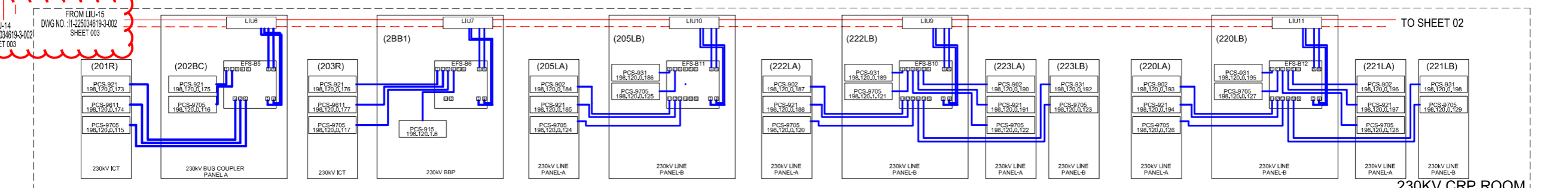
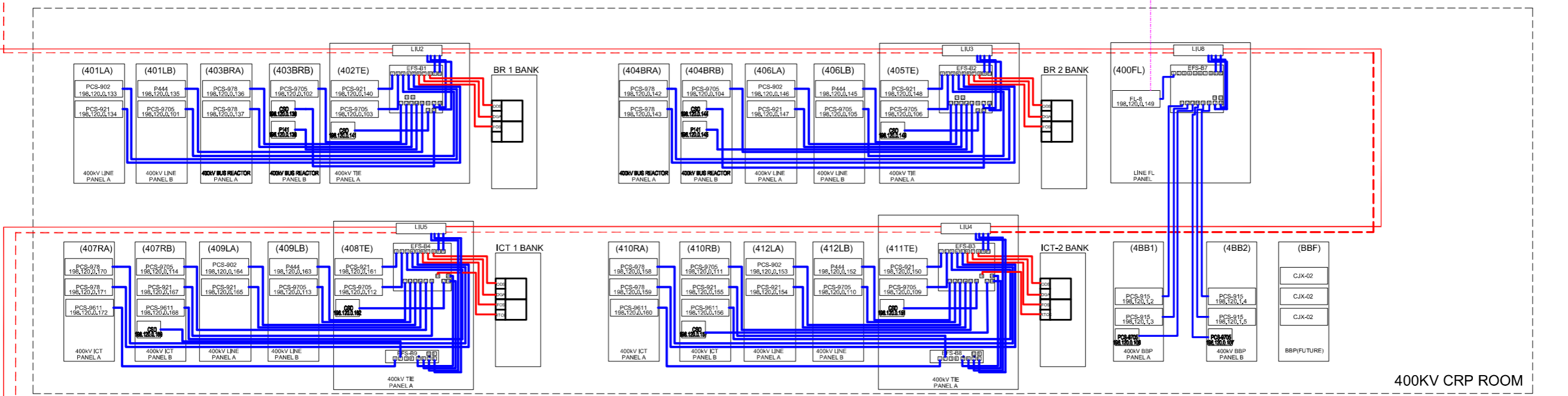
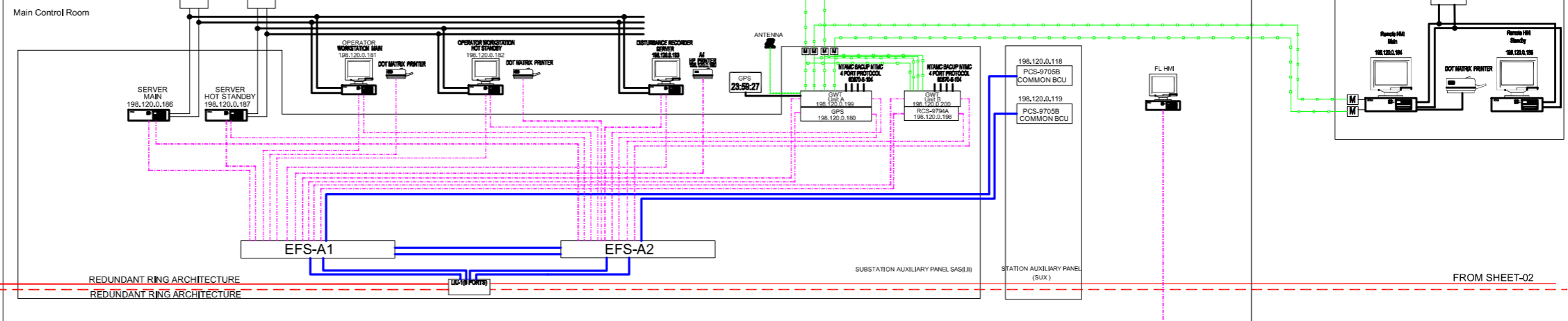


