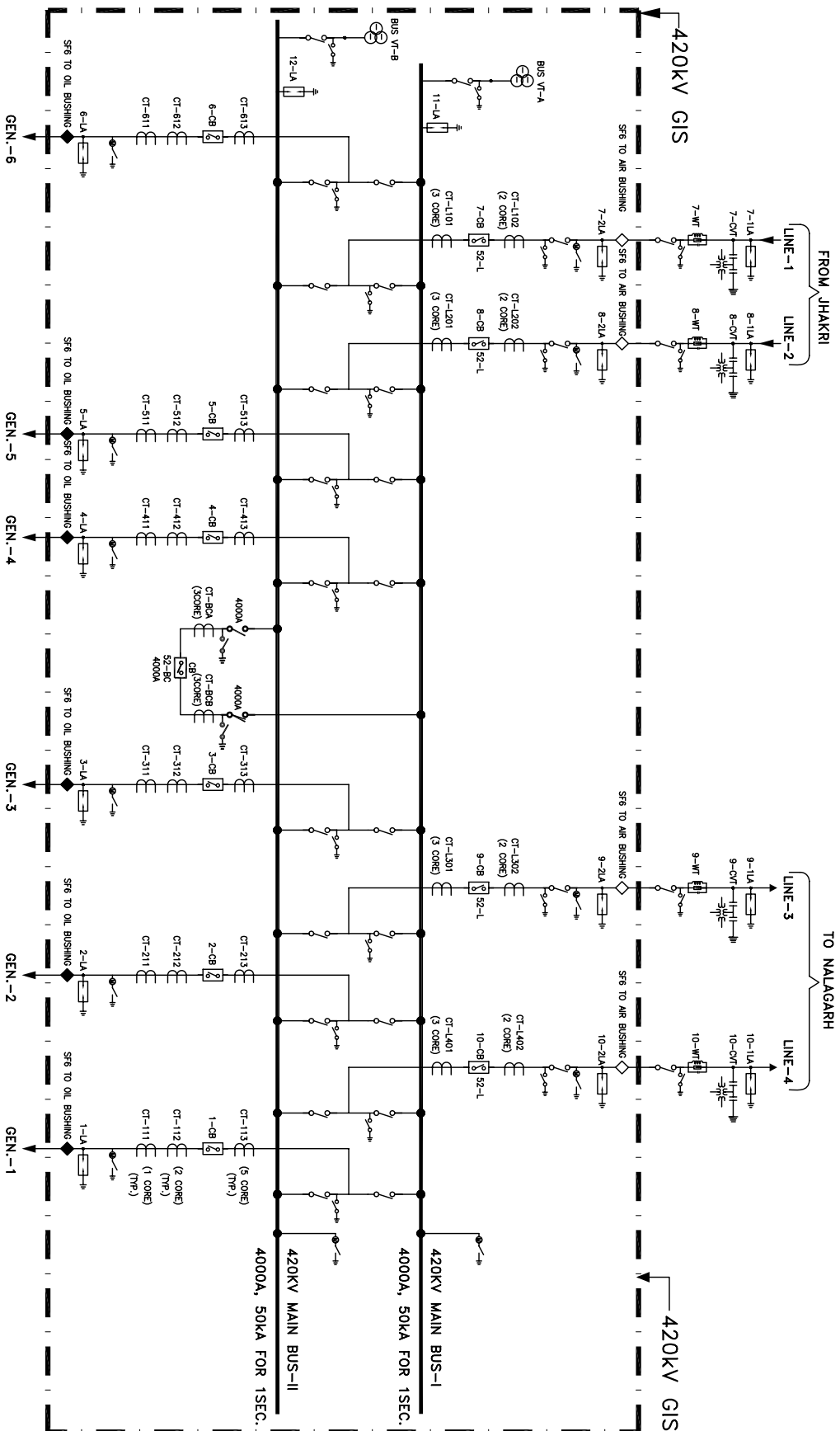


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










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### PARTICULARS OF VTs/CVTs

WT NO.	VOLTAGE RATION IN (V)	BURDEN (VA)	ACCURACY CLASS	PURPOSE	LOCATION
BUS VT-A	420000/110/110/110 $\sqrt{3}$ $\sqrt{3}$ $\sqrt{3}$ $\sqrt{3}$	50.50.50	3P 0.2/0.2	PROTECTION SYNCHRONO SCOPING	GIS
BUS VT-B	420000/110/110/110 $\sqrt{3}$ $\sqrt{3}$ $\sqrt{3}$ $\sqrt{3}$	50.50.50	3P 0.2/0.2	PROTECTION SYNCHRONO SCOPING	GIS
LINE COT	420000/110/110/110/110 $\sqrt{3}$ $\sqrt{3}$ $\sqrt{3}$ $\sqrt{3}$ $\sqrt{3}$	25.25.50.50	3P, 3P 0.2/0.2	PROTECTION & METERING CHECK RELAY	ON LINE AT POT HEAD YARD

420 kV INDOOR GIS

S NOS.	DESCRIPTION	SYMBOLS
1.	CIRCUIT BREAKER, 4000 A	
2.	CIRCUIT BREAKER, 2000 A	
3.	EARTH SWITCH	
4.	FAST ACTING EARTH SWITCH	
5.	CURRENT TRANSFORMER	
6.	ISOLATOR WITH EARTH SWITCH, 2000A	
7.	ISOLATOR WITH EARTH SWITCH, 4000 A	
8.	VOLTAGE TRANSFORMER	
9.	SF6 AIR BUSHING	
10.	SF6 OIL BUSHING	
11.	SURGE ARRESTOR (356 kV)	

