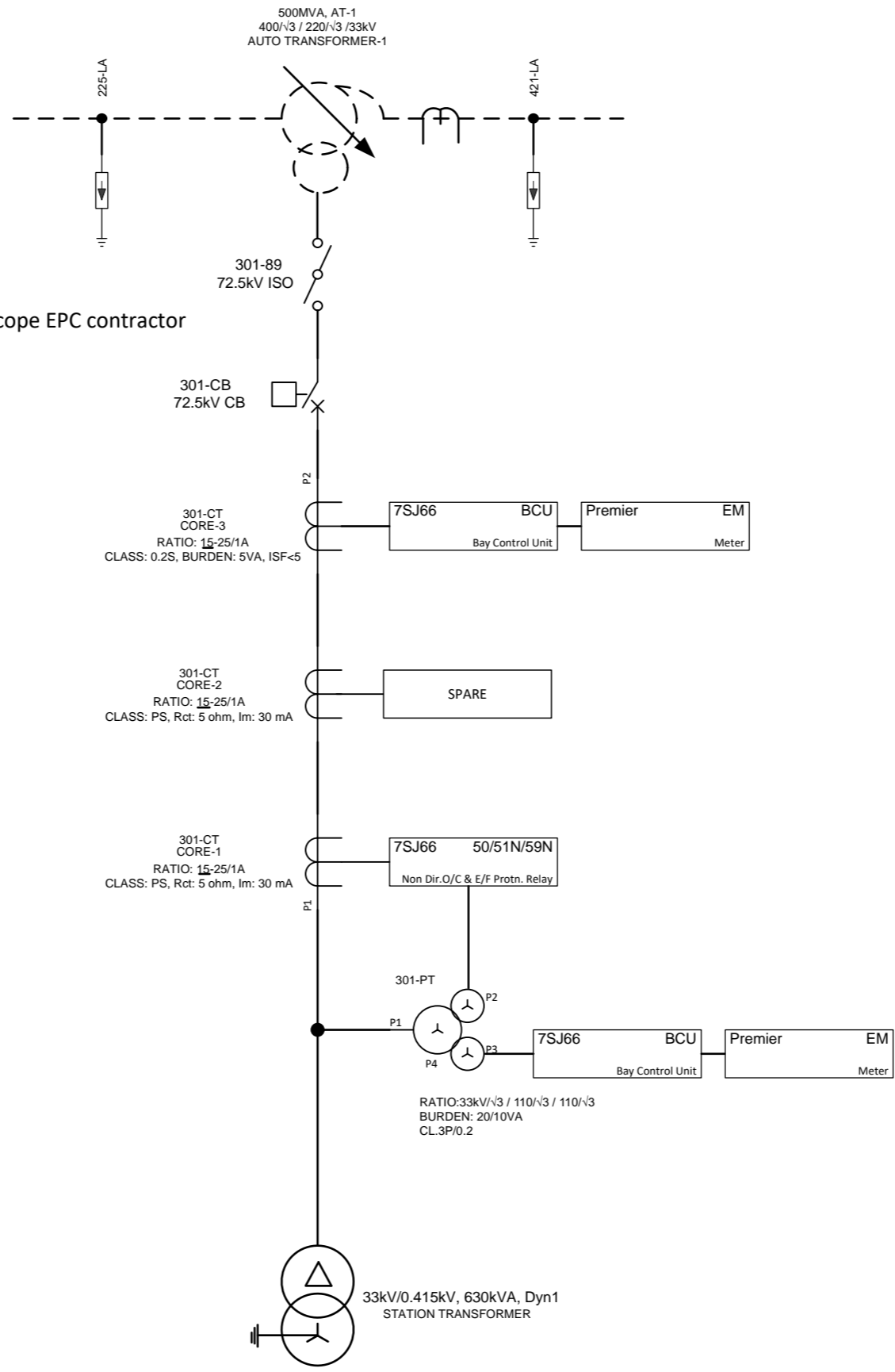
SIEMENS
 CRP with BCU- 72.5kV side of 400/220kV Trafo Legend
 Replaced by: Wiring Schematics

W	301R
Sh. 04	of 36
<03	05>

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 Date: 05/30/2024
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 05

Integration of the CRP with existing SAS in the scope EPC contractor

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APTRANSCO/VS/Vijayawada.



C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

SIEMENS

CRP with BCU- 72.5kV side of 400/220kV Trafo
 CT AND VT DISTRIBUTION

Replaced by: _____ Wiring Schematics

W	301R
Sh. 05	of 36
<04	>06>

EPC works only

Integration of the CRP with existing SAS in the scope EPC contractor

LOGIC DIAGRAM

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Sheet Version: V 2.0
Last Used by: z004mx4y
Date: 05/30/2024

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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 06

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

SIEMENS CRP with BCU- 72.5kV side of 400/220kV Trafo
COVER SHEET

Replaced by: Wiring Schematics

W	301R
01	Sh. 06 of 36
	<05 07>

Drawing approval subject to valid vendor registration

Integration of the CRP with existing SAS in the scope EPC contractor

DEVICE NO.	DESCRIPTION	TYPE	LBB INITIATION	86 3-PH TRIP RELAY	86X TRIP RELAY	50ZX TRIP RELAY	415V INCOMER	400kV HV MAIN CB	400kV HV TIE CB	220kV MAIN CB	33kV CB TC-1	33kV CB TC-2	DR TRIGGER
50/51N/59N	NON DIR. O/C AND E/F RELAY	7SJ66		X	X								X
50/51N/59N	NEUTRAL DISPLACEMENT PROTN.	7SJ66		X	X								X
50/51N/59N	UNDER VOLTAGE OPTD	7SJ66		X	X								X
50/51N/59N	OVER VOLTAGE OPTD	7SJ66		X	X								X
50/51N/59N	LBB OPTD	7SJ66		X		X							X
30A.A	BUCHHOLZ TRIP	RXSF1		X									X
30A.B	PRV TRIP	RXSF1		X									X
30B.A	OTI TRIP	RXSF1		X									X
30B.B	WTI TRIP	RXSF1		X									X
HV SIDE	TRIP FROM ICT+TIE HV SIDE	--		X									X
LV SIDE	TRIP FROM ICT LV SIDE	--		X									X
INCOMER	TRIP FROM 415V INCOMER	--		X									X
86	3PH TRIP RELAY	RXMVB2	X								X	X	X
86X	INTER TRIP RELAY	RXMS1					X	X	X	X			X
50ZX	LBB TRIP RELAY	RXMS1						X	X	X			X
BCU/CS52	MAIN CB MANUAL TRIP	BCU/CS52									X	X	X

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 Last Used by: z004mx4y
 Date: 05/30/2024
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 07

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

SIEMENS CRP with BCU- 72.5kV side of 400/220kV Trafo TRIP LOGIC MATRIX

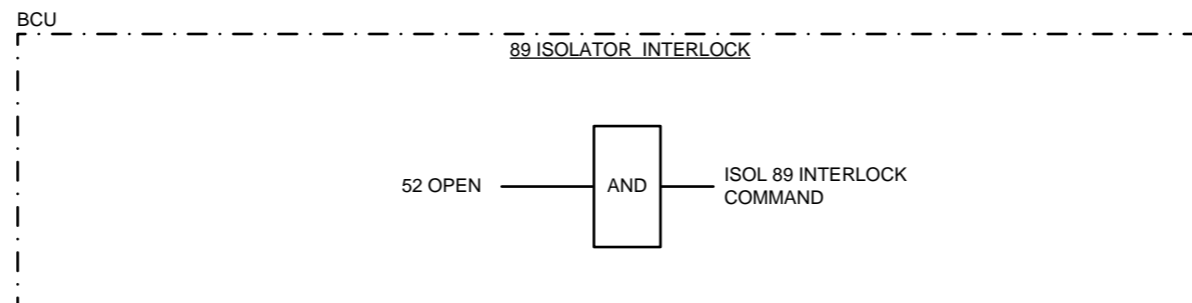
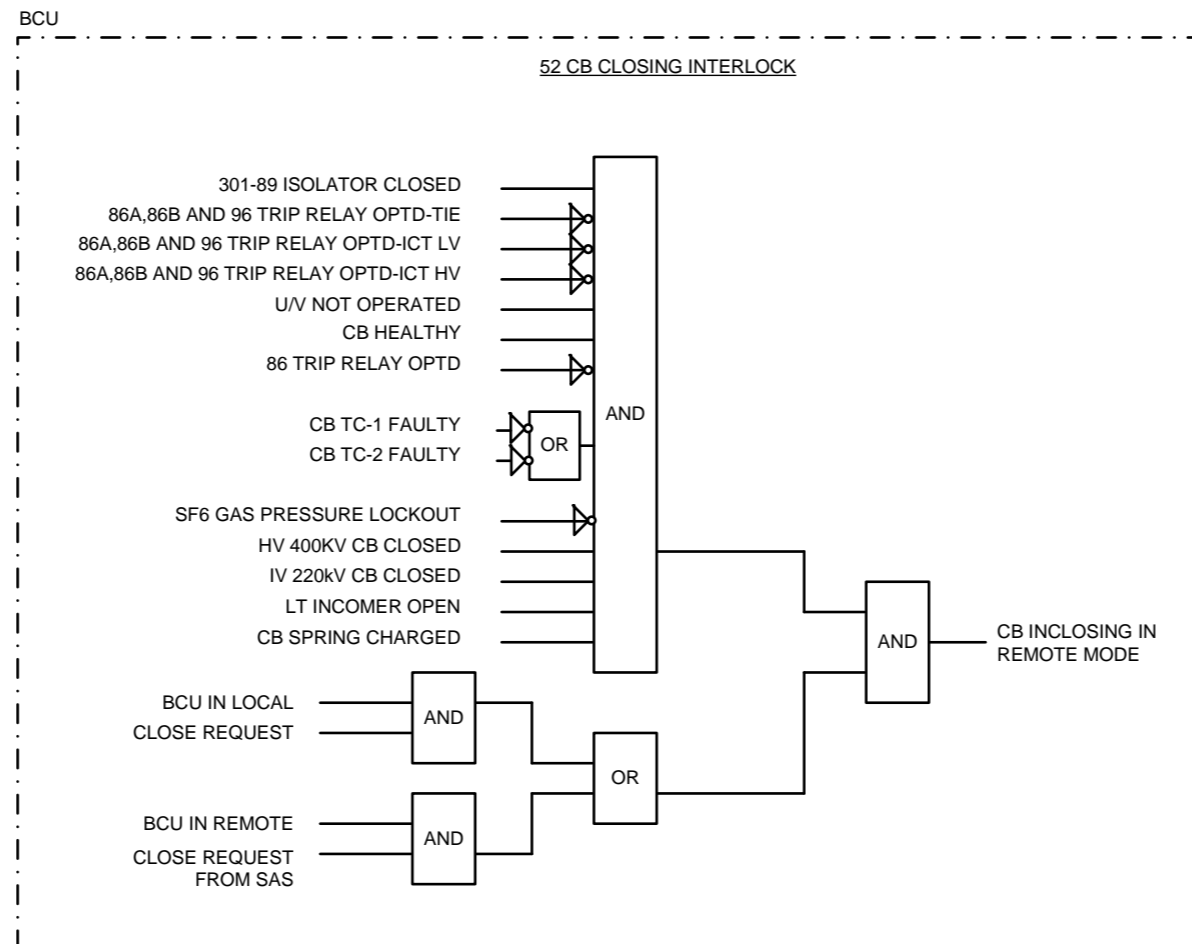
Replaced by: Wiring Schematics

400 AP	W	301R
		Sh. 07 of 36
		<06 08>

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 08



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C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 CB AND ISOL LOGIC
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W	301R
Sh. 08 of 36	
<06 08>	

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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 09

Integration of the CRP with existing SAS in the scope EPC contractor

WIRING DIAGRAM

**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**

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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
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CRP with BCU- 72.5kV side of 400/220kV Trafo
COVER SHEET

Replaced by:

Wiring Schematics

W	301R
Sh. 09 of 36	
<08 10>	

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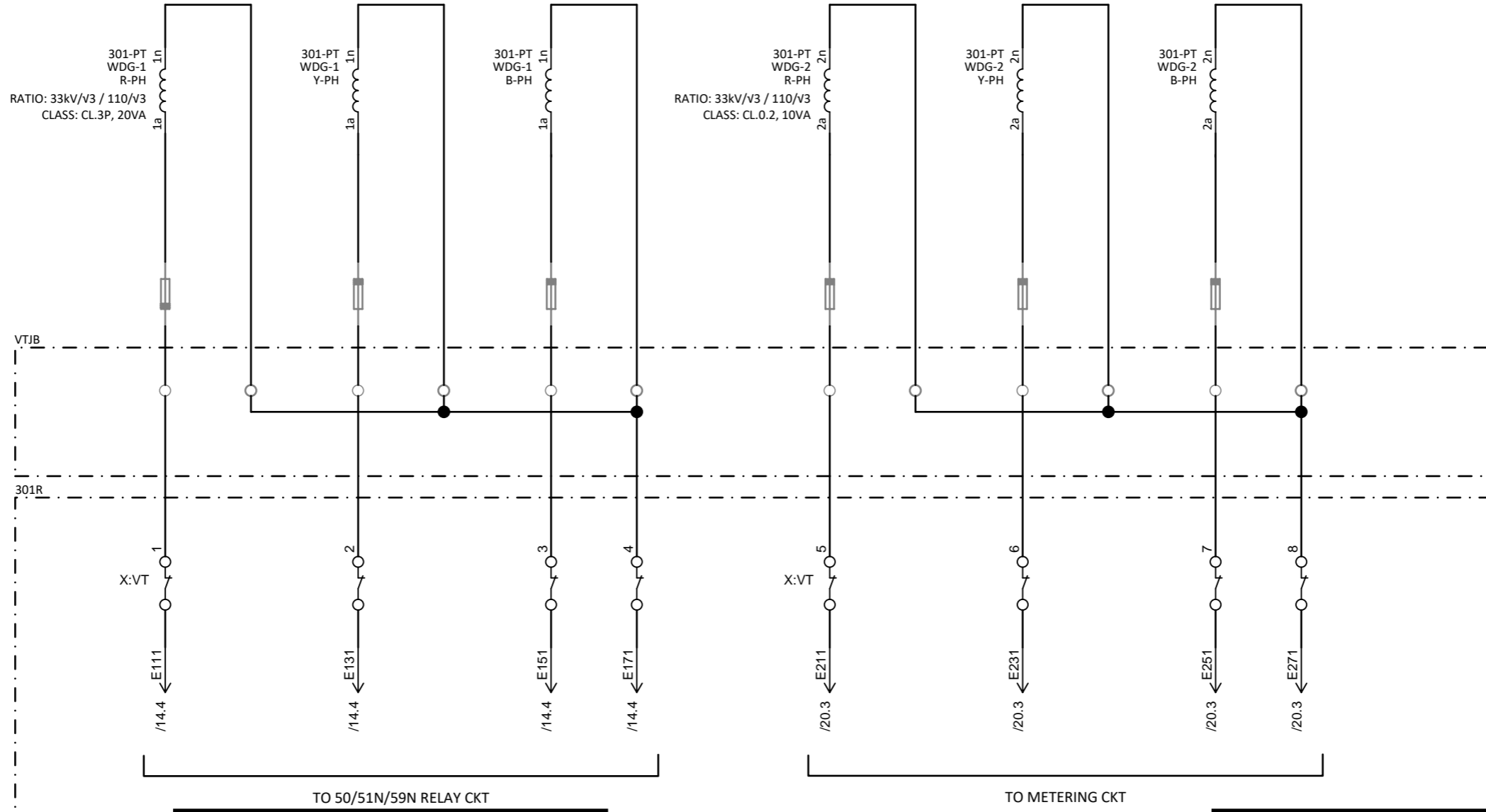
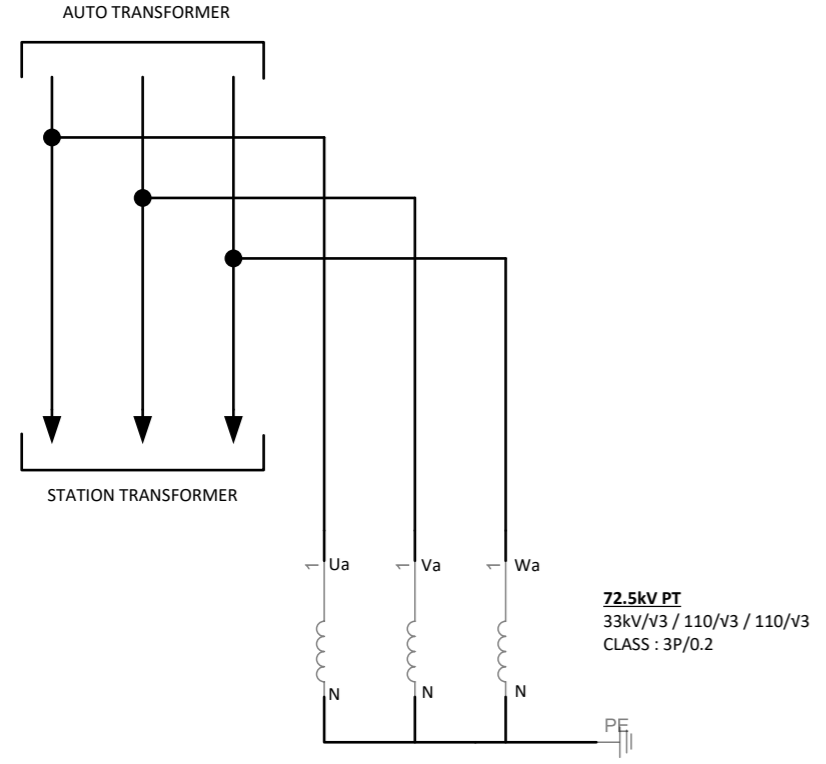
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 Last Used by: z004mx4y
 Date: 05/30/2024