400/230KV TIRUNELVELI S/S

PCS-9700 Based Substation Automation System (IEC 61850)

- LEGEND
- RJ45 ETHERNET PORT
 - FO ETHERNET PORT
 - FO CABLE MAIN
 - - - FO CABLE STANDBY
 - ETHERNET FIBER PATCH CORD
 - RJ45 ETHERNET COPPER CABLE
 - GPS COAXIAL CABLE
 - USB COMMUNICATION CABLE



TO LIU-14
DWG NO. 11-225034619-3-002
SHEET 003

FROM LIU-15
DWG NO. 11-225034619-3-002
SHEET 003

TO SHEET 02

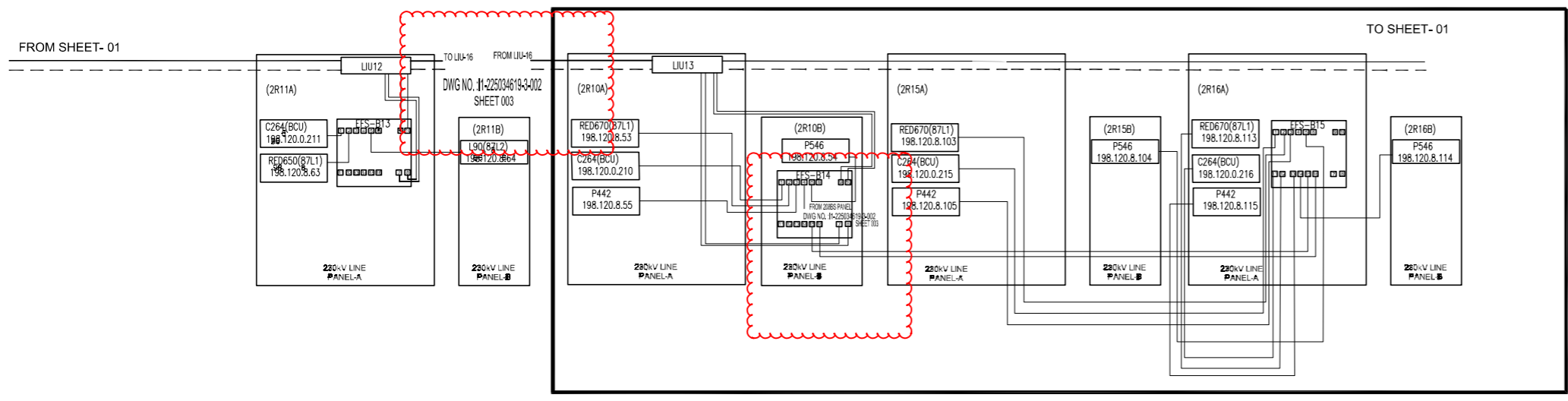
EPB NO.	FIELD PORTS	FRAME PORTS	TOTAL PORTS
EPB01	16X	3X	19X
EPB02	16X	3X	19X
EPB03	16X	3X	19X
EPB04	16X	3X	19X
EPB05	16X	3X	19X
EPB06	16X	3X	19X
EPB07	16X	3X	19X
EPB08	16X	3X	19X
EPB09	16X	3X	19X
EPB10	16X	3X	19X
EPB11	16X	3X	19X
EPB12	16X	3X	19X
EPB13	16X	3X	19X
EPB14	16X	3X	19X
EPB15	16X	3X	19X
EPB16	16X	3X	19X
EPB17	16X	3X	19X
EPB18	16X	3X	19X
EPB19	16X	3X	19X
EPB20	16X	3X	19X

