

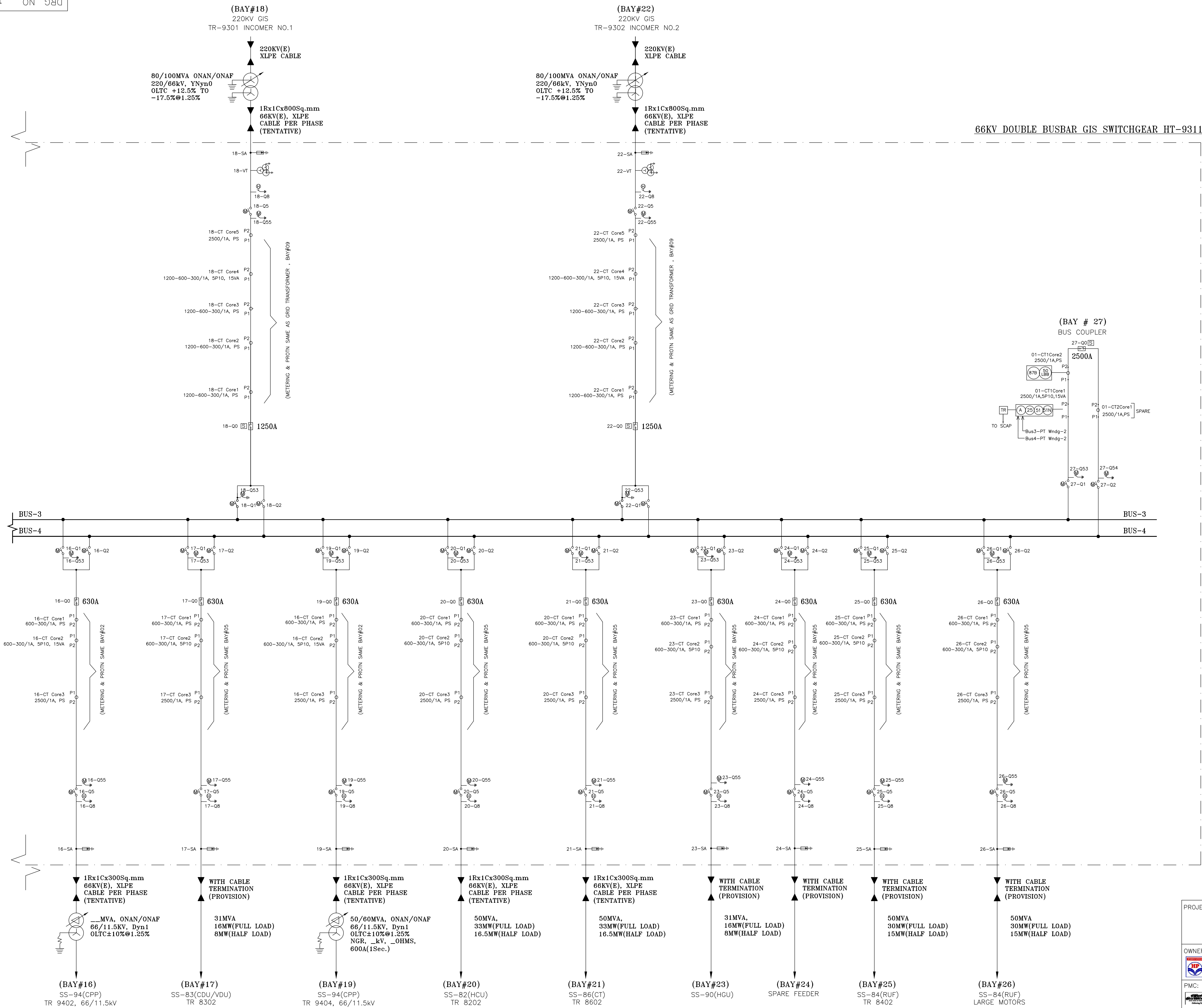


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INVENTORY NO
SIGN. AND DATE
REF. DRG. NO.
COMPUTER FILE NAME

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

100-000-402-500-001
DRG. NO.



PROJECT: CAPTIVE POWER PLANT (CPP) PACKAGE VISAKH REFINERY MODERNIZATION PROJECT (VRMP) JOB NO. B016				
OWNER: HINDUSTAN PETROLEUM CORPORATION LIMITED				
PMC: ENGINEERS INDIA LIMITED (EIL), NEW DELHI				
BHARAT HEAVY ELECTRICALS LTD. HYDERABAD		NAME	SIGN.	DATE
		DRN.	PK	19.04.18
		CHD.	DKS/AA	19.04.18
		APPD.	SKS/VK	19.04.18
DEPT. TBG CODE: 450	UNTL. DIMS. GR: 5/4/1	SCALE: -N.A.-	WEIGHT (KG): -N.A.-	REF. TO ASSY. DRG.: -N.A.-
TITLE: SINGLE LINE DIAGRAM FOR 66KV GIS		CARD CODE: N.A.	BHEL DRG NO. TB-1-402-500-001	REV. 00
		SHT. No 02	NO. OF SHT. 03	