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Integration of the CRP with existing SAS in the scope EPC contractor

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C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

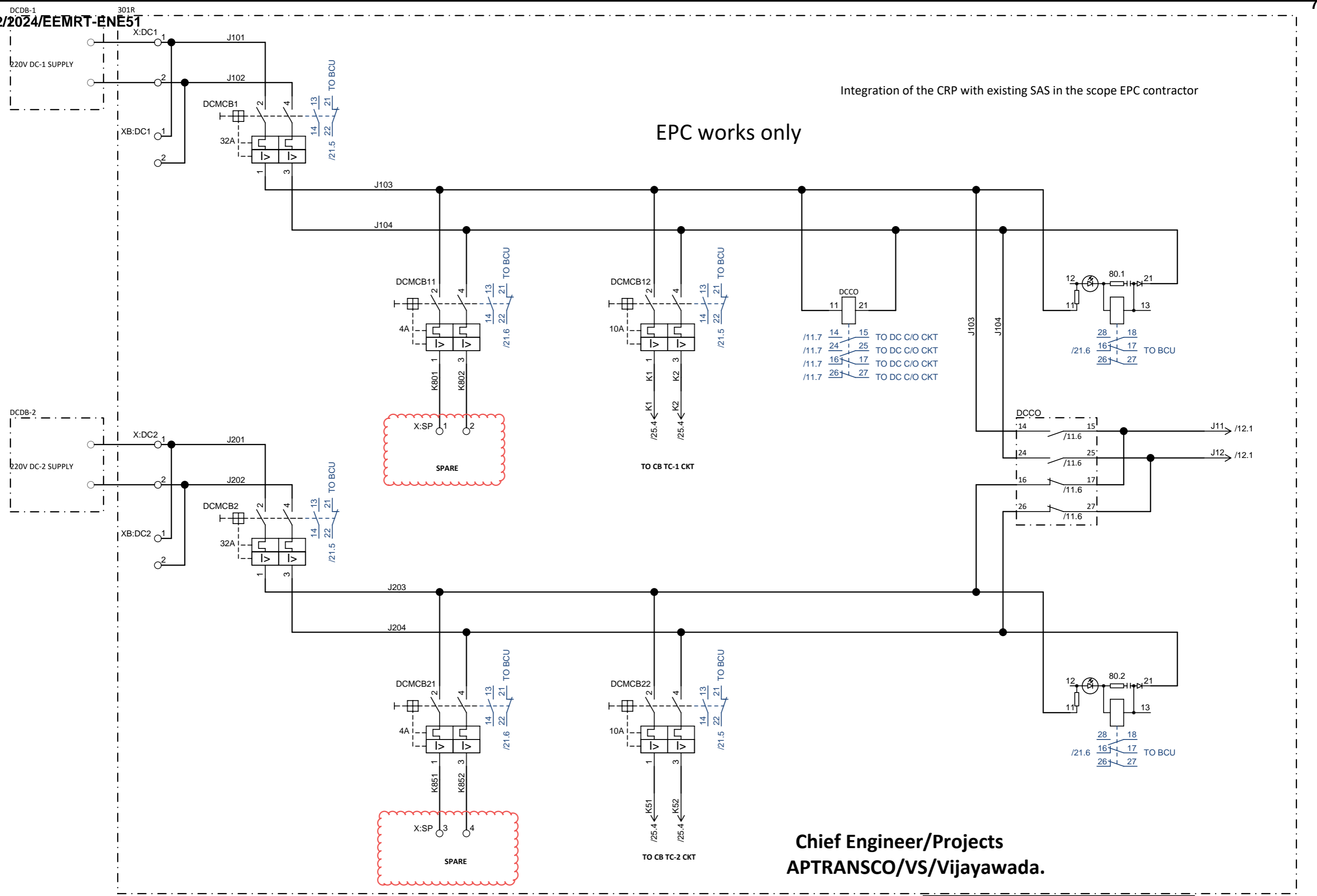
SIEMENS
 CRP with BCU- 72.5kV side of 400/220kV Trafo
 PT DISTRIBUTION CKT
 Replaced by: Wiring Schematics

W	301R
Sh. 10	of 36
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 11



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C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
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Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 DC DISTRIBUTION CIRCUIT

Replaced by:

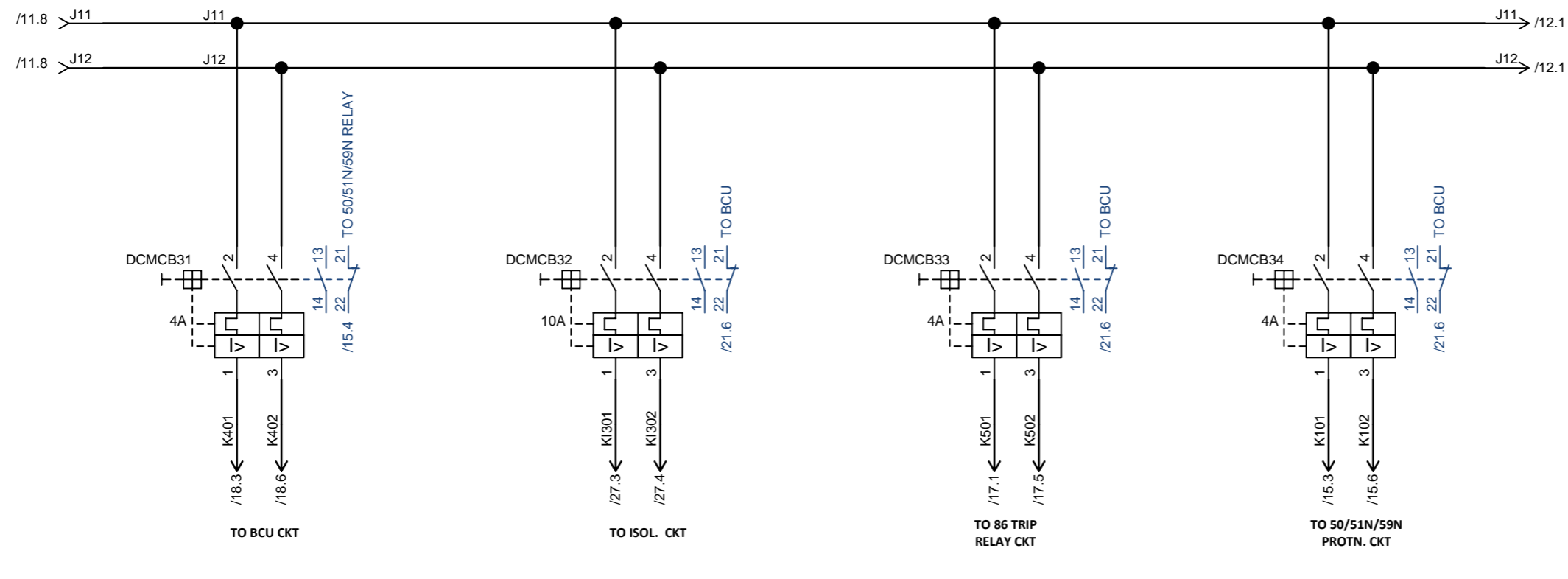
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W	301R
Sh. 11 of 36	<12 14>

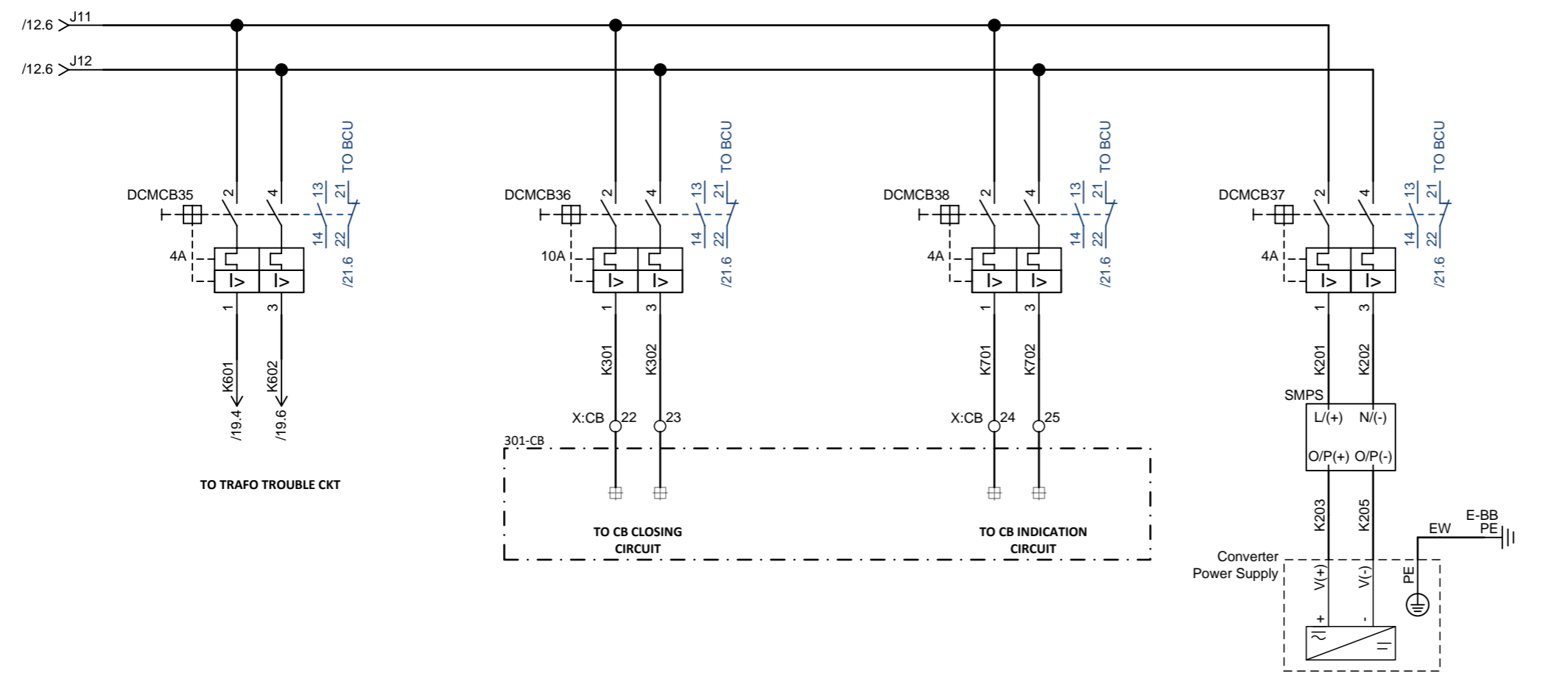
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 12



Integration of the CRP with existing SAS in the scope EPC contractor



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APTRANSCO/VS/Vijayawada

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
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Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 DC DISTRIBUTION CIRCUIT

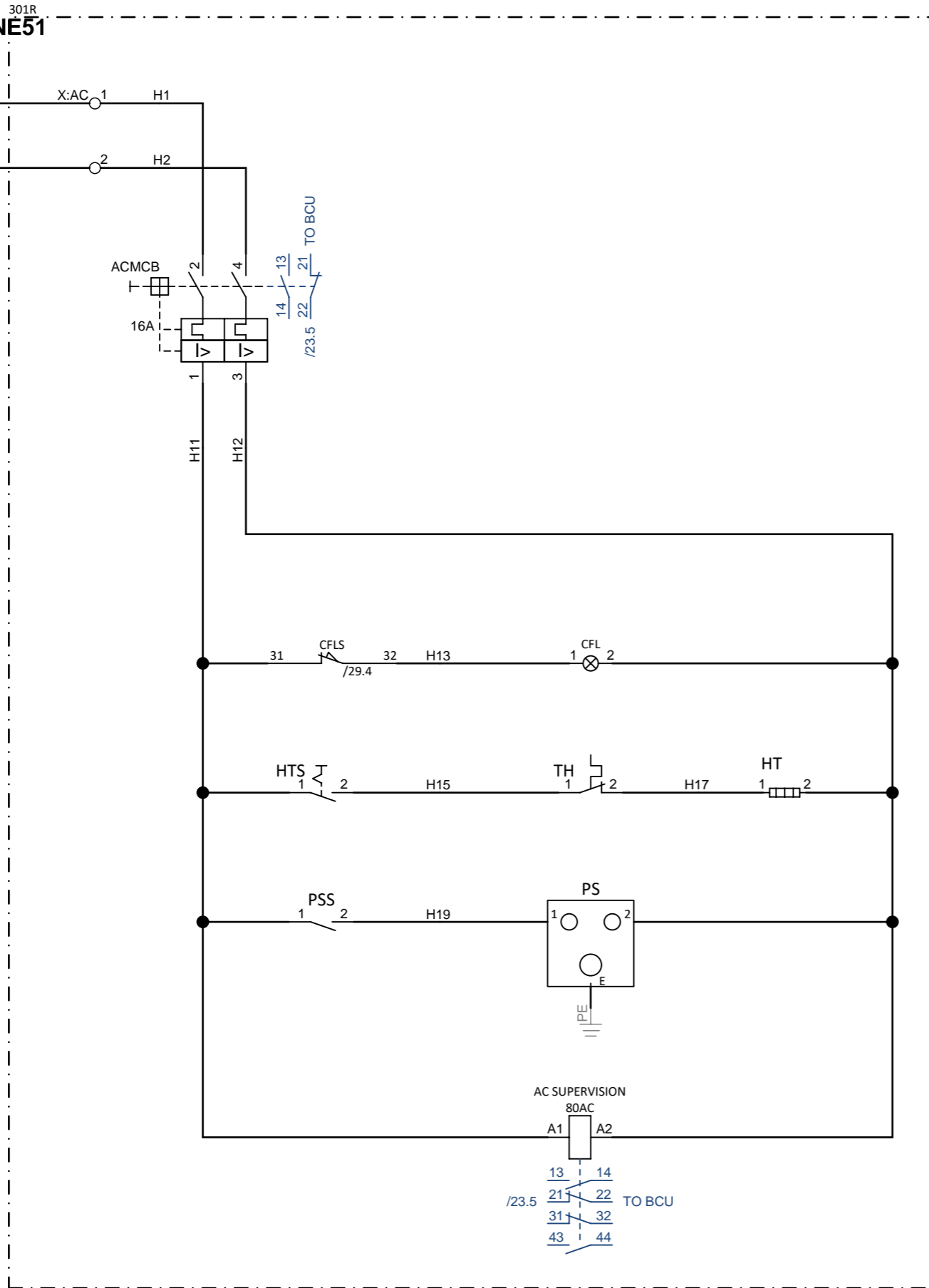
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W	301R
Sh. 12 of 36	<12 14>

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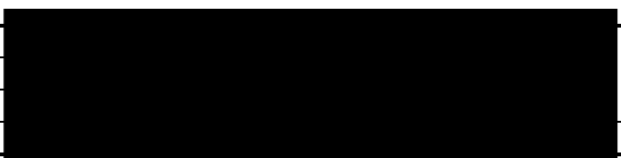
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 13



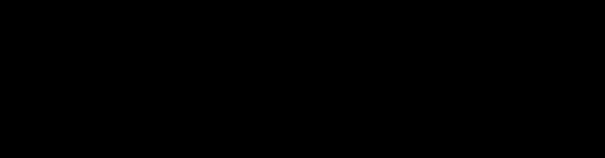
Integration of the CRP with existing SAS in the scope EPC contractor

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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

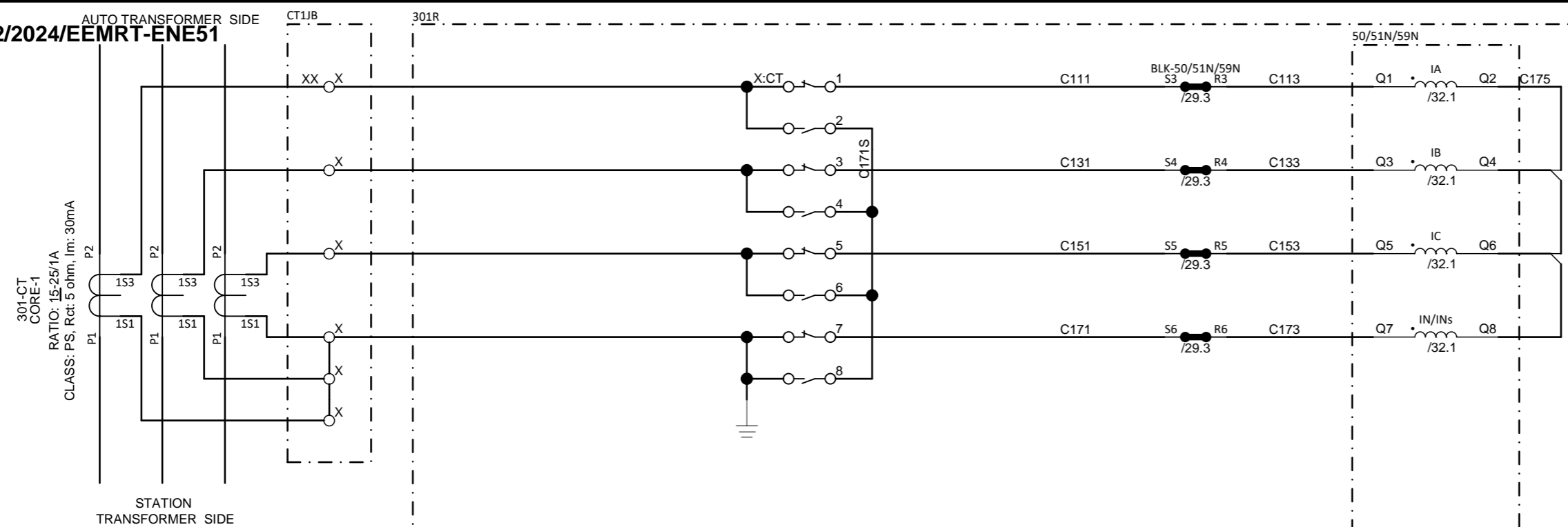


SIEMENS
 CRP with BCU- 72.5kV side of 400/220kV Trafo
 Ac Distribution Circuit
 Replaced by: Wiring Schematics