NO.	DESCRIPTION	QTY	HARDWARE/SOFTWARE SPECIFICATION	EQUIPMENT	IP RANGE	PROT.	RELAY	TAG NO.	DESCRIPTION
1	OPERATOR WORK STATION	2	AS PER APPROVED DTP	OPERATOR	198.120.0.181	1	PCS-9700	P-01	LINE MAIN BREAK PROTECTION RELAY
2	SERVER MAIN & HOT STANDBY	2	AS PER APPROVED DTP	SERVER	198.120.0.182	2	P-04	P-04	LINE MAIN BREAK PROTECTION RELAY
3	SERVER MAIN & HOT STANDBY	2	AS PER APPROVED DTP	SERVER	198.120.0.183	2	P-05	P-05	LINE MAIN BREAK PROTECTION RELAY
4	SERVER MAIN & HOT STANDBY	2	AS PER APPROVED DTP	SERVER	198.120.0.184	2	P-06	P-06	LINE MAIN BREAK PROTECTION RELAY
5	COLOR LASER PRINTER	1	AS PER APPROVED DTP	PRINTER	198.120.0.185	1	PCS-9700	P-07	SERVER PHOTO CENTRAL UNIT
6	DOT MATRIX PRINTER	1	AS PER APPROVED DTP	PRINTER	198.120.0.186	1	PCS-9700	P-08	SERVER PHOTO CENTRAL UNIT
7	DOT MATRIX PRINTER	1	AS PER APPROVED DTP	PRINTER	198.120.0.187	1	PCS-9700	P-09	SERVER PHOTO CENTRAL UNIT
8	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.188	1	PCS-9700	P-10	SERVER PHOTO CENTRAL UNIT
9	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.189	1	PCS-9700	P-11	SERVER PHOTO CENTRAL UNIT
10	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.190	1	PCS-9700	P-12	SERVER PHOTO CENTRAL UNIT
11	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.191	1	PCS-9700	P-13	SERVER PHOTO CENTRAL UNIT
12	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.192	1	PCS-9700	P-14	SERVER PHOTO CENTRAL UNIT
13	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.193	1	PCS-9700	P-15	SERVER PHOTO CENTRAL UNIT
14	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.194	1	PCS-9700	P-16	SERVER PHOTO CENTRAL UNIT
15	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.195	1	PCS-9700	P-17	SERVER PHOTO CENTRAL UNIT
16	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.196	1	PCS-9700	P-18	SERVER PHOTO CENTRAL UNIT
17	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.197	1	PCS-9700	P-19	SERVER PHOTO CENTRAL UNIT
18	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.198	1	PCS-9700	P-20	SERVER PHOTO CENTRAL UNIT
19	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.199	1	PCS-9700	P-21	SERVER PHOTO CENTRAL UNIT
20	GPS	1	AS PER APPROVED DTP	GPS	198.120.0.200	1	PCS-9700	P-22	SERVER PHOTO CENTRAL UNIT

DESIGN: KAVINKUMAR.S	DATE: 23.02.2022		CLIENT: Power Grid Corporation of India Ltd	TITLE: SUBSTATION AUTOMATION PANEL
DRAWN: KAVINKUMAR.S	DATE: 23.02.2022		CONTRACTOR:	SAS ARCHITECTURE (EXISTING)
CHECK: YANG	DATE: 23.02.2022		PROJECT: KZ5V- PGCIL EXTENSION OF 230KV BAY AT TUTICORIN-II GIS SS	DWG NO: 2201.NR-IN.SAAR
APPR: YANG	DATE: 23.02.2022		P.O:4501166797	REV: 0 SHEET: 01 CONT: 01
0	SUBMISSION FOR APPROVAL	23.02.2022		SIZE: A3 TOTAL: 01

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PRESENT SCOPE



[Handwritten signature]

