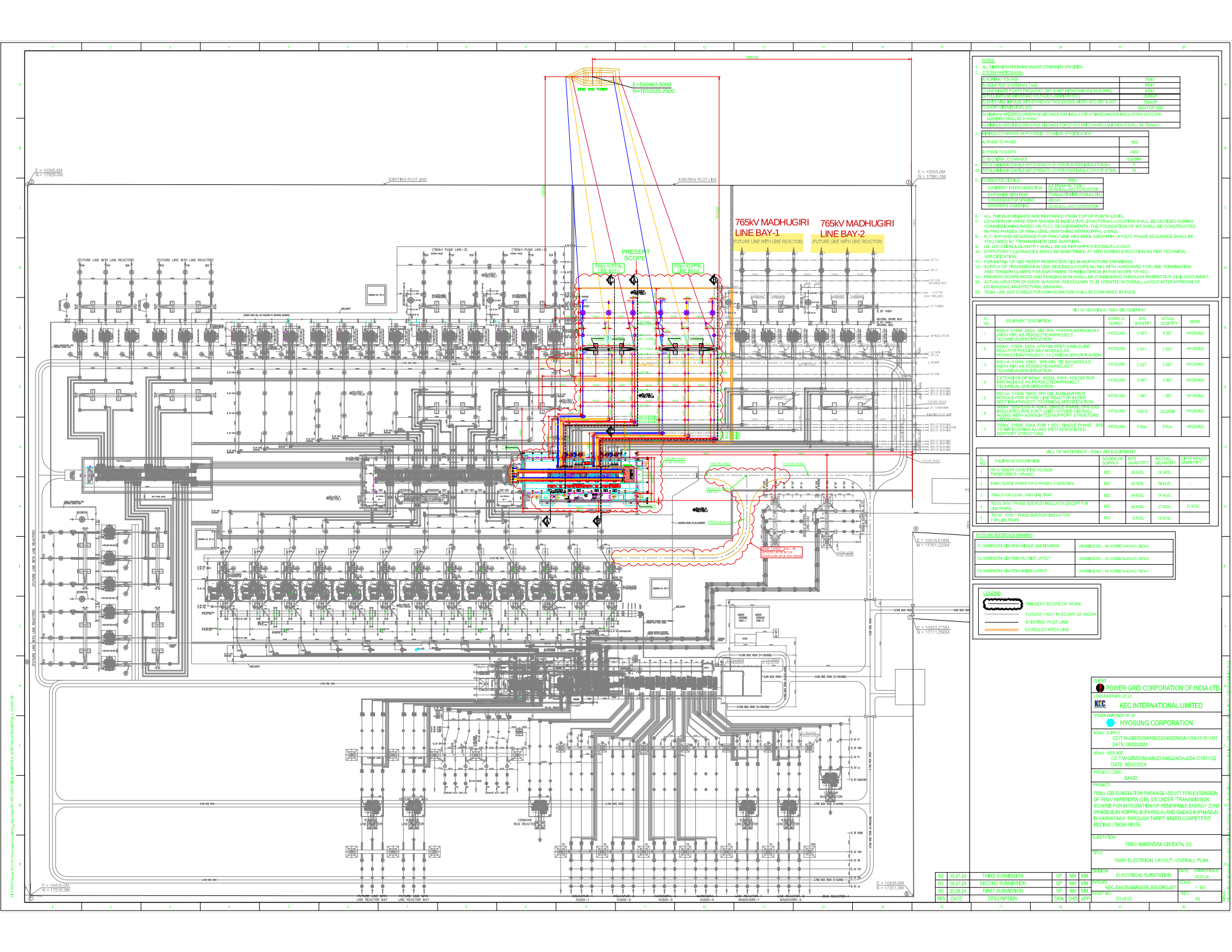

NOTES:

1. ALL DIMENSION ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. SYSTEM PARTICULARS:-

A) NOMINAL VOLTAGE	765kV
B) HIGHEST SYSTEM VOLTAGE	800kV
C) ONE MINUTE POWER FREQUENCY DRY & WET WITHSTAND VOLTAGE(RMS)	830kV
D) FULL IMPULSE WITHSTAND VOLTAGE(1.2/50MICRO SEC)	2100kVP
E) SWITCHING IMPULSE WITHSTAND VOLTAGE(250/2500 MICRO SEC) DRY & WET	1550kVP
F) SHORT CIRCUIT LEVEL (KA)	50KA FOR 1SEC
G) MINIMUM SPECIFIED CREEPAGE DISTANCE FOR INSULATOR STRING/LONGROD INSULATORS/ OUTDOOR BUSHINGS SHALL BE 31mm/kV.	
H) MINIMUM SPECIFIED CREEPAGE DISTANCE FOR OTHER SWITCHYARD EQUIPMENTS SHALL BE 25mm/kV.	