## 420 kV OUTDOOR EQUIPMENT

S. NOS.	DESCRIPTION	SYMBOLS	QTY
1.	SURGE ARRESTOR (336 W)		12
2.	ISOLATOR WITH ONE EARTH SWITCH		12
3.	LINE C/T 4400pF		12
4.	WAVE TRAP 1.0mH		08

## ELECTRICAL SYSTEM PARAMETERS

- |                                 |  |
|---------------------------------|--|
| 01. EQUIPMENT VOLTAGE           | 400 kV                                 |
| 02. MAX. SYSTEM VOLTAGE         | 420 kV                                 |
| 03. BASIC INSULATION LEVEL      | 1425 kV                                |
| 04. SWITCHING IMPULSE           | 1650 kV                                |
| 05. POWER FREQUENCY W/S VOLTAGE | 630 kV                                 |
| 06. FAULT LEVEL (1 SEC.)        | 50kA FOR GIS<br>60kA FOR POT HEAD YARD |
| 07. SYSTEM NEUTRAL GROUNDING    | SOLIDLY EARTHED                        |

### PARTICULARS OF CURRENT TRANSFORMER

CT REF.	NOMINAL VOLTAGE (kV)	CORE No.	RATIO	BURDEN (VA)	ACTIVITY CLASS	KNEE POINT VOLTAGE (V)	CT SER. (OM)	EXCITING CURRENT (ma)	LOCATION	PURPOSE
CT-LV01 Y=1 TO 4	420kV	1	2000-1000/1A	-	PS	≥ 2000	≤10 AT 2000/11AP.	≤30ma AT Vw/2 AT 2000/11AP.	GIS	MAIN-I, PROTECTION
		2	-500	-	PS	≥ 2000	≤10 AT 2000/11AP.	≤30ma AT Vw/2 AT 2000/11AP.		MAIN-II, PROTECTION
		3	*	50VA	0.2	(SIF≤3)	-	-		METERING
CT-LV02 Y=1 TO 4	420kV	1	4000-2000-1000/1A	-	PS	≥ 1200	≤20 AT 4000/11AP.	≤30ma AT Vw/2 AT 4000/11AP.	GIS	MAIN I BUSBAR DIFF WITH INBUILT LBB
		2	*	-	PS	≥ 1200	≤20 AT 4000/11AP.	≤30ma AT Vw/2 AT 4000/11AP.		MAIN II BUSBAR DIFF WITH INBUILT LBB
CT-BCA	420kV	1	4000-2000-1000/1A	-	PS	≥ 1200	≤20	≤30ma AT Vw/2 AT 4000/11AP.	GIS	MAIN I BUSBAR DIFF WITH INBUILT LBB
		2	*	-	PS	≥ 1200	≤20	≤30ma AT Vw/2 AT 4000/11AP.		MAIN II BUSBAR DIFF WITH INBUILT LBB
		3	*	50VA	SP20	-	-	-		SPARE
CT-BGB	420kV	1	4000-2000-1000/1A	-	PS	≥ 1200	≤20	≤30ma AT Vw/2 AT 4000/11AP.	GIS	MAIN I BUSBAR DIFF WITH INBUILT LBB
		2	*	50VA	SP20	-	≤20	≤30ma AT Vw/2 AT 4000/11AP.		MAIN II BUSBAR DIFF WITH INBUILT LBB
		3	*	-	-	-	-	-		SPARE
CT-U12 U=1 TO 6	420kV	1	4000-2000-1000/1A	-	PS	≥ 1200	≤20 AT 4000/11AP.	≤30ma AT Vw/2 AT 4000/11AP.	GIS BUS	MAIN I BUSBAR DIFF WITH INBUILT LBB
		2	-	-	PS	≥ 1200	≤20	≤30ma AT Vw/2 AT 4000/11AP.		MAIN II BUSBAR DIFF WITH INBUILT LBB
		3	*	50VA	SP20	-	-	-		SPARE
CT-U13 U=1 TO 6	420kV	1	150/1A	-	PS	≥ 200	≤1.5	≤30ma AT Vw/2	GIS BUS	87GT
		2	*	-	PS	≥ 200	≤1.5	-		METERING
		3	*	30VA	0.2	(SIF≤3)	-	≤30ma AT Vw/2		O/C PROTECTION
		4	*	5VA	SP20	-	-	-		SPARE/LBB
		5	*	5VA	SP20	-	-	-		
CT-U11 U=1 TO 6	420kV	1	150/1A	-	PS	≥ 200	≤1.5	≤30ma AT Vw/2	GIS BUS	REF

## SATIJI JAI VIDYUT NIGAM LTD.

RAMPUR H.E. PROJECT (H.P.)

ADDITIONAL INFORMATION W.O.No. 88009	श्रीलंका/पाकिस्तान का नाम  SATLUJ JAL VIDYUT NIGAM LTD. RAMPUR H.E. PROJECT (H.P.)			
STATUS OF DRAWING	NAME OF CUSTOMER/PROJECT  भारत हेवी इलेक्ट्रिकल्स लिमिटेड भारतीय भारतीयाजाल विभाग BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION			
DISTRIBUTION OF PRINTS	कक्षा DRAWN CHECKED स्वीकृत APPROVED	क्रम / NAME KAPIL SKS/DKM/AS SN	एसीटी / SIGN. KAPIL -SD- -SD-	दि. / DATE 03.02.09

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