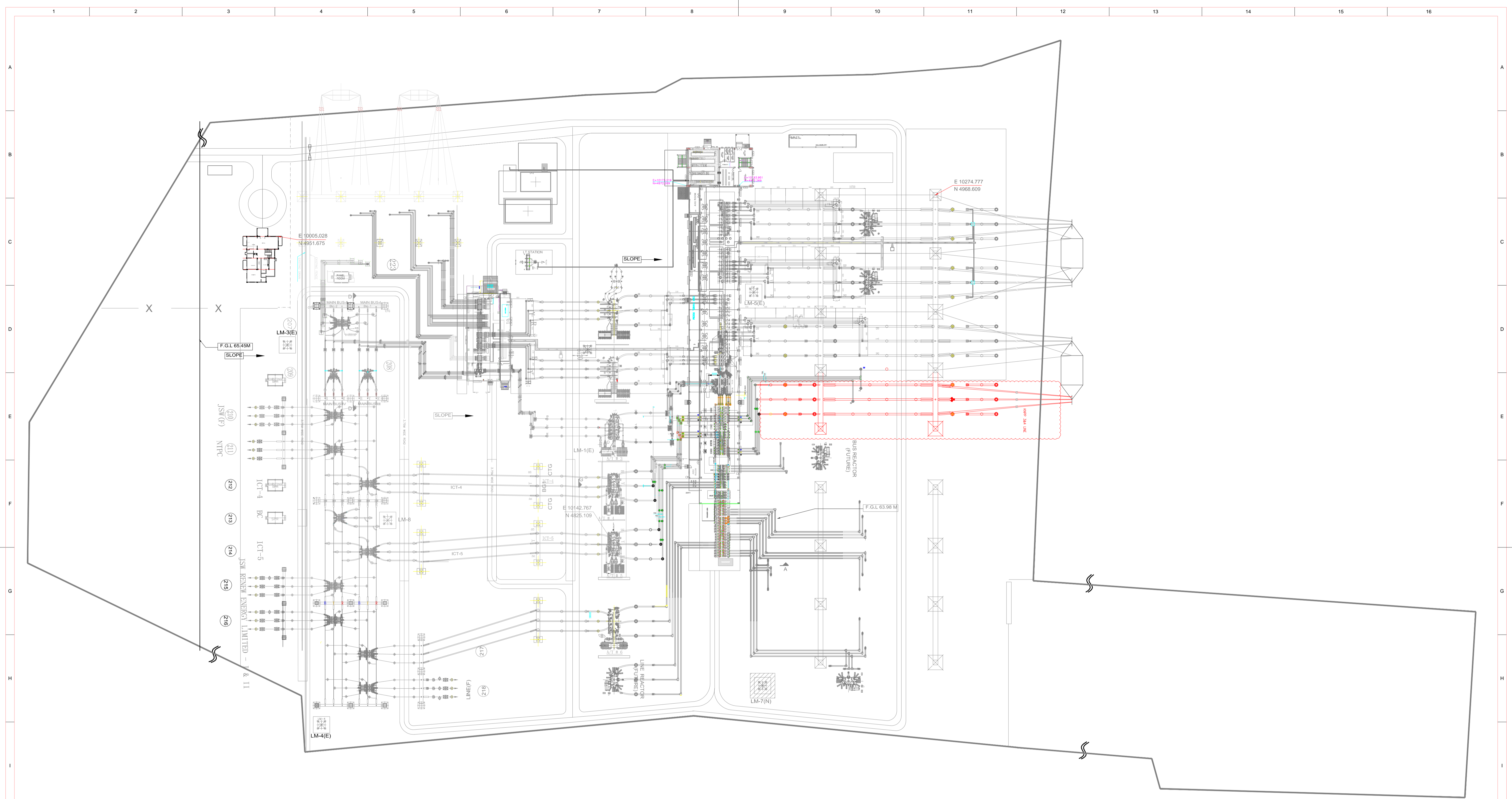
ITEM NO	DESCRIPTION	QUANTITY	UNIT
1	...	7	...