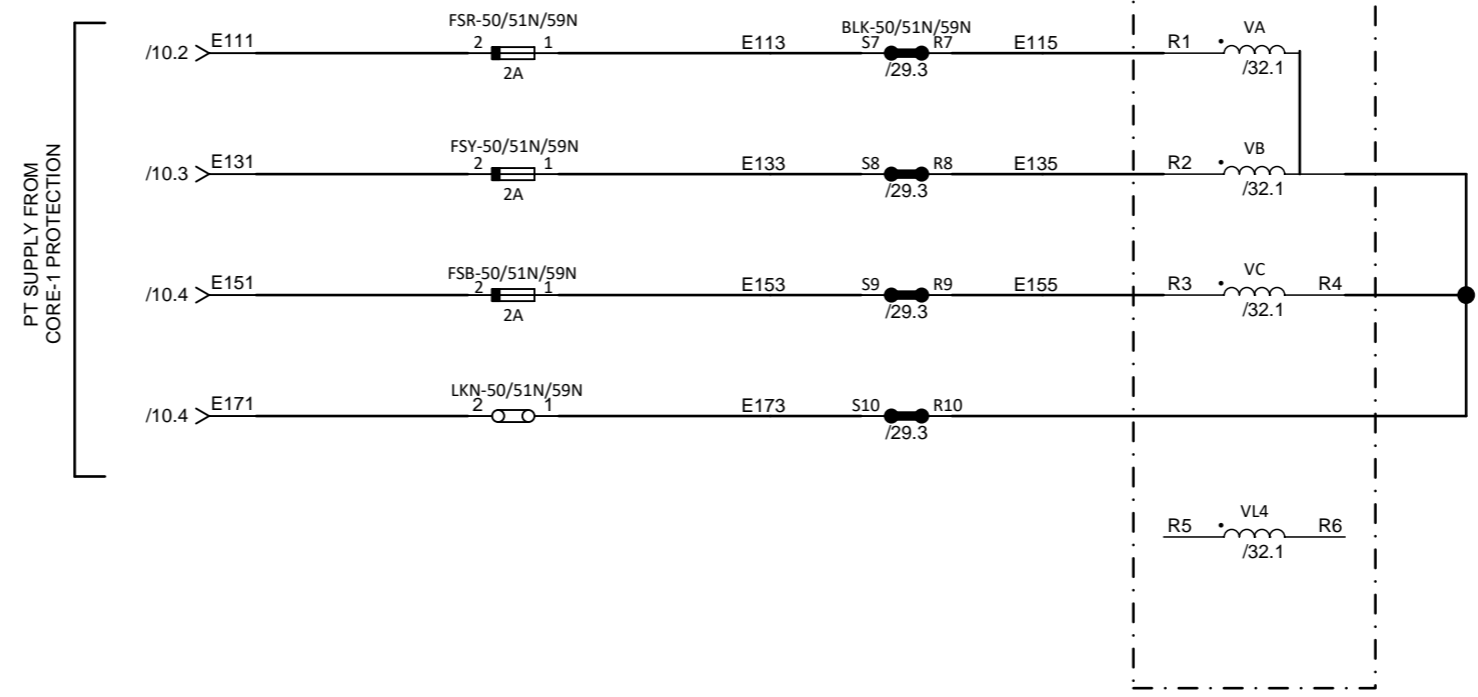
W	301R
Sh. 13 of 36	<12 14>

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 Sheet Version: V 2.0
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 Date: 06/03/2024
 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 14
 Restricted (C) Siemens Limited.



50/51N/59N LED Configuration	
LED-1	NON DIR.O/C OPTD
LED-2	NON DIR.E/F OPTD
LED-3	R PHASE OPTD
LED-4	Y PHASE OPTD
LED-5	B PHASE OPTD
LED-6	59N NDR OPTD
LED-7	UV/OV OPTD

EPC works only



Integration of the CRP with existing SAS in the scope EPC contractor

**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**

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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

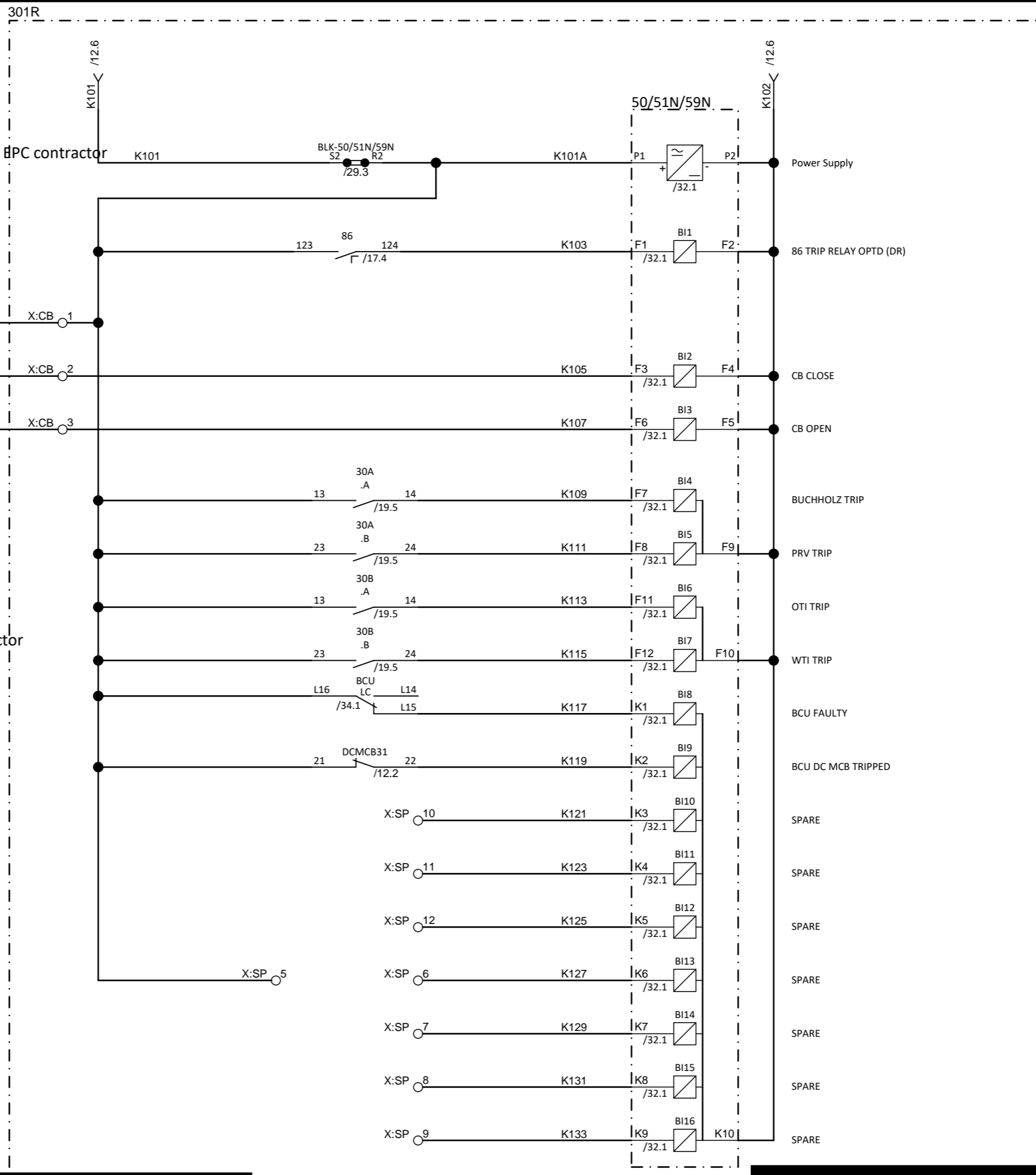
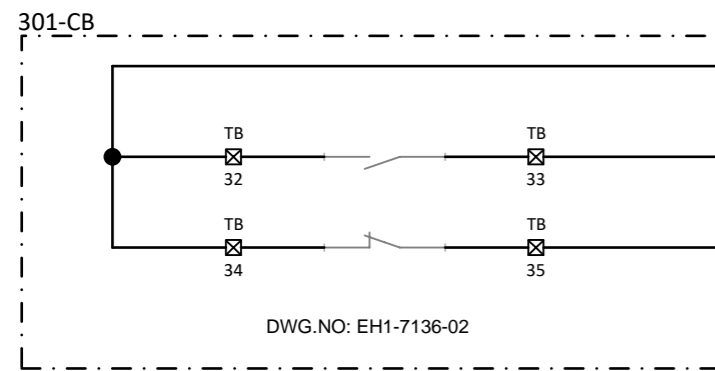


CRP with BCU- 72.5kV side of 400/220kV Trafo		W	301R
CT AND BI CIRCUIT FOR 51/51N/59N			
Replaced by:	Wiring Schematics	-W301	Sh. 14 of 36
			<13 15>

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 15



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C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

SIEMENS
 CRP with BCU- 72.5kV side of 400/220kV Trafo
 BI CIRCUIT FOR 51/51N/59N
 Replaced by: Wiring Schematics

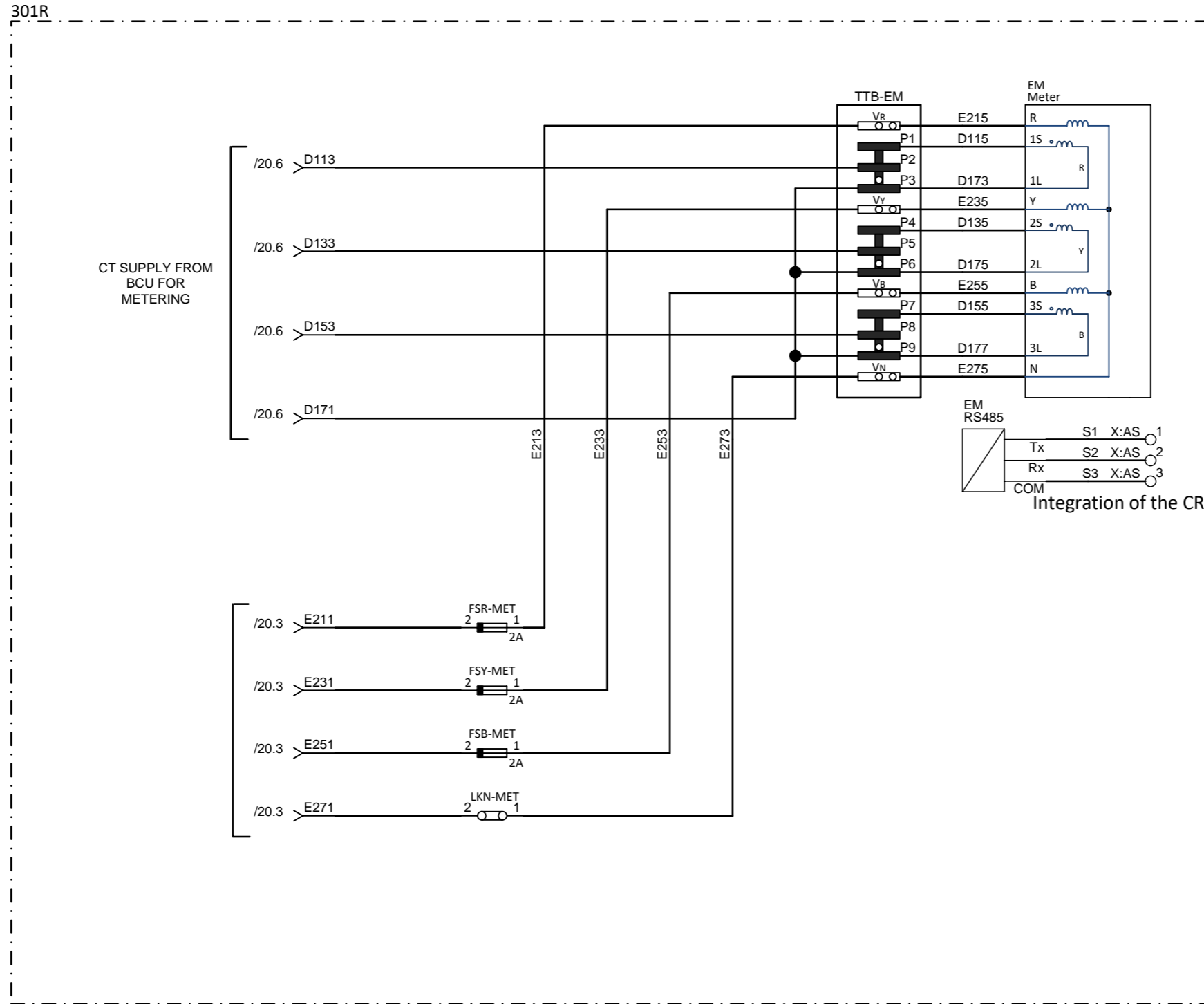
W	301R
Sh. 15 of 36	<14 16>

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 16



Integration of the CRP with existing SAS in the scope EPC contractor

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NOTE:-
 Signal cables RS485 to be screened cable which can be soldered.

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 CT AND VT CIRCUIT FOR EM

Replaced by:

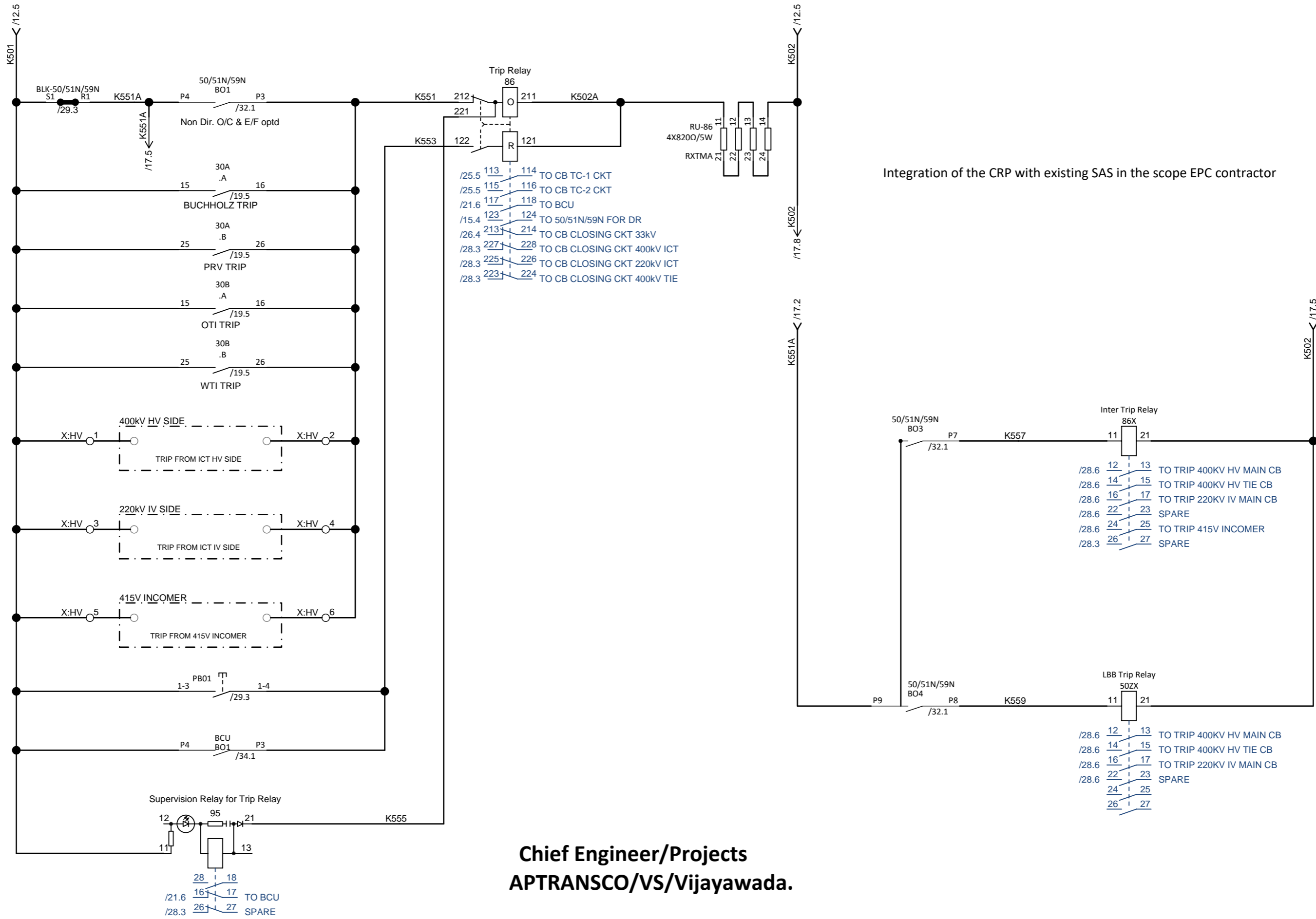
Wiring Schematics

W	301R
Sh. 16	of 36
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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301.17



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NOTE: SUPVN. RELAY SHALL BE LOOPED AT END OF THE CIRCUIT.