3. MINIMUM CLEARANCE AS PER PGCIL TECHNICAL SPECIFICATION

A) PHASE TO PHASE	7800
B) PHASE TO EARTH	4800
C) SECTIONAL CLEARANCE	16000MM

4. TOTAL MINIMUM CANTILEVER STRENGTH OF FOR BUS POST INSULATOR(KN) : 8
4A. TOTAL MINIMUM CANTILEVER STRENGTH OF FOR POST INSULATOR FOR WT(KN) : 10

5. CONDUCTOR DETAILS:-

	765kV
EQUIPMENT INTERCONNECTION	6/7 DISEMI AL TWIN/ QUAD BULL ACSS CONDUCTOR
EARTHWIRE WITH PEAK	7/4.06mm GI WIRE (16.96mm DIA)
SUB-CONDUCTOR SPACING	450 mm
DROPPER & JUMPERING	QUAD BULL AAC CONDUCTOR

6. ALL THE BUS HEIGHTS ARE REFERRED FROM TOP OF PLINTH LEVEL.
7. LOCATION OF WAVE TRAP SHOWN IS INDICATIVE, EXACT FINAL LOCATION SHALL BE DECIDED DURING COMMISSIONING BASED ON PLCC REQUIREMENTS. THE FOUNDATION OF WT SHALL BE CONSTRUCTED IN TWO PHASES OF 765kV LINE. (MATCHING WITH KOPPAL-2 END)
8. R, Y, B PHASE SEQUENCE FOR 765kV LINE HAS BEEN SHOWN IN LAYOUT. PHASE SEQUENCE SHALL BE FOLLOWED BY TRANSMISSION LINE SUPPLIER.
9. LM. LOCATION & QUANTITY SHALL BE AS PER APPROVED DSLP LAYOUT.
10. STATUTORY CLEARANCES SHALL BE MAINTAINED AT SITE DURING EXECUTION AS PER TECHNICAL SPECIFICATION.
11. FOR DETAIL OF GIS, REFER RESPECTIVE GIS MANUFACTURE DRAWINGS.
12. SUPPLY OF TRANSMISSION LINE SIDE INSULATORS ALONG WITH HARDWARE FOR LINE TERMINATION AND TENSION CLAMPS FOR EARTHWIRE TERMINATION IS IN THE SCOPE OF KEC.
13. PRESENT SCOPE ROAD AND FENCING BOM SHALL BE CONSIDERED THROUGH RESPECTIVE CIVIL DOCUMENT.
14. ACTUAL LOCATION OF DOOR, WINDOW, PEB COLUMN TO BE UPDATED IN OVERALL LAYOUT AFTER APPROVAL OF GIS BUILDING ARCHITECTURAL DRAWING.
15. 765kV LINE SIDE CONDUCTOR CONFIGURATION SHALL BE CONFIRMED BY PGCIL.

BILL OF MATERIALS - 765kV GIS EQUIPMENT

SL. NO.	EQUIPMENT DESCRIPTION	SCOPE OF SUPPLY	BPS QUANTITY	ACTUAL QUANTITY	MAKE
1	800kV, 3150A, 50KA, GIS LINE FEEDER BAYMODULE (WITH PIR) AS PERSECTION-PROJECT, TECHNICALSPECIFICATION	HYOSUNG	4 SET	4 SET	HYOSUNG
2	800kV, 3150A, 50KA, SF6 GIS SWITCHABLELINE REACTOR FEEDER BAY MODULE AS PERSECTION-PROJECT, TECHNICALSPECIFICATION	HYOSUNG	2 SET	2 SET	HYOSUNG
3	800 kV, 3150A, 50KA, SF6 GIS TIE BAYMODULE (WITH PIR) AS PERSECTION-PROJECT, TECHNICALSPECIFICATION	HYOSUNG	2 SET	2 SET	HYOSUNG
4	EXTENSION OF 800kV, 4000A, 50KA, SF6 GIS BUS BAY MODULE AS PERSECTION-PROJECT, TECHNICAL SPECIFICATION	HYOSUNG	2 SET	2 SET	HYOSUNG
5	800 kV, 3150A, 50KA, SF6 GIS AUXILIARYBUS MODULE FOR SPARE LINE REACTOR ASPER SECTION-PROJECT, TECHNICALSPECIFICATION	HYOSUNG	1 SET	1 SET	HYOSUNG
6	765kV, 4000/3150 A, 50KA, SINGLE PHASE, SF6 GAS INSULATED BUS DUCT (GIB) OUTSIDE GIS HALL, ALONG WITH ASSOCIATED SUPPORT STRUCTURE (HYOSUNG)	HYOSUNG	1000 M	392.85M	HYOSUNG
7	765kV, 3150A, 50KA, FOR 1 SEC, SINGLE PHASE , SF6 TO AIR BUSHING ALONG WITH ASSOCIATED SUPPORT STRUCTURE	HYOSUNG	6 Nos.	6 Nos.	HYOSUNG