REV	0	SUBMISSION FOR APPROVAL	23.02.2022	DESIGN: KAVINKUMAR.S	DATE: 23.02.2022		CLIENT: Power Grid Corporation of India Ltd CONTRACTOR: PROJECT: KZ5V- PGCIL EXTENSION OF 230KV BAY AT TUTICORIN-II GIS SS P.O:4501166797	TITLE: SUBSTATION AUTOMATION PANEL SAS ARCHITECTURE(FOR PRESENT SCOPE)	= +
				APPR: YANG	DATE: 23.02.2022				
		DESCRIPTION	DATE					SIZE: A3	TOTAL: 01

A
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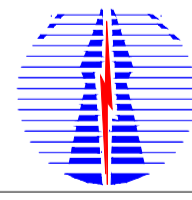
1 2 3 4 5 6 7 8



LEGEND.

- PRESENT SCOPE
- EXISTING/FUTURE

For the purpose of bay allocation
POWER GRID CORPORATION
OF INDIA LIMITED
 (A GOVERNMENT OF INDIA ENTERPRISE)

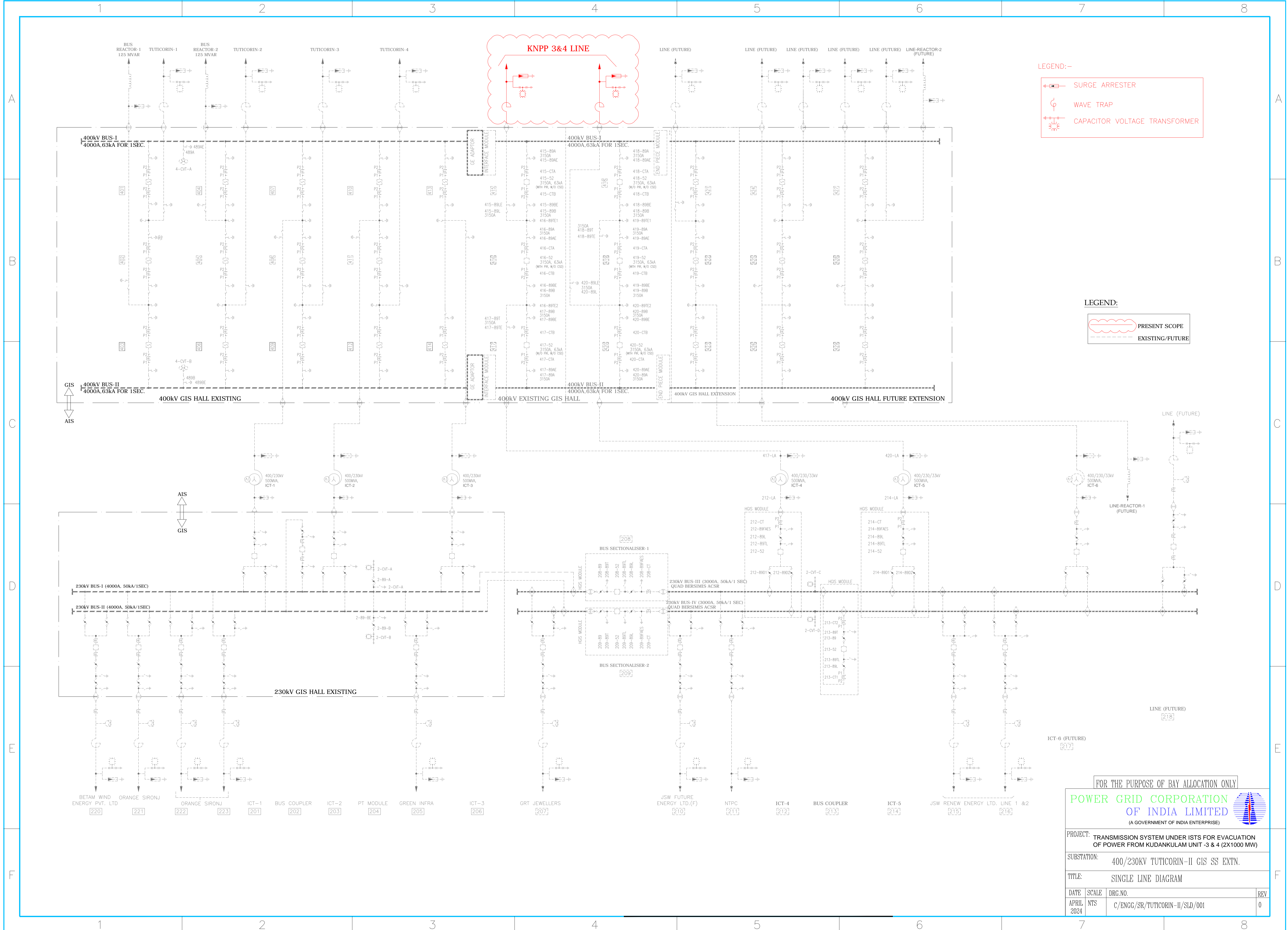


PROJECT:
 TRANSMISSION SYSTEM UNDER ISTS FOR EVACUATION
 OF POWER FROM KUDANKULAM UNIT -3 & 4 (2X1000 MW)

SUBSTATION -
 400/230KV TUTICORIN-II GIS SS EXTN.