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
3-PH TRIP RELAY CIRCUIT

Replaced by:

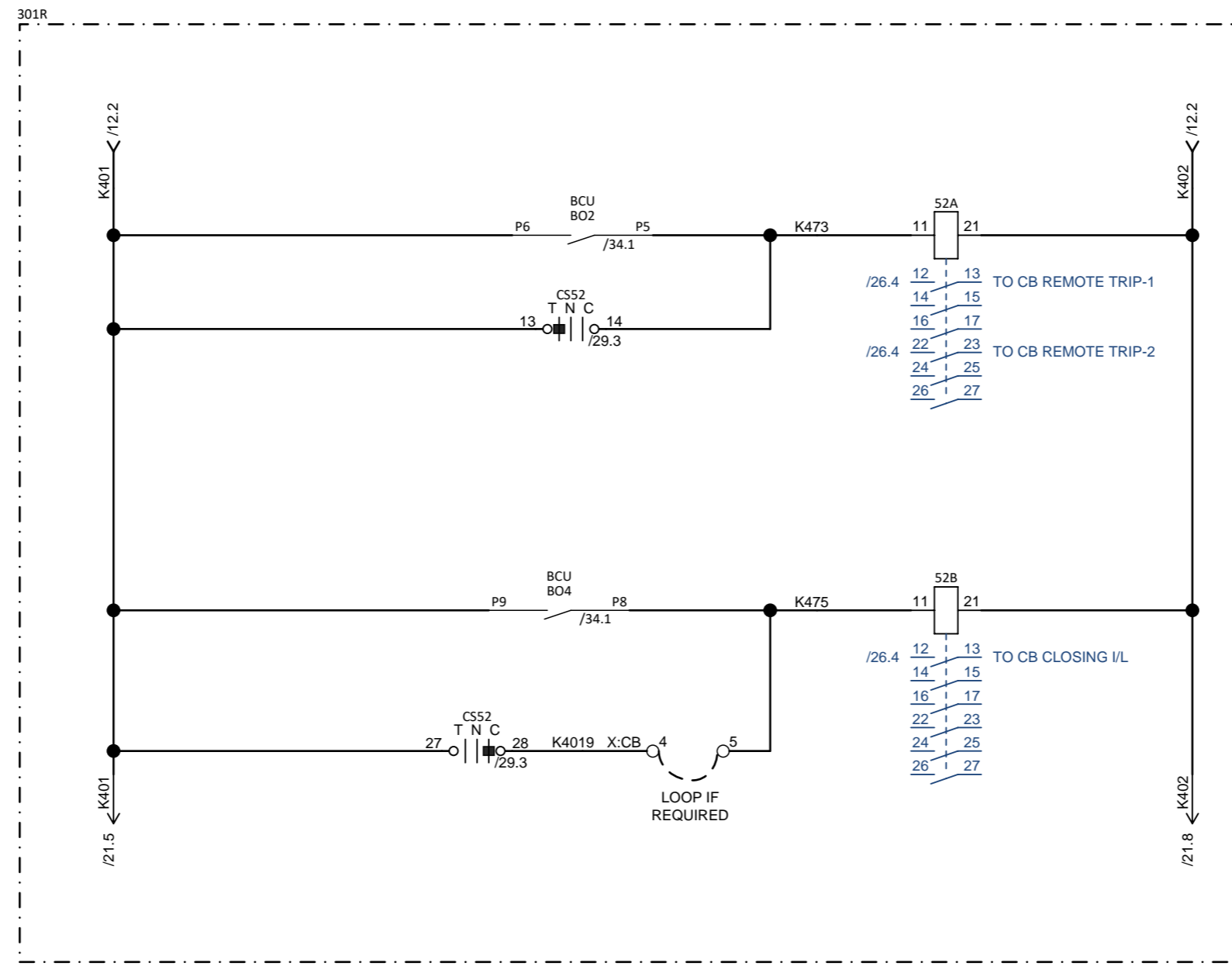
Wiring Schematics

W	301R
Sh. 17 of 36	<16 18>

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 18



Integration of the CRP with existing SAS in the scope EPC contractor

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Revision	Remarks	Date	Name	Appr By	MS
C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA



SIEMENS
 CRP with BCU- 72.5kV side of 400/220kV Trafo
 MULTIPLICATION RELAY CIRCUIT
 replaced by: Wiring Schematics

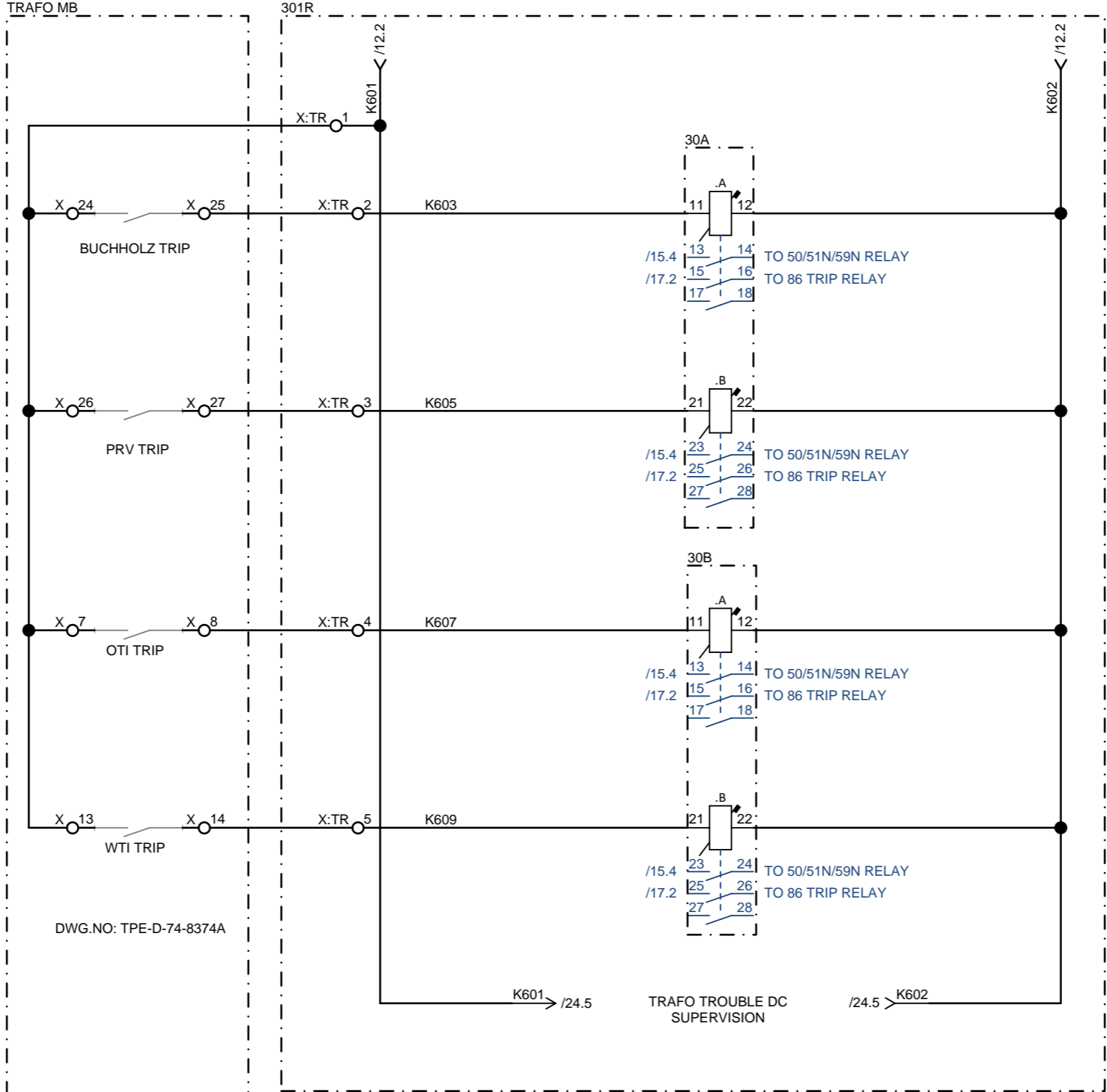


W	301R
W301	Sh. 18 of 36
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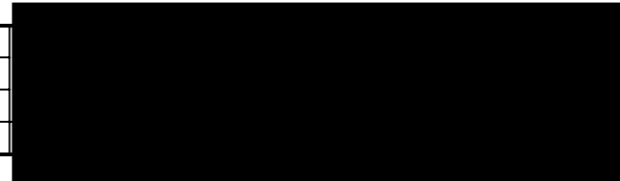
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 19



**Chief Engineer/Projects
 APTRANSCO/VS/Vijayawada.**

Integration of the CRP with existing SAS in the scope EPC contractor

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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 TRAFU TROUBLE CKT

Replaced by:

Wiring Schematics



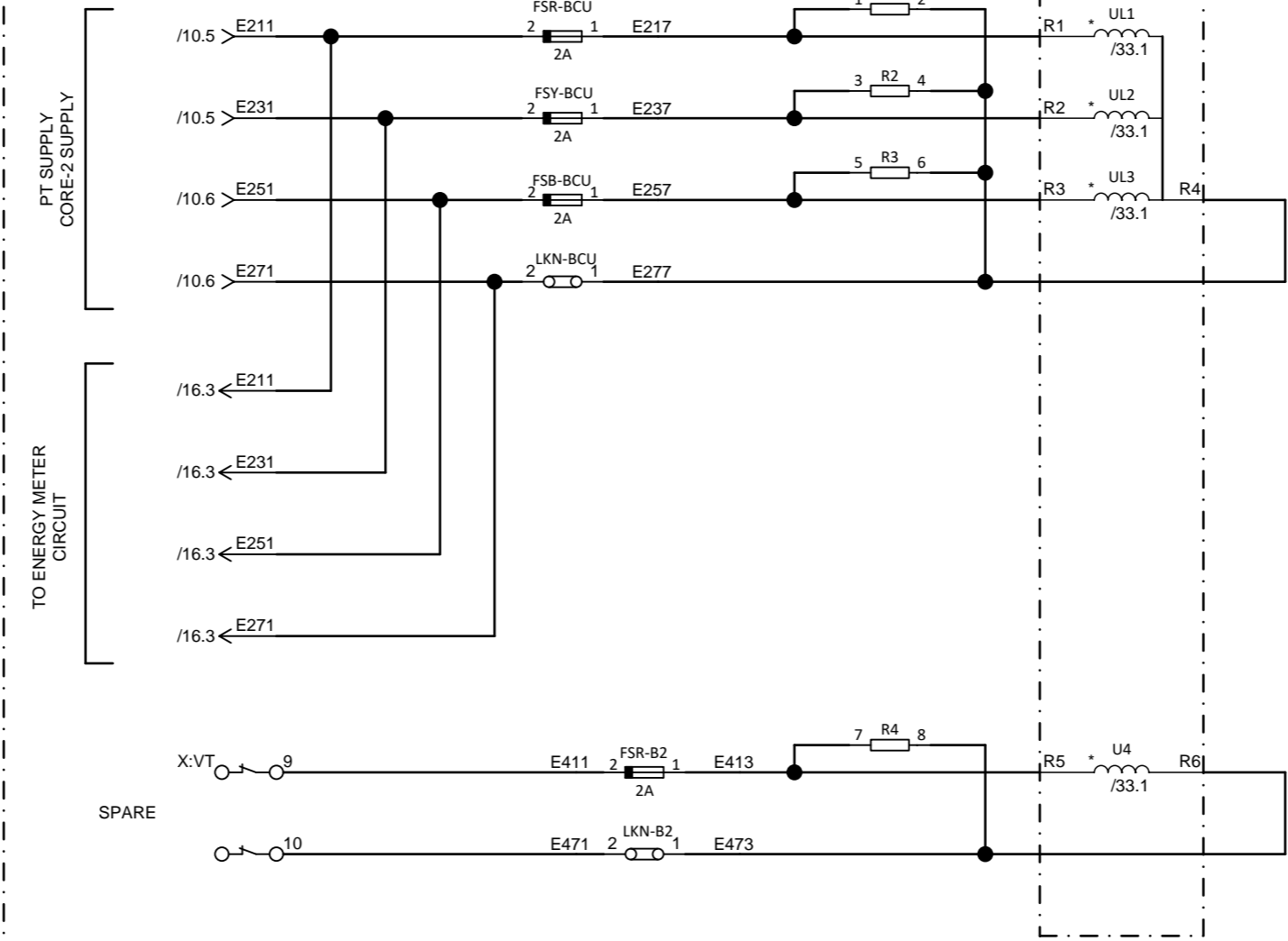
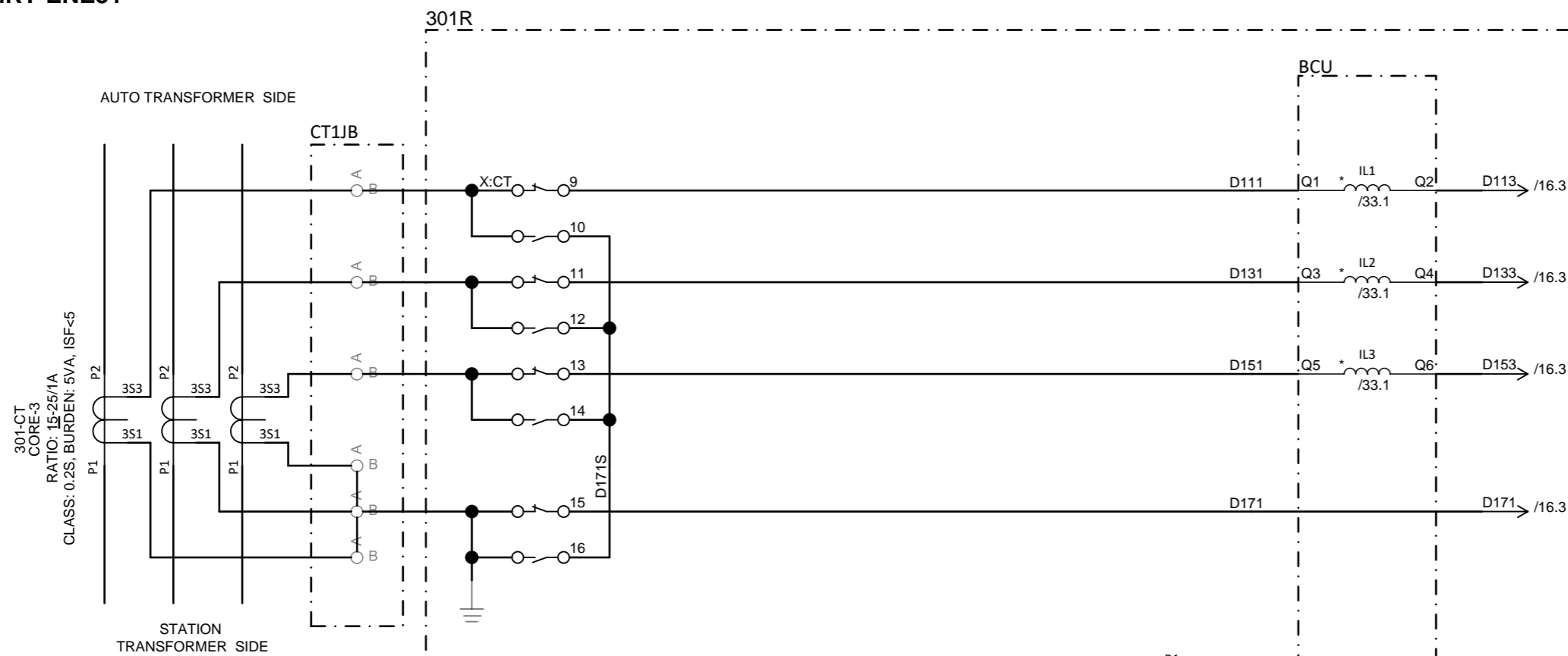
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Sh. 19 of 36	<18 20>

W301

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301_20



TO ENERGY METER CIRCUIT

BCU -20.1	Run
	Error
LED 1	BUCHHOLZ ALARM
LED 2	OTI ALARM
LED 3	WTI ALARM
LED 4	MOG ALARM
LED 5	GAS PRESSURE LOW
LED 6	GAS PRESSURE LOCKOUT
LED 7	CB SPRING CHARGED

BCU -20.2	LED 1	CB OPEN
	LED 2	CB CLOSE
	LED 3	86 OPTD
	LED 4	SPARE
	LED 5	SPARE
	LED 6	SPARE
	LED 7	SPARE

**Chief Engineer/Projects
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C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
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CRP with BCU- 72.5kV side of 400/220kV Trafo CT AND VT CIRCUIT FOR BCU