BILL OF MATERIALS - 765kV AIS EQUIPMENT

SL. NO.	EQUIPMENT DESCRIPTION	SCOPE OF SUPPLY	BPS QUANTITY	ACTUAL QUANTITY	DIFFERENCE QUANTITY
1	765 kV,800 PF CAPACITIVE VOLTAGE TRANSFORMER (1-PHASE)	KEC	06 NOS.	06 NOS.	-
2	324kV, SURGE ARRESTER (1-PHASE), CLASS-20KA	KEC	06 NOS.	06 NOS.	-
3	765kV,3150A,1.2UH , 50KA LINE TRAP	KEC	04 NOS.	04 NOS.	-
4	765 kV, 6kN, 1 PHASE BUS POST INSULATOR (EXCEPT FOR LINE TRAPS)	KEC	06 NOS.	27 NOS.	21 NOS.
5	765 kV, 3kN, 1 PHASE BUS POST INSULATORS FOR LINE TRAPS	KEC	12 NOS.	12 NOS.	-

HYOSUNG REFERENCE DRAWING

01. NARENDRA GIS-765kV-SINGLE LINE DIAGRAM	DRAWING NO. : HI-1018667-A01-01, REV-1
02. NARENDRA GIS-765kV-OUTSIDE LAYOUT	DRAWING NO. : HI-1018667-A02-01, REV-0
03. NARENDRA GIS-765kV-INSIDE LAYOUT	DRAWING NO. : HI-1018667-A02-02, REV-1

LEGEND:
- PRESENT SCOPE OF WORK
- FUTURE / NOT IN SCOPE OF WORK
- EXISTING PLOT LINE
- LEVELLED AREA LINE

REV	DATE	DESCRIPTION	DRN	CHD	APP
R2	30.07.24	THIRD SUBMISSION	SP	NM	MM
R1	08.07.24	SECOND SUBMISSION	SP	NM	MM
R0	20.06.24	FIRST SUBMISSION	SP	NM	MM

CLIENT: POWER GRID CORPORATION OF INDIA LTD.
LEAD PARTNER OF JV: KEC INTERNATIONAL LIMITED
OTHER PARTNER OF JV: HYOSUNG CORPORATION
NOA-I : SUPPLY: CC/TW-GIS/DOM/A06/23/04602/NOA-1/24-10181101 DATE: 06/02/2024
NOA-II : SERVICE: CC/TW-GIS/DOM/A06/23/04602/NOA-2/24-10181102 DATE: 06/02/2024
PROJECT CODE : SA420
PROJECT: 765kV GIS SUBSTATION PACKAGE -SS 07T FOR EXTENSION OF 765kV NARENDRA (GIS) S/S UNDER "TRANSMISSION SCHEME FOR INTEGRATION OF RENEWABLE ENERGY ZONE (PHASE-II) IN KOPPAL-II (PAHSE-A) AND GADAG-II (PHASE-A) IN KARNATAKA" THROUGH TARIFF BASED COMPETITIVE BIDDING (TBCB) RIUTE.
SUBSTATION: 765kV NARENDRA GIS EXTN. SS
TITLE: 765kV ELECTRICAL LAYOUT - OVERALL PLAN
DIVISION: ELECTRICAL SUBSTATION
DWG NO.: KEC-SA420-NAR-ESE-305-DRG-001
SHEET NO.: 01 of 03
DATE: CURRENT ISSUE 30.07.24
SCALE: 1 : 600
REV: R2