TITLE: GENERAL ARRANGEMENT DRAWING

DATE	DRAWN	DRG. NO.:	REV.
MARCH 2024		C/ENGG/SR/TUTICORIN-II/GA/001	0



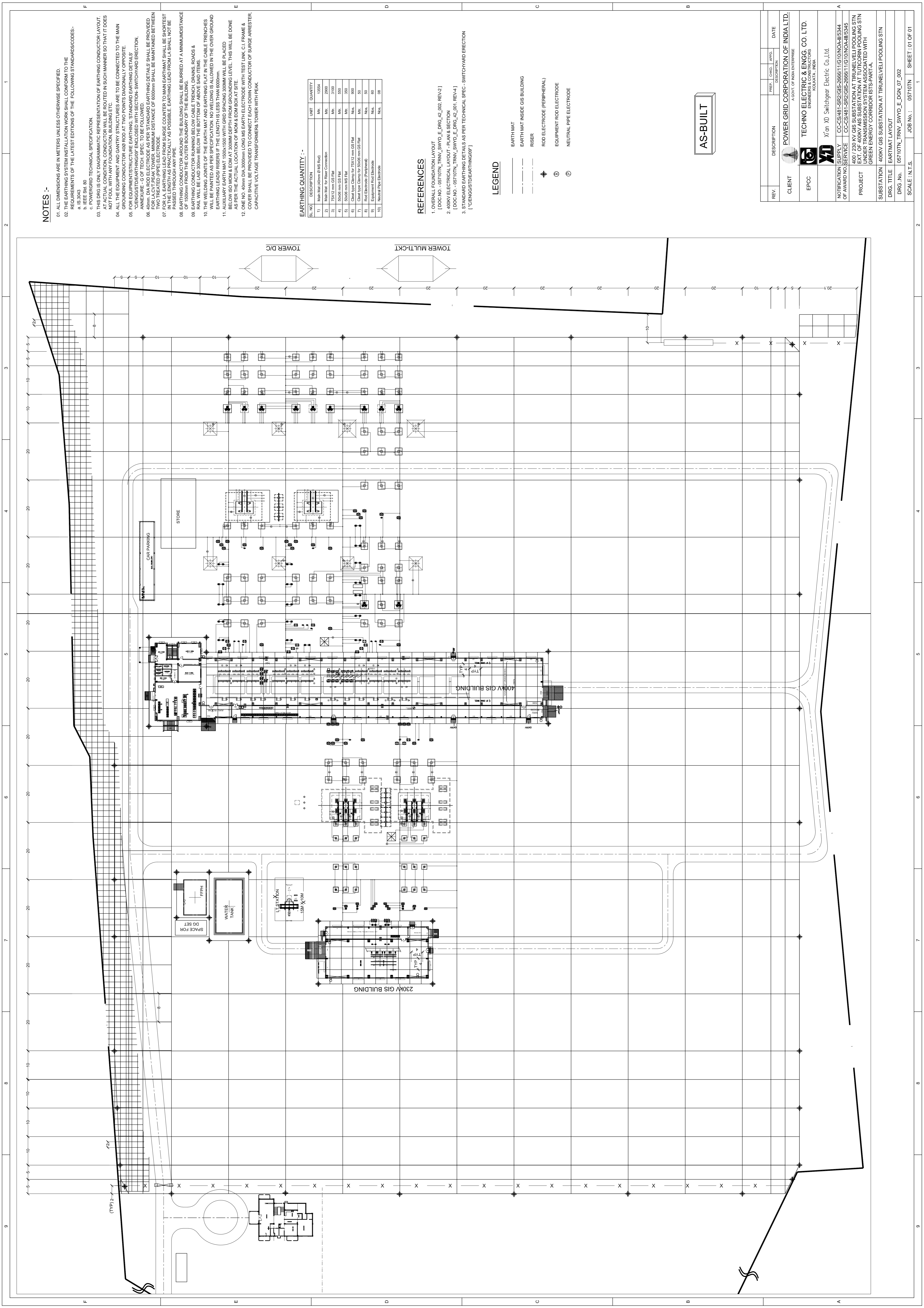
LEGEND:-

- SURGE ARRESTER
- WAVE TRAP
- CAPACITOR VOLTAGE TRANSFORMER

LEGEND:

- PRESENT SCOPE
- EXISTING/FUTURE

FOR THE PURPOSE OF BAY ALLOCATION ONLY			
POWER GRID CORPORATION OF INDIA LIMITED (A GOVERNMENT OF INDIA ENTERPRISE)			
PROJECT: TRANSMISSION SYSTEM UNDER ISTDs FOR EVACUATION OF POWER FROM KUDANKULAM UNIT -3 & 4 (2X1000 MW)			
SUBSTATION: 400/230kV TUTICORIN-II GIS SS EXTN.			
TITLE: SINGLE LINE DIAGRAM			
DATE	SCALE	DRG.NO.	REV
APRIL 2024	NTS	C/ENGG/SR/TUTICORIN-II/SLD/001	0



NOTES :-

01. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
02. THE EARTHING SYSTEM INSTALLATION WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE FOLLOWING STANDARDS/CODES.
 - a. IS:3043
 - b. IEEE Std. 80
 - c. POWERGRID TECHNICAL SPECIFICATION
03. THIS DRG IS ONLY DIAGRAMATIC REPRESENTATION OF EARTHING CONDUCTOR LAYOUT. THE ACTUAL LAYOUT SHALL BE AS PER THE REQUIREMENTS OF THE STANDARDS. IT DOES NOT FOUL WITH ANY FOUNDATION, BUILDING ETC.
04. ALL THE EQUIPMENT AND GANTRY STRUCTURES ARE TO BE CONNECTED TO THE MAIN GROUNDING CONDUCTOR 400 ROD AT TWO POINTS DIAGONALLY OPPOSITE.