Replaced by:

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W	301R
Sh. 20	of 36
<19 21>	

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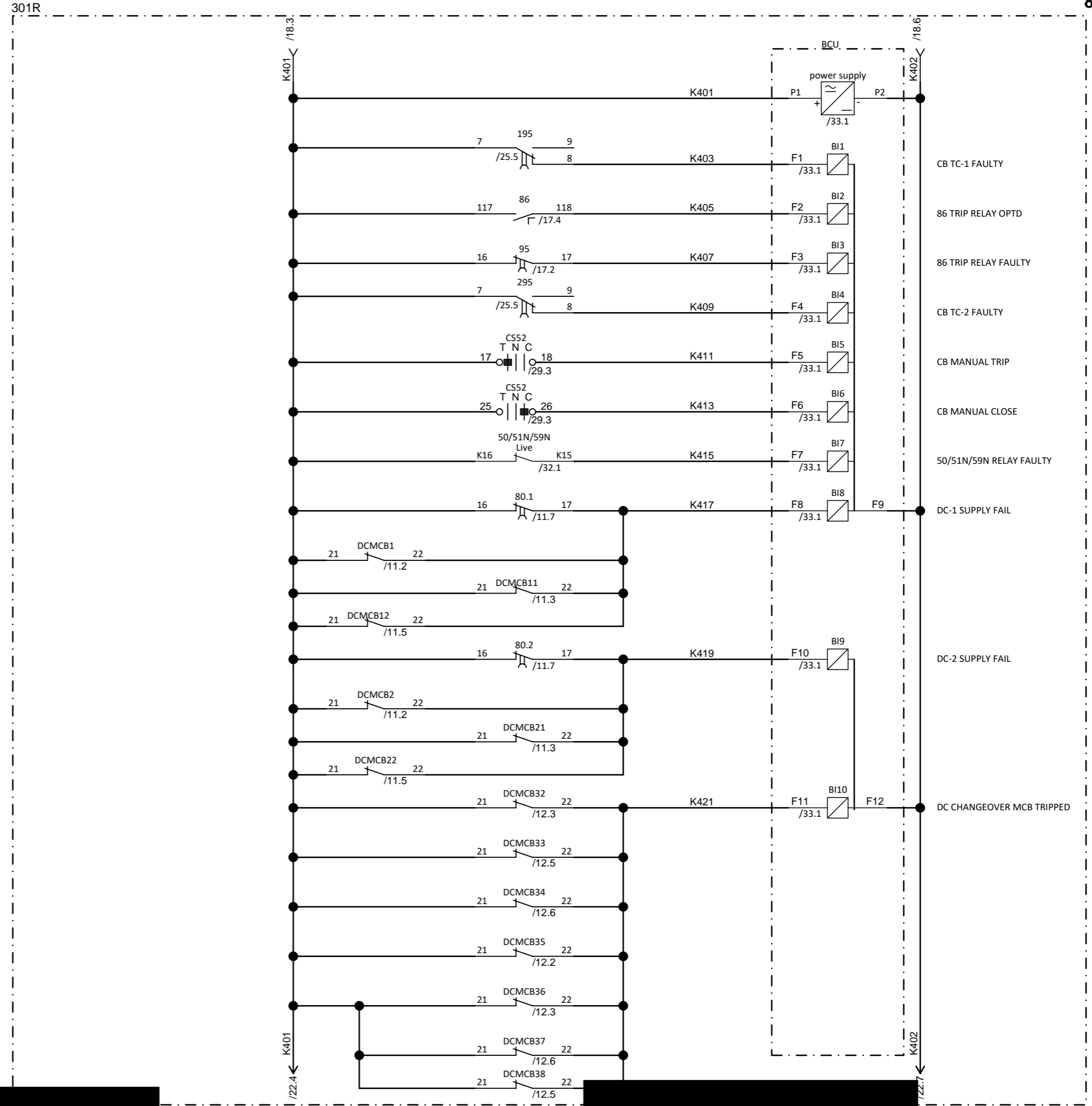
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 Sheet Version: V 2.0
 Last Used by: z004mx4y
 Date: 05/30/2024

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 21

Drawing approval subject to valid vendor registration

Integration of the CRP with existing SAS in the scope EPC contractor

**Chief Engineer/Projects
 APTRANSCO/VS/Vijayawada.**



C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

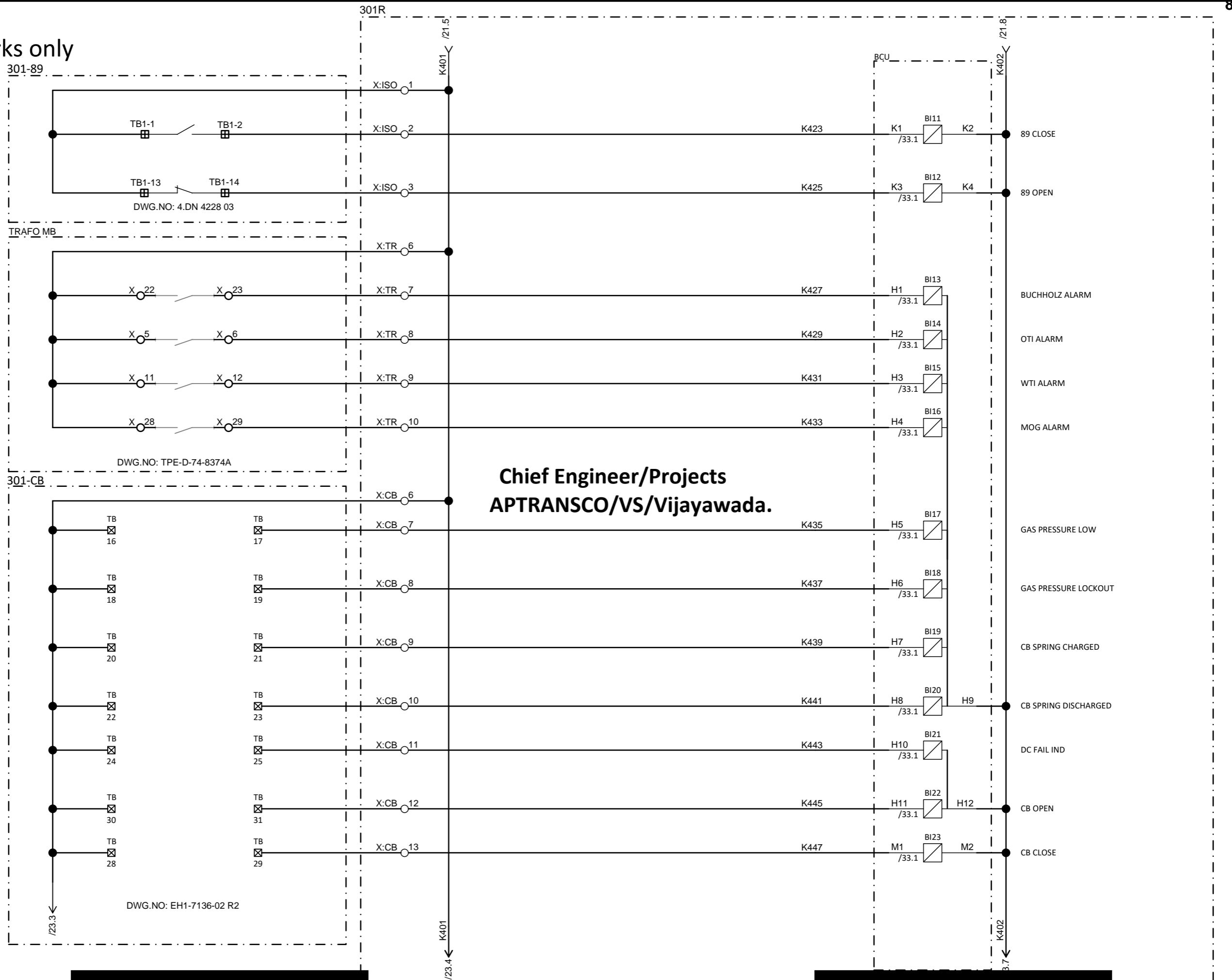


CRP with BCU- 72.5kV side of 400/220kV Trafo W301
 BI CIRCUIT FOR BCU

W 301R
 Sh. 21 of 36
 <20|22>

EPC works only

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 22



**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
BI CIRCUIT FOR BCU

Replaced by:

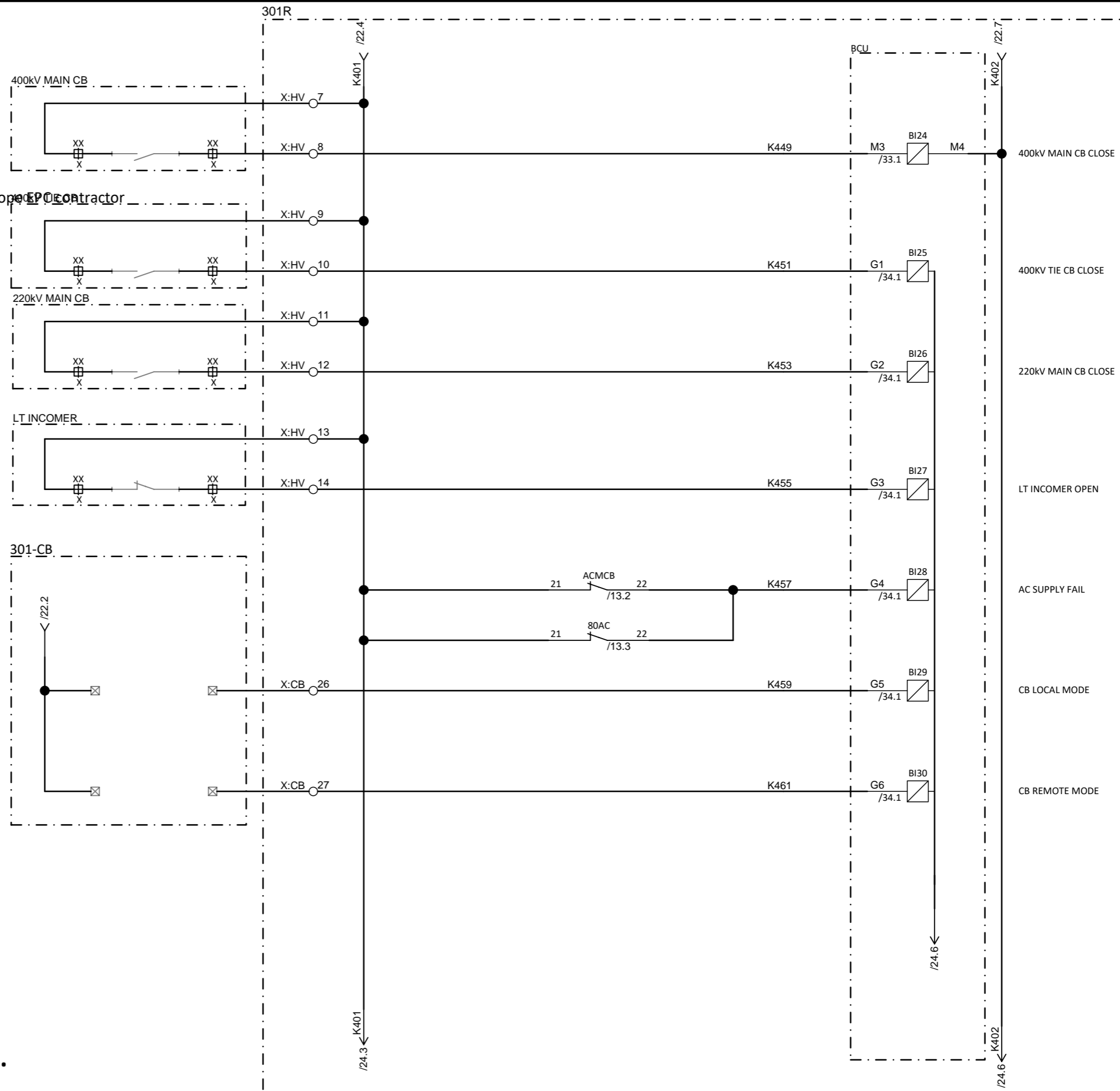
Wiring Schematics

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 23

Integration of the CRP with existing SAS in the scope of EPC contractor



Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



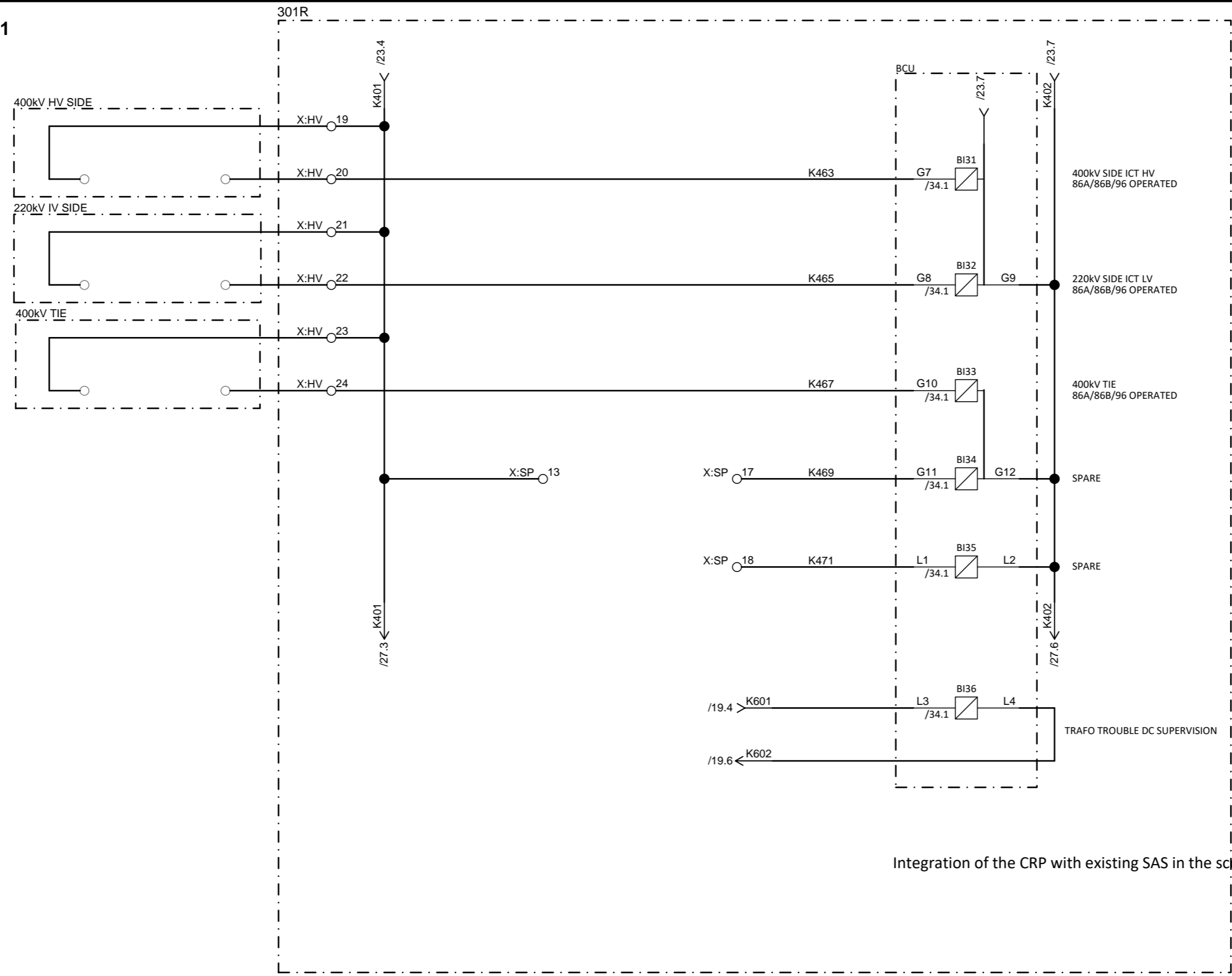
CRP with BCU- 72.5kV side of 400/220kV Trafo
 BI CIRCUIT FOR BCU
 Replaced by: Wiring Schematics

W	301R
Sh. 23 of 36	
<22 24>	

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APTRANSCO/VS/Vijayawada.