05. FOR EQUIPMENT STRUCTURE EARTHING, STANDARD EARTHING DETAILS, 'GENGSGSTDEARTHING09' ENCLOSED WITH SECTION- SWITCHYARD ERECTION, ANNEXURE - 5 OF TECH. SPEC. TO BE FOLLOWED.
06. FOR EQUIPMENT STRUCTURE EARTHING, STANDARD EARTHING DETAILS SHALL BE PROVIDED FOR EACH EQUIPMENT STRUCTURE. THE EARTHING SHALL BE MAINTAINED BETWEEN TWO TREATED PIPE ELECTRODE.
07. FOR L.A. EARTHING LEAD FROM SURGE COUNTER TO MAIN EARTH MAT SHALL BE SHORTEST POSSIBLE. EARTHING LEAD FROM L.A. SHALL NOT BE PASSED THROUGH ANY PIPE.
08. EARTHING CONDUCTOR AROUND THE BUILDING SHALL BE BURIED AT A MINIMUM DISTANCE OF 1500mm FROM THE OUTER BOUNDARY OF THE BUILDING.
09. EARTHING CONDUCTOR RUNNING BELOW CABLE FRENCH, DRAINS, ROADS & RAIL WILL BE LAID 300mm BELOW THE BOTTOM OF ABOVE SAID ITEMS.
10. EARTHING CONDUCTOR SHALL BE LAID IN SUCH A MANNER THAT CABLE TRENCHES WILL BE PAINTED AS PER SPECIFICATION. NO WELDING IS ALLOWED IN THE OVER GROUND EARTHING LEADS/ RISERS IF THE LENGTH IS LESS THAN 6000mm.
11. AUXILIARY EARTH MAT 1500x1500 WITH GRID SPACING 300MM WILL BE PLACED BELOW ISO MOM & EOM AT 300MM DEPTH FROM GROUNDING LEVEL. THIS WILL BE DONE AS PER THE ACTUAL LOCATION OF MOM & EOM BOX AT SITE.
12. ONE NO. 40mm DIA. 3000mm LONG MS EARTH ELECTRODE WITH TEST LINK C.I. FRAME & COVER SHALL BE PROVIDED TO CONNECT EACH DOWN CONDUCTOR OF SURGE ARRESTER, CAPACITIVE TRANSFORMER & TOWER WITH PEAK.

EARTHING QUANTITY :-

SL. NO.	DESCRIPTION	UNIT	QUANTITY
1)	Main Mat (40mm GMS Rod)	Mtr.	13554
2)	Main Mat for Riser Conductors	Mtr.	2000
3)	25x12 mm GSF RM	Mtr.	1100
4)	50x50 mm GSF RM	Mtr.	550
5)	50x50 mm ASB RM	Mtr.	350
6)	Chert Type Chemp for 23x12 mm GSF RM	Nos.	800
7)	Chert Type Chemp for 50x50 mm GSF RM	Mtr.	50
8)	Rod Electrode (peripheral)	Nos.	50
9)	Equipment Rod Electrode	Nos.	60
10)	Neutral Pipe Electrode	Nos.	08

REFERENCES

1. OVERALL FOUNDATION LAYOUT [DOC NO. - 05710TN_TRNV_SWYD_E_DRG_42_002_REV/2]
2. 400KV ELECTRICAL LAYOUT - PLAN & SECTION [DOC NO. - 05710TN_TRNV_SWYD_E_DRG_42_001_REV/4]
3. STANDARD EARTHING DETAILS AS PER TECHNICAL SPEC. - SWITCHYARD ERECTION [GENGSGSTDEARTHING09]

LEGEND

- EARTH MAT
- EARTH MAT INSIDE GIS BUILDING
- RISER
- ⊕ ROD ELECTRODE (PERIPHERAL)
- ⊕ EQUIPMENT ROD ELECTRODE
- ⊕ NEUTRAL PIPE ELECTRODE

AS-BUILT

REV.	DESCRIPTION	PREP.	CHKD.	APPD.	DATE

CLIENT: POWER GRID CORPORATION OF INDIA LTD. A GOVT. OF INDIA ENTERPRISE

EPCC: TECHNO ELECTRIC & ENGG. CO. LTD. ENGINEERS & CONSTRUCTORS KOLKATA, INDIA

NOTIFICATION SUPPLY: X'ion YD Switchgear Electric Co., Ltd. GCCS481-SR2/GS-266611/G10/NOA-III/5344

OF AWARD NO./SERVICE: GCCS481-SR2/GS-266611/G10/NOA-III/5345

PROJECT: 400 / 230 KV GIS SUBSTATION AT TRINELVELI POOLING STN EXT. OF 400KV AIS SUBSTATION AT TUTUCORIN POOLING STN UNDER TRANSMISSION SYSTEM ASSOCIATED WITH GREEN ENERGY CORRIDORISTS-PART-A.

SUBSTATION: 400KV GIS SUBSTATION AT TRINELVELI POOLING STN

DRG. TITLE: EARTH MAT LAYOUT

DRG. No.: 05710TN_TRNV_SWYD_E_DGN_07_002

SCALE: N.T.S.

JOB No.: 05710TN

SHEET: 01 OF 01