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C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 BI CIRCUIT FOR BCU

Replaced by: Wiring Schematics

W	301R
Sh. 24 of 36	
<23 25>	

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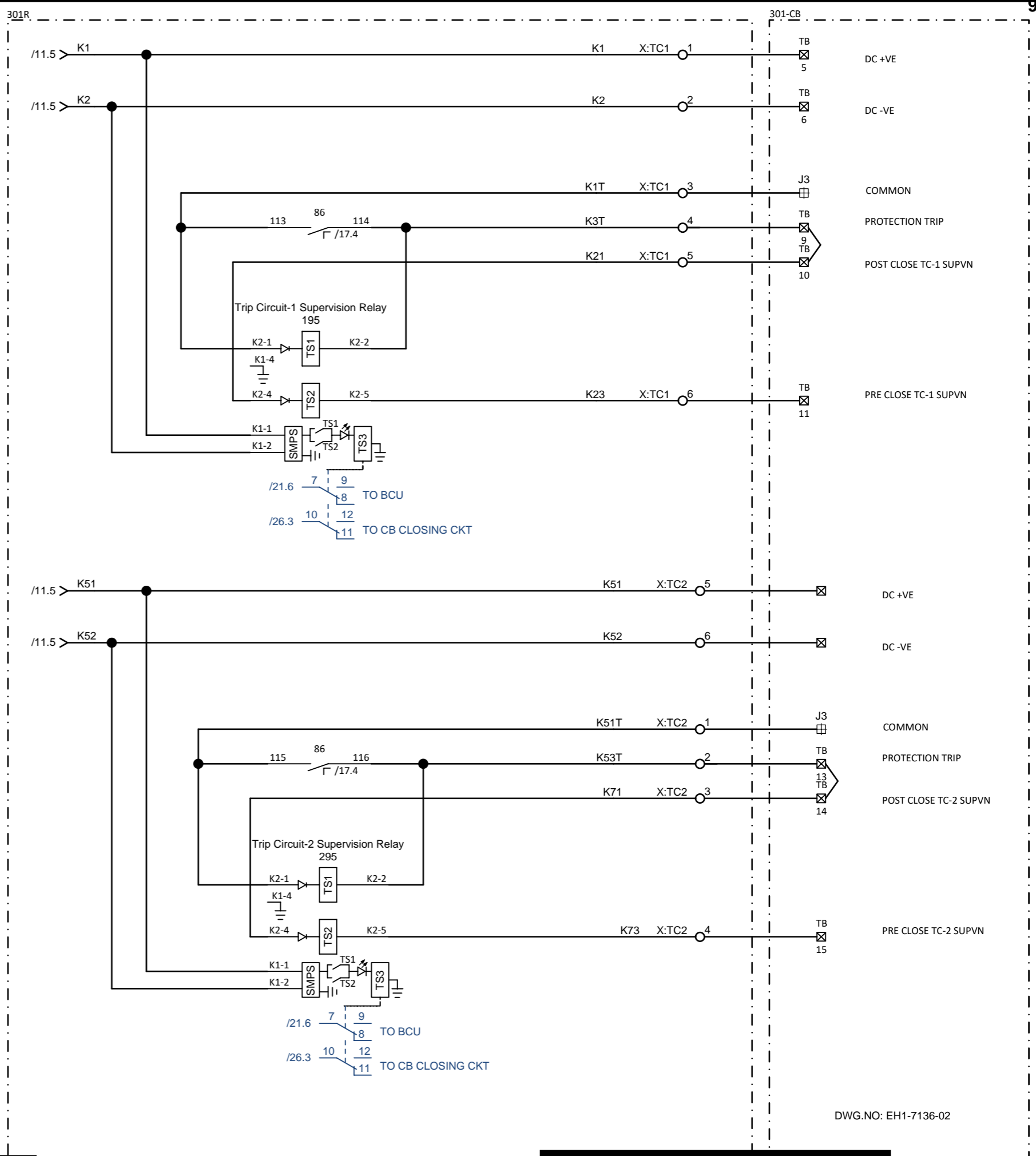
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 Last Used by: z004mx4y
 Date: 05/30/2024

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301.25

Integration of the CRP with existing SAS in the scope EPC contractor

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.

NOTE:-
 CB TC RELAY SHALL BE LOOPED AT
 END OF THE CIRCUIT.



DWG.NO: EH1-7136-02

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

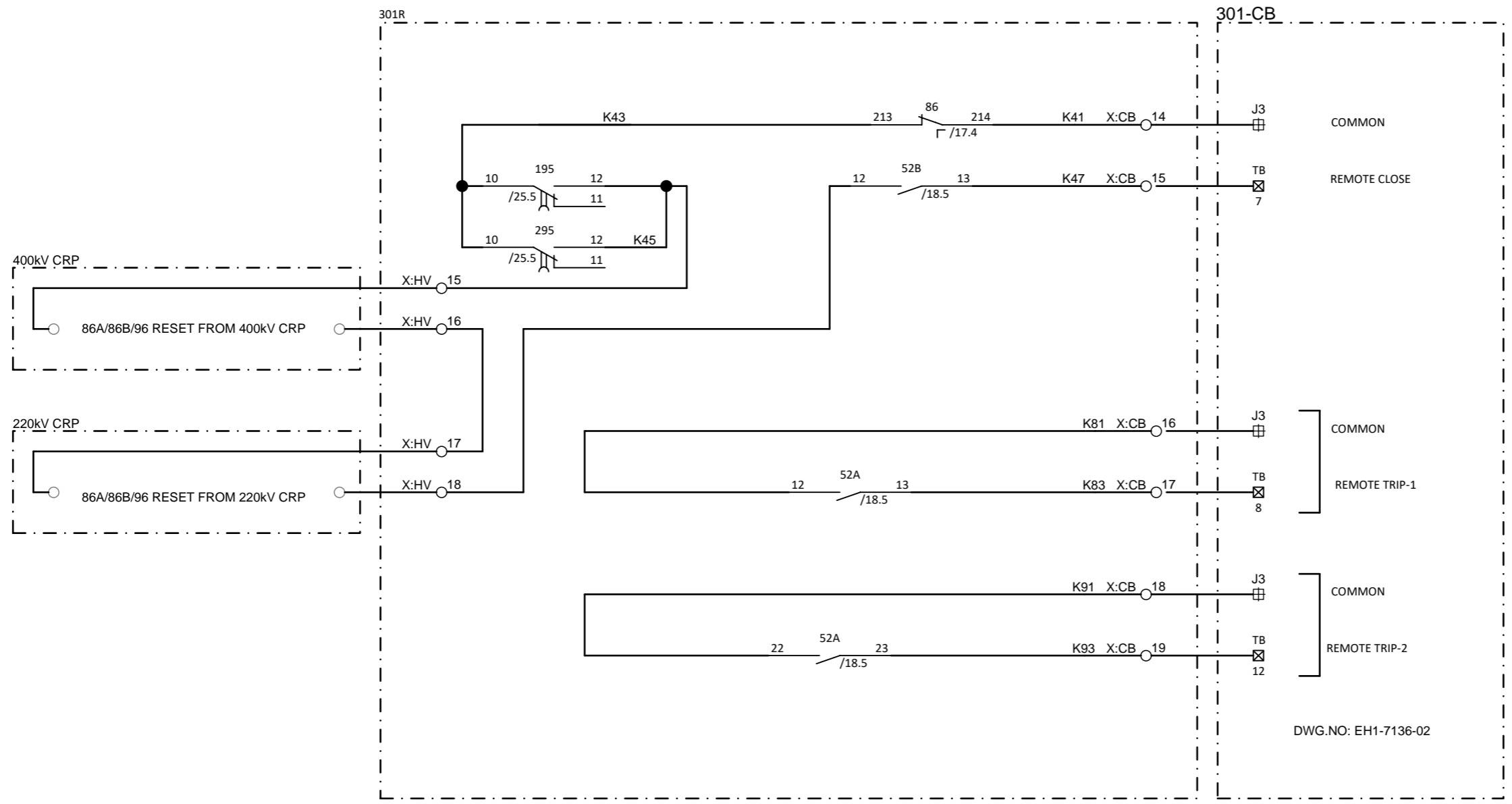


CRP with BCU- 72.5kV side of 400/220kV Trafo
 CB TC-1 & TC-2 CIRCUIT

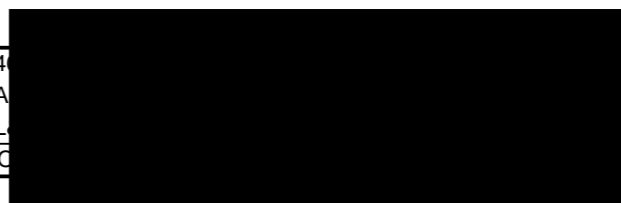
Replaced by:

Wiring Schematics

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 26



C	ESW Deleted	06/07/2024	RNG	Version	4	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG	A
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA	L
Revision	Remarks	Date	Name	Appr By	MS	C



	CRP with BCU- 72.5kV side of 400/220kV Trafo CB MANUAL CLOSE AND TRIP CIRCUIT
	Wiring Schematics



W	301R
Sh. 26	of 36
<25	>27>

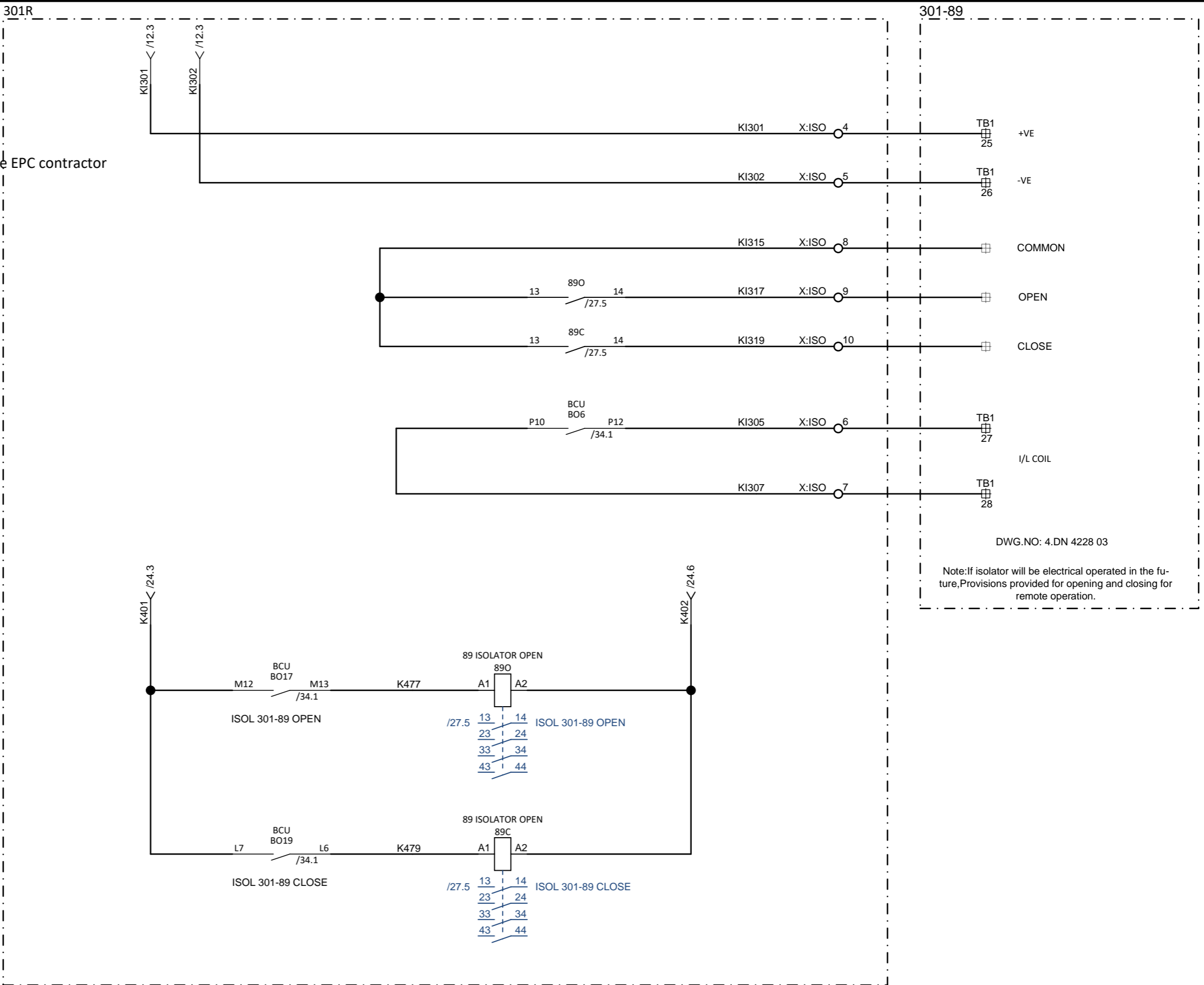
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 27

Integration of the CRP with existing SAS in the scope EPC contractor

Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.



DWG.NO: 4.DN 4228 03

Note: If isolator will be electrical operated in the future, Provisions provided for opening and closing for remote operation.

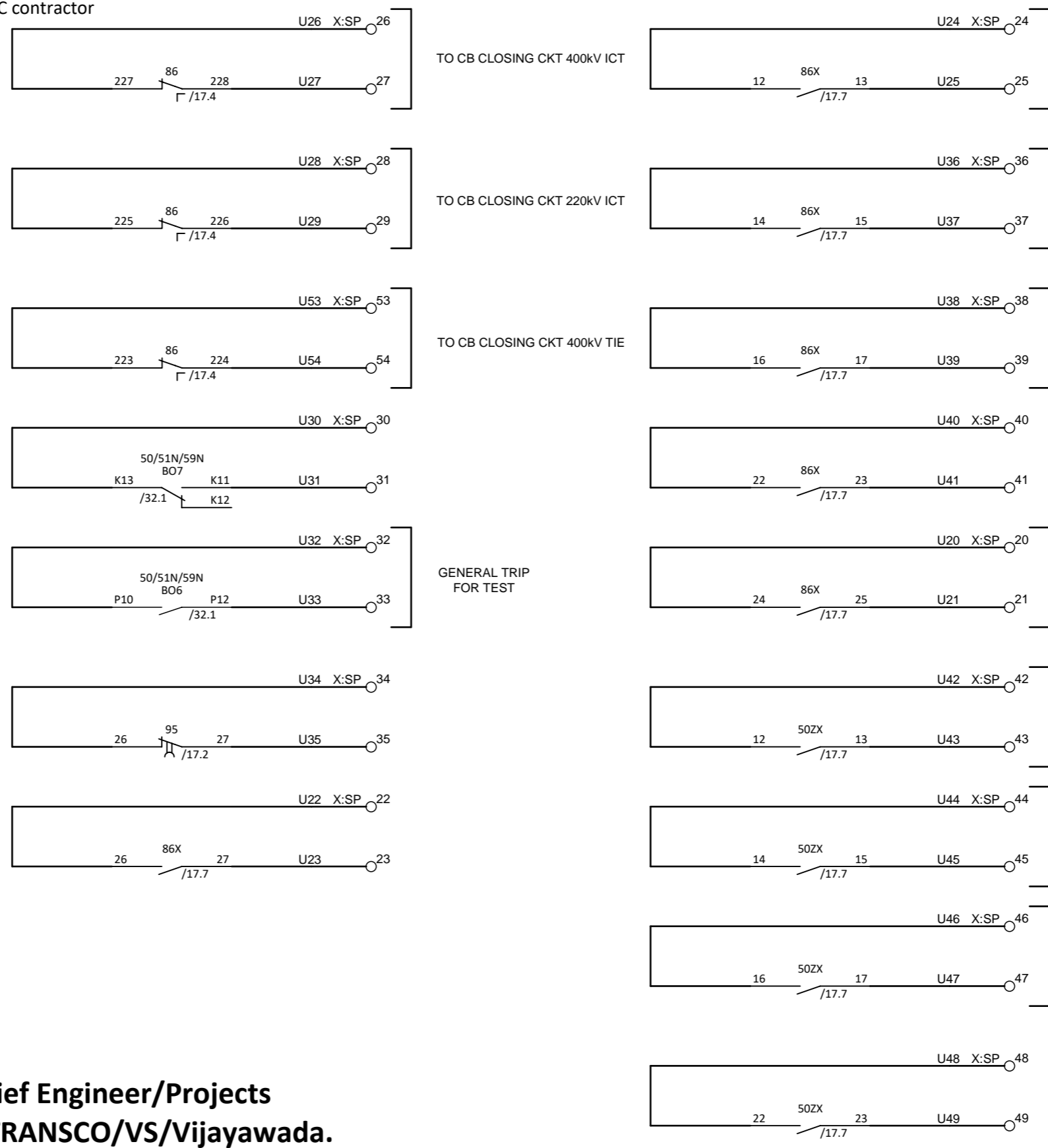
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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

SIEMENS
 CRP with BCU- 72.5kV side of 400/220kV Trafo
 ISOL I/L CIRCUIT
 Replaced by: Wiring Schematics

W	301R
Sh. 27	of 36
<26	>28>

Integration of the CRP with existing SAS in the scope EPC contractor

301R



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 Last Used by: z004mx4y
 Date: 05/30/2024
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 28

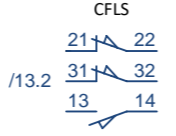
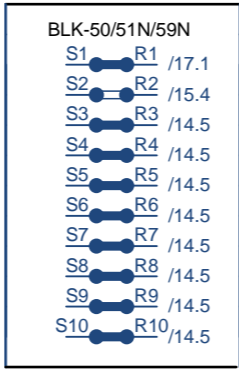
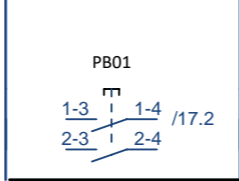
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B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS

SIEMENS
 CRP with BCU- 72.5kV side of 400/220kV Trafo
 SPARE CONTACT DISTRIBUTION
 Replaced by: _____
 Wiring Schematics

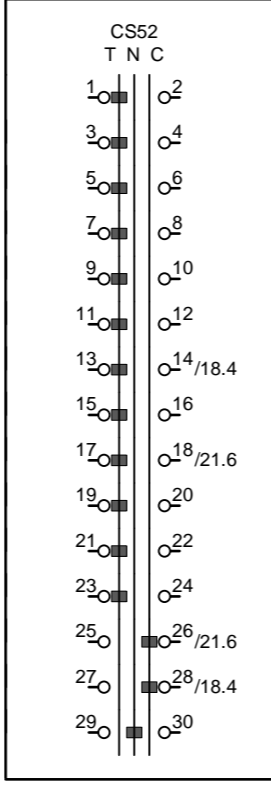
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 29



Integration of the CRP with existing SAS in the scope EPC contractor



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Revision	Remarks	Date	Name	Appr By	MS	Or
C	ESW Deleted	06/07/2024	RNG	Version	4	40
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG	AP
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA	L&

SIEMENS

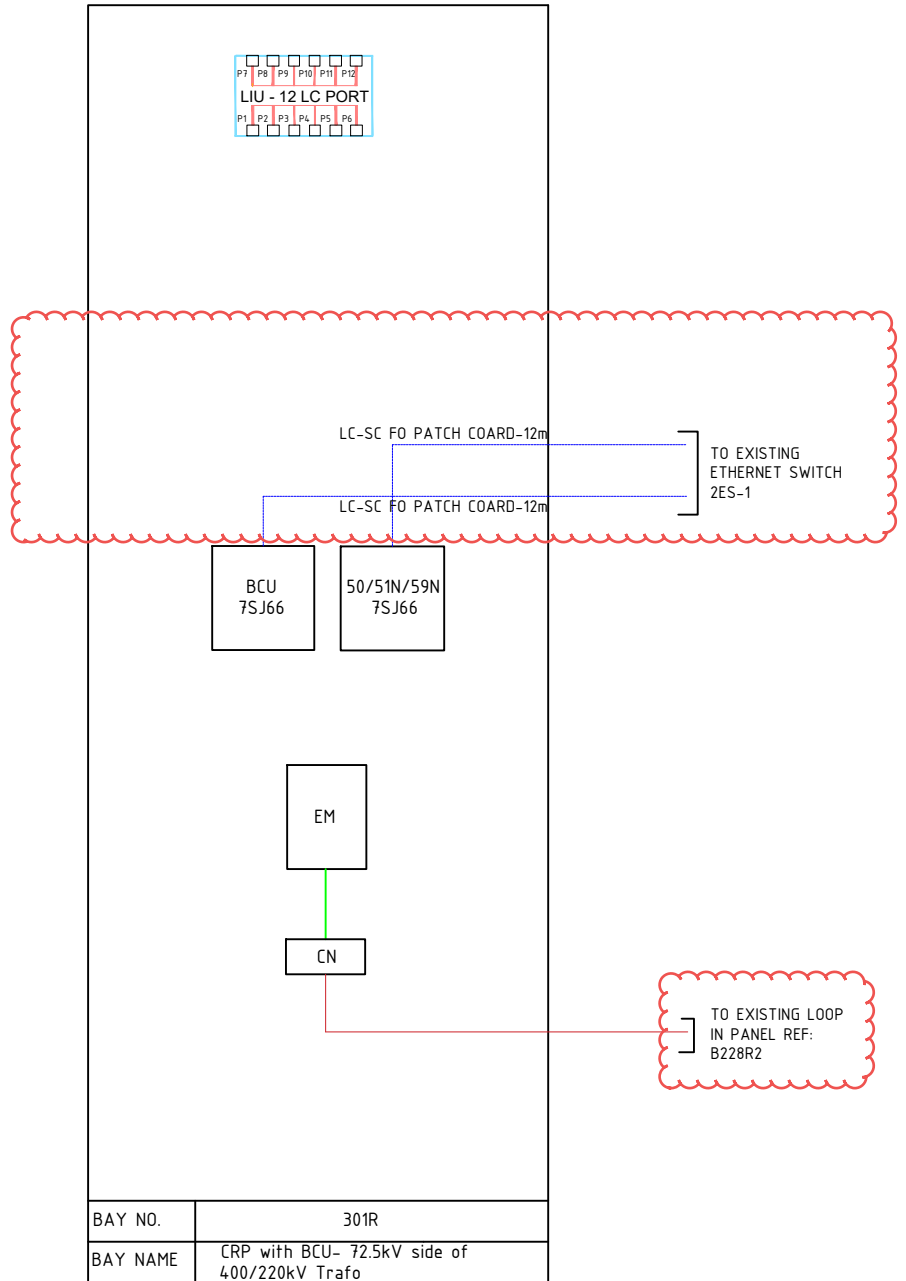
CRP with BCU- 72.5kV side of 400/220kV Trafo
 DEVICE REFERENCE

Wiring Schematics

W	301R
Sh. 29 of 36	
<28 30>	

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 30



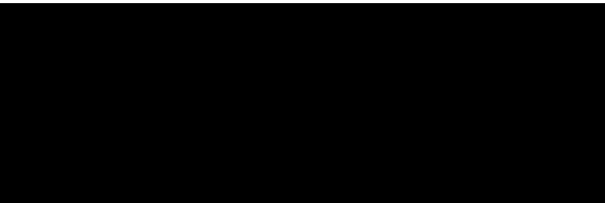
**Chief Engineer/Projects
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BAY NO.	301R
BAY NAME	CRP with BCU- 72.5kV side of 400/220kV Trafo

LEGEND:-

—	FO PATCH CABLE
—	ETHERNET CAT6 CABLE
—	RS485 CABLE FOR METERING

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



SIEMENS	CRP with BCU- 72.5kV side of 400/220kV Trafo Configuration Architecture	400/ 220kV GIS SUBSTATION AT THALLAYAPALEM FOR	W	301R
	Replaced by:	Wiring Schematics	3008879799	(3)G719EA-QG9101-00-W301
				Sh. 30 of 36
				< 29/31 >

8991502/2024/EEMRT-ENE51

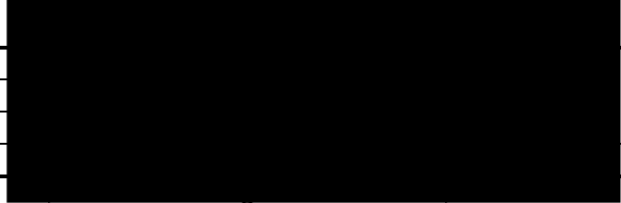
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 Date: 05/30/2024

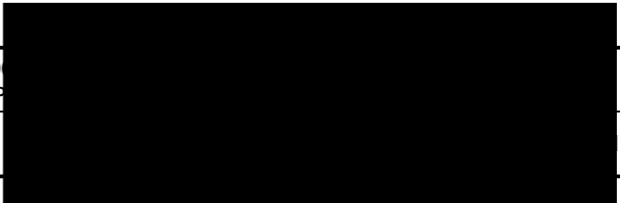
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 31

CONNECTION DIAGRAM

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



	CRP with BCU- 72.5kV side of 400/220kV Trafo	40
	COVER SHEET	
Replaced by:	Wiring Schematics	



W	301R
Sh. 31 of 36	
<30 32>	

8991502/2024/EMRT-ENF51

designation : Case Size: 1/3 19", 4xI, 4xV, 16 BI, 7 BO, 1 Live Status, 7 LED, Flush Mounting

manufacturer : Siemens

order no. : 7SJ6611-5DB90-1FE0+L0S

product code : .

current : .

voltage : .

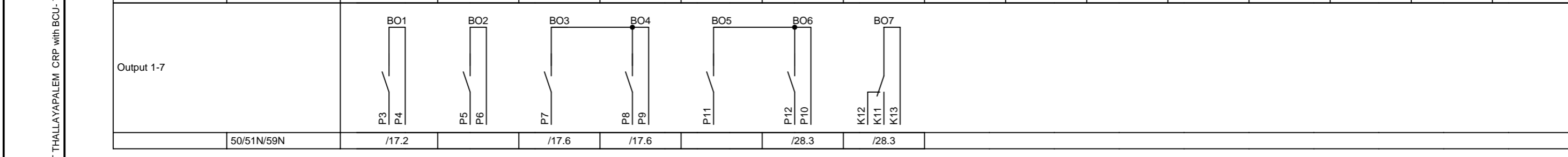
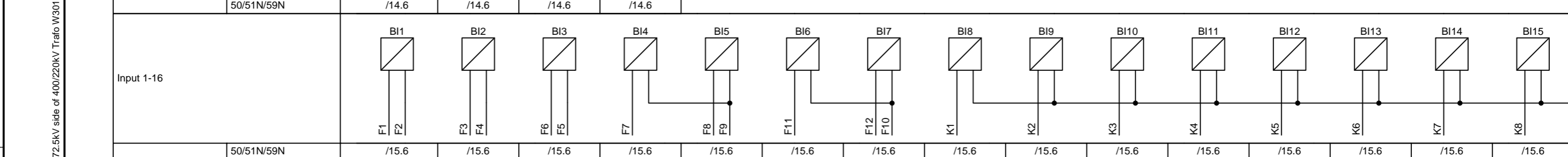
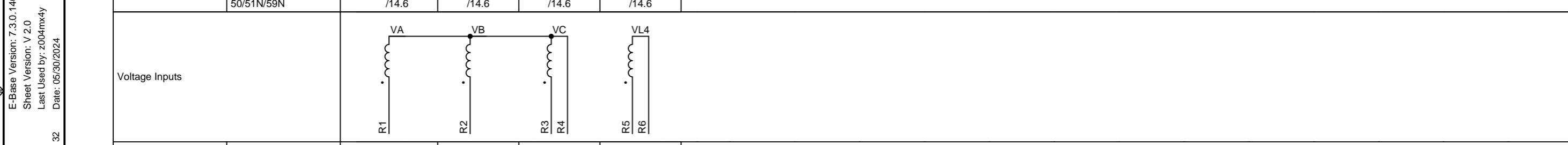
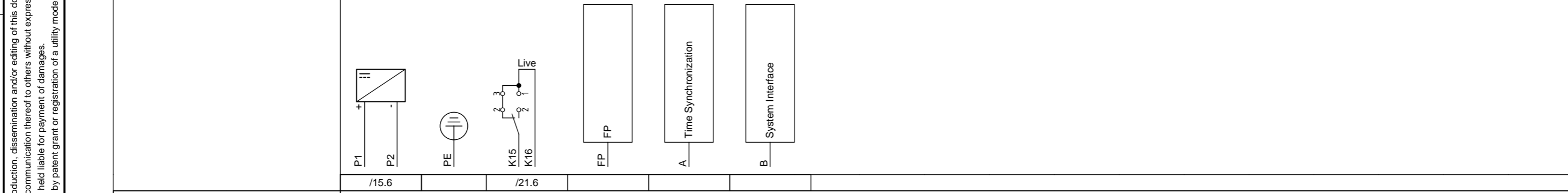
add. info. 1 : CT Sec: 1A, PT Sec: 110V AC, Aux Supply: 110-250V DC, 115-230V AC, BI Threshold 88V

add. info. 2 : IEC 61850, 100 Mbit Ethernet, Optical, Double, LC Connector

technical specifications:

Integration of the CRP with existing SAS in the scope EPC contractor

comment	remarks	location	equipment	function
Non Dir.O/C & E/F Protn. Relay	250		50/51N/59N	



**Chief Engineer/Projects
APTRANSCO/VS/Vijayawada.**

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301 32

Revision	Remarks	Date	Name	Appr By	MS
C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA

SIEMENS

CRP with BCU- 72.5kV side of 400/220kV Trafo W301

DELETED

W 301R

Sh. 32 of 36

<31|33>

Wiring Schematics

8991502/2024/EMRT-ENE5166

designation : Case Size: 1/2 19", 4x1, 4xV, 36 BI, 23 BO, 1 Live Status, 14 LED, Flush Mounting

manufacturer : Siemens

order no. : 7SJ6631-5JB90-1FA4+L0S

product code :

current :

voltage : DC 110-250V, AC 115-230V, binary input threshold 88V

add. info. 1 : CT Sec: 1A, PT Sec: 110V AC, Aux Supply: 110-250V DC, 115-230V AC, BI Threshold 88V

add. info. 2 : IEC 61850, 100 Mbit Ethernet, Optical, Double, LC Connector, Graphical Display

technical specifications:

region world, 50/60 Hz, IEC/ANSI, language English (UK) (language can be changed)

port B: IEC61850, optical EN100, double, LC connector

port C: no rear DIGSI interface

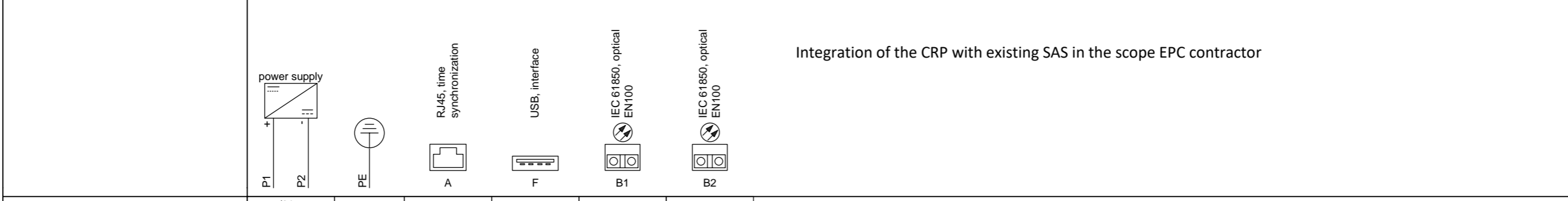
incl. Fault record

basic function, +voltage, frequency and power protection, +directional time overcurrent protection

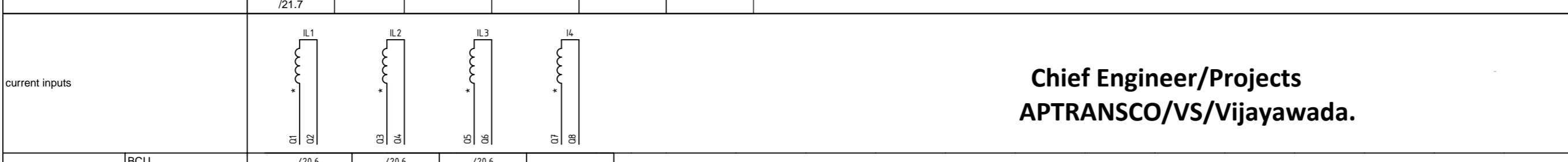
synchronization

Drawing approval subject to valid vendor registration

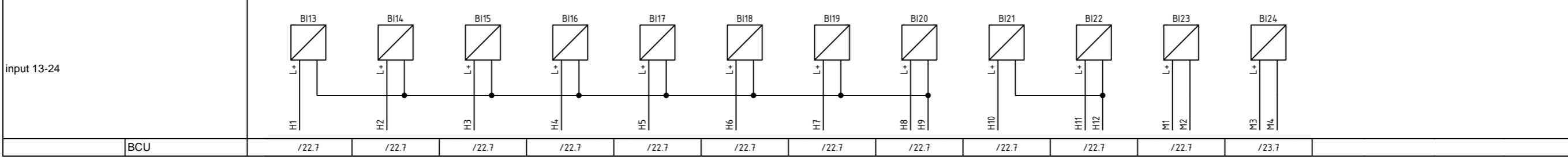
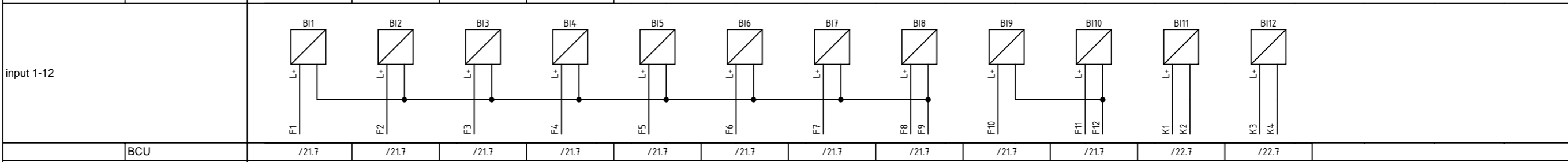
comment	remarks	location	equipment	function
Bay Control Unit	250		BCU	



Integration of the CRP with existing SAS in the scope EPC contractor



Chief Engineer/Projects
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 Date: 05/30/2024
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301_33

Revision	Remarks	Date	Name	Appr By	MS
C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA



CRP with BCU- 72.5kV side of 400/220kV Trafo
DEVICE REFERENCE

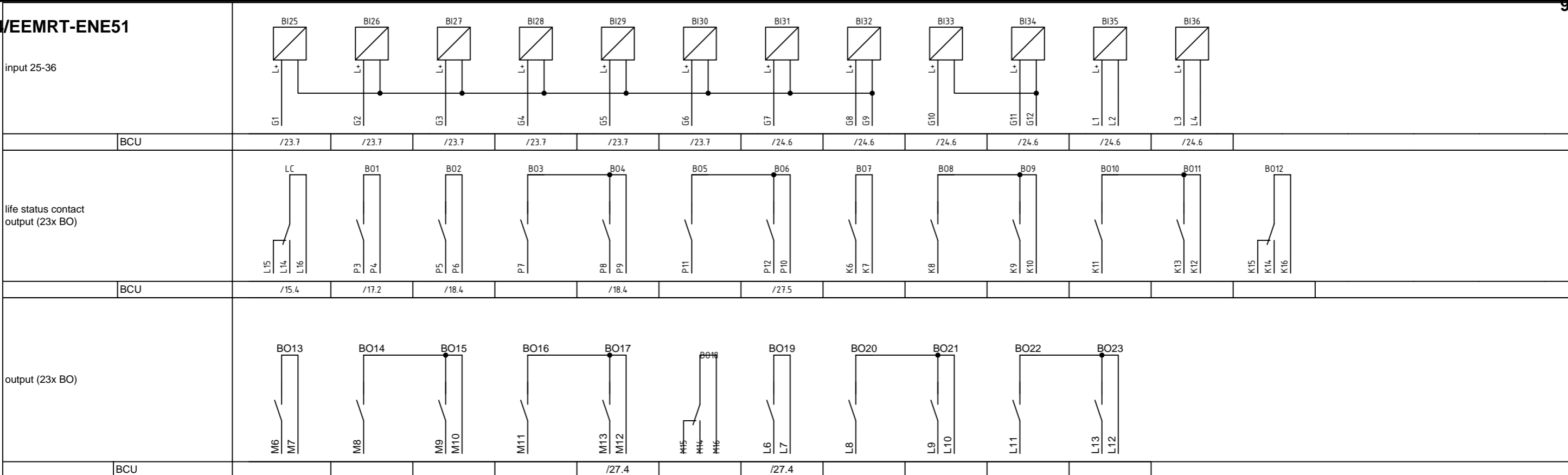
Replaced by:

Wiring Schematics

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 400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301_34



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Integration of the CRP with existing SAS in the scope EPC contractor

**Chief Engineer/Projects
 APTRANSCO/VS/Vijayawada.**

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
 DEVICE REFERENCE
 Replaced by: Wiring Schematics

8991502/2024/EEMRT-ENE51

BI/BO Table

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Sheet Version: V.2.0
Last Used by: z004mx4y
Date: 05/30/2024
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400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301_35

Design.	BI/BO	Comments	Sheet Ref.	Design.	BI/BO	Comments	Sheet Ref.	Design.	BI/BO	Comments	Sheet Ref.
50/51N/59N	BI1	86 TRIP RELAY OPTD (DR)	/W301/15.6	50/51N/59N	BO5	Spare		BCU	BI1	CB TC-1 FAULTY	/W301/21.7
50/51N/59N	BI2	CB CLOSE	/W301/15.6	50/51N/59N	BO6	GENERAL TRIP	/W301/28.3	BCU	BI2	86 TRIP RELAY OPTD	/W301/21.7
50/51N/59N	BI3	CB OPEN	/W301/15.6	50/51N/59N	BO7	SPARE	/W301/28.3	BCU	BI3	86 TRIP RELAY FAULTY	/W301/21.7
50/51N/59N	BI4	BUCHHOLZ TRIP	/W301/15.6	Integration of the CRP with existing SAS in the scope EPC contractor Chief Engineer/Projects APTRANSCO/VS/Vijayawada.				BCU	BI4	CB TC-2 FAULTY	/W301/21.7
50/51N/59N	BI5	PRV TRIP	/W301/15.6					BCU	BI5	CB MANUAL TRIP	/W301/21.7
50/51N/59N	BI6	OTI TRIP	/W301/15.6					BCU	BI6	CB MANUAL CLOSE	/W301/21.7
50/51N/59N	BI7	WTI TRIP	/W301/15.6					BCU	BI7	50/51N/59N RELAY FAULTY	/W301/21.7
50/51N/59N	BI8	BCU FAULTY	/W301/15.6					BCU	BI8	DC-1 SUPPLY FAIL	/W301/21.7
50/51N/59N	BI9	BCU DC MCB TRIPPED	/W301/15.6					BCU	BI9	DC-2 SUPPLY FAIL	/W301/21.7
50/51N/59N	BI10	SPARE	/W301/15.6					BCU	BI10	DC CHANGEOVER MCB TRIPPED	/W301/21.7
50/51N/59N	BI11	SPARE	/W301/15.6					BCU	BI11	89 CLOSE	/W301/22.7
50/51N/59N	BI12	SPARE	/W301/15.6					BCU	BI12	89 OPEN	/W301/22.7
50/51N/59N	BI13	SPARE	/W301/15.6					BCU	BI13	BUCHHOLZ ALARM	/W301/22.7
50/51N/59N	BI14	SPARE	/W301/15.6					BCU	BI14	OTI ALARM	/W301/22.7
50/51N/59N	BI15	SPARE	/W301/15.6					BCU	BI15	WTI ALARM	/W301/22.7
50/51N/59N	BI16	SPARE	/W301/15.6					BCU	BI16	MOG ALARM	/W301/22.7
50/51N/59N	BO1	To 86 TRIP RELAY OPTD	/W301/17.2					BCU	BI17	GAS PRESSURE LOW	/W301/22.7
50/51N/59N	BO2	Spare						BCU	BI18	GAS PRESSURE LOCKOUT	/W301/22.7
50/51N/59N	BO3	TO 86X RELAY	/W301/17.6					BCU	BI19	CB SPRING CHARGED	/W301/22.7
50/51N/59N	BO4	TO 50ZX RELAY	/W301/17.6		BCU	BI20	CB SPRING DISCHARGED	/W301/22.7			

C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
BI/BO Table

Replaced by:

Wiring Schematics

8991502/2024/EEMRT-ENE51

BI/BO Table

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E-Base Version: 7.3.0.1405
Sheet Version: V 2.0
Last Used by: z004mx4y
Date: 05/30/2024
400/220kV GIS SUBSTATION AT THALLAYAPALEM CRP with BCU- 72.5kV side of 400/220kV Trafo W301_36

Design.	BI/BO	Comments	Sheet Ref.	Design.	BI/BO	Comments	Sheet Ref.	Design.	BI/BO	Comments	Sheet Ref.
BCU	BI21	DC FAIL IND	/W301/22.7	BCU	BO5	Spare					
BCU	BI22	CB OPEN	/W301/22.7	BCU	BO6	TO ISOL 89 INTERLOCK CIRCUIT	/W301/27.5				
BCU	BI23	CB CLOSE	/W301/22.7	BCU	BO7	Spare					
BCU	BI24	400kV MAIN CB CLOSE	/W301/23.7	BCU	BO8	Spare					
BCU	BI25	400kV TIE CB CLOSE	/W301/23.7	BCU	BO9	Spare					
BCU	BI26	220kV MAIN CB CLOSE	/W301/23.7	BCU	BO10	Spare					
BCU	BI27	LT INCOMER OPEN	/W301/23.7	BCU	BO11	Spare					
BCU	BI28	AC SUPPLY FAIL	/W301/23.7	BCU	BO12	Spare					
BCU	BI29	CB LOCAL MODE	/W301/23.7	BCU	BO13	Spare					
BCU	BI30	CB REMOTE MODE	/W301/23.7	BCU	BO14	Spare					
BCU	BI31	400kV SIDE ICT HV 86A/86B/96 OPERATED	/W301/24.6	BCU	BO15	Spare					
BCU	BI32	220kV SIDE ICT LV 86A/86B/96 OPERATED	/W301/24.6	BCU	BO16	Spare					
BCU	BI33	400kV TIE 86A/86B/96 OPERATED	/W301/24.6	BCU	BO17	301-89 ISOLATOR OPEN	/W301/27.4				
BCU	BI34	SPARE	/W301/24.6	BCU	BO18	Spare					
BCU	BI35	SPARE	/W301/24.6	BCU	BO19	301-89 ISOLATOR CLOSE	/W301/27.4				
BCU	BI36	TRAFO TROUBLE DC SUPERVISION	/W301/24.6	BCU	BO20	Spare					
BCU	BO1	TO 86 TRIP RELAY RESET	/W301/17.2	BCU	BO21	Spare					
BCU	BO2	TO CB OPEN MULTI. CIRCUIT	/W301/18.4	BCU	BO22	Spare					
BCU	BO3	Spare		BCU	BO23	Spare					
BCU	BO4	TO CB CLOSE MULTI. CIRCUIT	/W301/18.4								

Integration of the CRP with existing SAS in the scope EPC contractor

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C	ESW Deleted	06/07/2024	RNG	Version	4
B	Customer cmnts	05/29/2024	RNG	Drawn By	RNG
A	Customer cmnts	04/17/2024	MM	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



CRP with BCU- 72.5kV side of 400/220kV Trafo
BI/BO Table
Wiring Schematics

40	AF	W	301R
			Sh. 36 of 36
			<35->

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SI EA

Main Cover Sheet

LOOSE SUPPLY

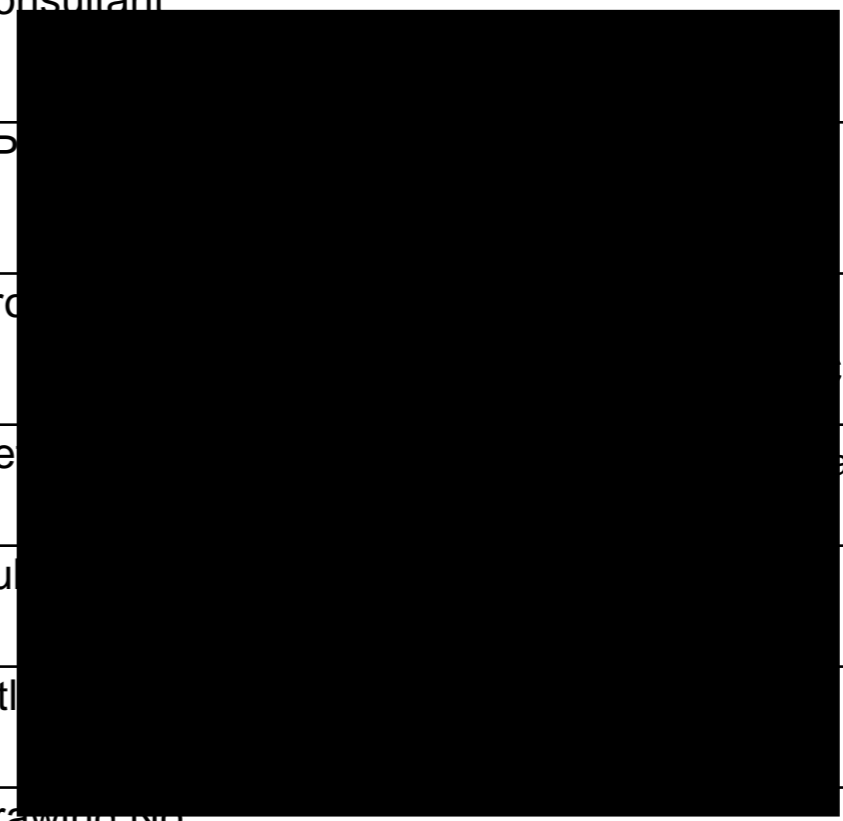
Integration of the CRP with existing SAS in the scope EPC contractor

EPC works only

End Customer
APTRANSCO



Consultant



EP

Pro

Re

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Titl

Drawing No.

(3)G719EA-QG9101-00-800

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E-Base Version: 7.3.0.1405
Sheet Version: V 2.0
Last Used by: z004x1cj
Date: 6/7/2024

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400/220kV GIS SUBSTATION AT THALLAYAPALEM LOOSE SUPPLY 800.01

Revision	Remarks	Date	Name	Appr By	MS
B	ESW Deleted	6/7/2024	RNG	Version	
A	Customer Cmnts	4/17/2024	MM	Drawn By	RNG
0	First Submission	4/10/2024	RNG	Chkd By	BALA



LOOSE SUPPLY
Main Cover Sheet
For CRP
Main Cover Sheet

Loose supply
Sh. 01 of 2
<|02>

8991502/2024/EEMRT-ENE51

Procedure for carrying out Amendments

1. The revision no. of the drawing is changed whenever changes are asked by client. The revision no. is continuous from 0, A, B, C..... & so on.
2. The version no. of the drawing is changed whenever the drawing is revised whether due to client's comments, engineering changes, factory changes, site comments etc. The version no. is continuous from 0, 1, 2, 3..... & so on.
3. The sheets which are changed can be tracked from the sheet "Summary of Amendments". The revision no., version no. and the corresponding reason for amendment is reflected on the "Summary of Amendments" sheet.
4. Date format used is MM/DD/YYYY.

Drawing approval subject to valid vendor registration

Integration of the CRP with existing SAS in the scope EPC contractor

SUMMARY OF AMENDMENTS

Sl. No.	Revision	Version	Remarks	Date	Drawn By	Chkd By
01	0	0	First Submission	04/10/2024	RNG	BALA
02	A	1	Customer Comments	04/17/2024	MM	BALA
03	B	2	ESW Deleted	07/06/2024	RNG	BALA
04	--	--	--	--	--	--
05	--	--	-	--	--	--
06	--	--	--	--	--	--
07	--	--	--	--	--	--
08	--	--	--	--	--	--
09	--	--	-	--	--	--
10	--	--	--	--	--	--
11	--	--	-	--	--	--
12	--	--	--	--	--	--
13	--	--	--	--	--	--
14	--	--	--	--	--	--
15	--	--	-	--	--	--

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Sheet Version: V 2.0
Last Used by: z004x1cj
Date: 6/7/2024

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400/220kV GIS SUBSTATION AT THALLAYAPALEM LOOSE SUPPLY 800.02

B	ESW Deleted	6/7/2024	RNG	Version	2
A	Customer Cmnts	4/17/2024	MM	Drawn By	RNG
0	First Submission	4/10/2024	RNG	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



LOOSE SUPPLY
Summary of Amendments

Replaced by:

Main Cover Sheet

Loose supply
Sh. 02 of 2
<01->



SI EA

Equipment List

Integration of the CRP with existing SAS in the scope EPC contractor

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Sheet Version: V 2.0
Last Used by: z004x1cj
Date: 6/7/2024

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400/220kV GIS SUBSTATION AT THALLAYAPALEM LOOSE SUPPLY E800 01

B	ESW Deleted	6/7/2024	RNG	Version	2
A	Customer Cmnts	4/17/2024	MM	Drawn By	RNG
0	First Submission	4/10/2024	RNG	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



LOOSE SUPPLY
COVER SHEET

replaced by: Equipment List

FOR	E	Loose supply
-00-E800		Sh. 01 of 3
		< 02>

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Sheet Version: V 2.0
Last Used by: z004x1cj
Date: 6/7/2024

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400/220kV GIS SUBSTATION AT THALLAYAPALEM LOOSE SUPPLY E800.02

DESIGNATION	NAME PLATE LEGEND	DETAILS	MANUFACTURER	MODEL	DESCRIPTION	MOUNTING	QTY.
Digsi4 Software	Digsi4 Software	Digsi 4 Software Installed In:	Siemens	7XS5403-0AA0	Digsi 4 Professional +IEC 61850 (10 Users) Version: 4.XX		1
					Integration of the CRP with existing SAS in the scope EPC contractor		
					Chief Engineer/Projects APTRANSCO/VS/Vijayawada.		

B	ESW Deleted	6/7/2024	RNG	Version	2
A	Customer Cmnts	4/17/2024	MM	Drawn By	RNG
0	First Submission	4/10/2024	RNG	Chkd By	BALA
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LOOSE SUPPLY
Bill of Materials
Equipment List

E	Loose supply
Sh. 02 of 3	
<01 03>	

8991502/2024/EEMRT-ENE51

Bill of Materials (Cable)

Details	Manufacturer	Model	Description	No. of Cores	Cross Section	Color	Length	Quantity
Patch Cable Non Rugged FO Patch Cable 1300nm_LC-SC (12 Meters)	Preston	FO Cable LC-SC FO Patch Cable 1300nm_LC-SC	Multimode FO Patch Cable 1300nm, Core Size 62.5µm, Clad Size 125µm Type of Material: Glass, Number of Fibers: 2 (Rx) (Tx), Un-Armored Both End Connectors: LC-SC, Outer Sheath Colour: Orange, Length: 12 Meters			OR	12.00 m	3
Cat-6 UTP Cable	Preston/Digilink/Reputed	Cat-6 Cat-6 UTP Cable	Type: Cat-6 UTP Cable , 4 Pair, Colour: Grey Wire Size: 23 AWG, Length: 100 Meters				100.00 m	1
Armoured FO Cable Multimode	Aksh/Finolex	Armoured FO Cable Armoured FO Cable: 6 Core	Type: Multimode Armoured FO Cable, Wavelength: 1300nm Core: 62.5µm, Clad: 125µm, Material: Glass, Fibers: 6				100.00 m	1
Serial Cable for CRP Shielded	Parashield/Reputed	Serial Cable Serial Cable Shielded: 4 Core	Type: Serial Cable, Un-Armoured, Core: 4, Colour: Grey/Black Wire Size: 0.5 Sq. mm	4	0.5mm		100.00 m	1
Communication Cable	Reputed	7SJ66 Communication Cable	USB CABLE WITH ONE END TYPEA AND ANOTHER TYPE B. LENGTH : 2Meters				2.00 m	1

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Integration of the CRP with existing SAS in the scope EPC contractor

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 Sheet Version: V 2.0
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 Date: 6/7/2024
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 400/220kV GIS SUBSTATION AT THALLAYAPALEM LOOSE SUPPLY E800 03

B	ESW Deleted	6/7/2024	RNG	Version	2
A	Customer Cmnts	4/17/2024	MM	Drawn By	RNG
0	First Submission	4/10/2024	RNG	Chkd By	BALA
Revision	Remarks	Date	Name	Appr By	MS



LOOSE SUPPLY
Replaced by:
Equipment List

E	
Sh. 03 of 3	<02 ->