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DRG. NO.	TB-1-402-500-001
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SL.NO.	EQUIPMENT DESCRIPTION	CURRENT CAPACITY (A)	VOLTAGE LEVEL (kV)	SYMBOL	DEVICE DESIGNATION
1.	CIRCUIT BREAKER (3-PH)	2500, 1250, 630	72.5		Q0
2.	DISCONNECTOR	—	72.5		Q1, Q3 FOR BUS1&3 Q2, Q4 FOR BUS2&4 Q61, Q63 FOR BUS1&3 PT Q62, Q64 FOR BUS2&4 PT Q5 FOR LINE SIDE
3.	HIGH SPEED MAKE PROOF EARTHING SWITCH	—	72.5		Q8
4.	SAFETY EARTHING SWITCH	—	72.5		Q51, Q52, Q53, Q54, Q55 Q51, Q53 FOR BUS1&3 PT Q52, Q54 FOR BUS2&4 PT Q5 FOR LINE SIDE Q15 FOR BUS -1 Q25 FOR BUS -2 Q35 FOR BUS -3 Q45 FOR BUS -4
5.	CUURENT TRANSFORMER	—	72.5		
6.	POTENTIAL TRANSFORMER	2500, 1250, 630	72.5		
7.	SURGE ARRESTOR	—	72.5		
8.	66kV XLPE CABLE	—	72.5		

SL.NO.	NEMA DEVICE DESIGNATION	FUNCTION
1.	50	INSTANTANEOUS OVER CURRENT RELAY
2.	50N	INSTANTANEOUS EARTH FAULT RELAY
3.	51	IDMT OVER CURRENT RELAY
4.	51N	IDMT EARTH FAULT RELAY
5.	63	AUXILIARY RELAY FOR TRANSFORMER
6.	64R	TRANSFORMER RESTRICTED EARTH FAULT
7.	67	DIRECTIONAL OVER CURRENT RELAY
8.	67N	DIRECTIONAL EARTH FAULT RELAY
9.	87T	TRANSFORMER DIFFERENTIAL
10.	87F	FEEDER DIFFERENTIAL
11.	87B	BUS BAR DIFFERENTIAL
12.	50LBB	LOCAL BREAKER BACKUP PROTECTION
13.	51G	BACK UP EARTH FAULT RELAY
14.	S	CIRCUIT BREAKER WITH SYNCHRONISING FACILITY

1. FOR OWNER'S OUTGOING FEEDERS, FEEDER DIFF RELAY WILL BE PROVIDED AT 66 KV GIS END ONLY. FIBRE OPTIC CABLE AND MATCHING RELAY AT REMOTE END WILL BE PROVIDED BY CUSTOMER.
2. FOR FEEDERS(GRID IN COMERS AND BUS SECTIONALIZERS / BUS COUPLERS) PROTECTION AND METERING SHALL BE SUITABLE FOR BI-DIRECTIONAL POWER FLOW.
3. 415 AC BULK FEEDERS(2NOS.) AND EMERGENCY FEEDER SHALL BE PROVIDED BY PE&SD

SL.NO.	BAY/FEEDER DISRIPTION	BAY NO.	RATING	QTY.
1.	INCOMER GENERATOR TRANSFORMER (GTG) BAY (GTG-07 BAY)	04	1250A	01 SET
2.	INCOMER FUTURE GRID TRANSFORMER BAY (FUTURE BAY)	09	1250A	01 SET
3.	INCOMER STATION TRANSFORMER (STG) BAY (STG-01 BAY)	12	630A	01 SET
4.	INCOMER TRANSFORMER (SS-93 (220kV GIS) TR-9301 BAY, TR-9302 BAY)	18, 22	1250A	02 SET
5.	BUS COUPLER BAY (BUS COUPLER 1-2 BAY, 3-4 BAY)	01, 27	2500A	02 SET
6.	BUS SECTIONALIZER BAY (BUS SECTIONALIZER 1-3 BAY, 2-4 BAY)	14, 15	2500A	02 SET
7.	OUTGOING TRANSFORMER FEEDER (SS-94 (CPP) TR-9401 FEEDER, TR-9402 FEEDER, TR-9403 FEEDER, TR-9404 FEEDER)	02, 16 10, 19	630A	04 SET
8.	FULLY EQUIPPED SPARE FEEDER (SPARE-01 FEEDER, SPARE-02 FEEDER)	03, 24	630A	02 SET
9.	OUTGOING TRANSFORMER FEEDER (SS-83 (CD/VDU) TR-8301 FEEDER, TR-8302 FEEDER)	05, 17	630A	02 SET
10.	OUTGOING TRANSFORMER/ MOTOR FEEDER (SS-84 (RUF) TR-8401 FEEDER, TR-8302 FEEDER, LARGE MOTOR-01 FEEDER, LARGE MOTOR-02 FEEDER)	06, 25 07, 26	630A	04 SET
11.	OUTGOING TRANSFORMER FEEDER (SS-82 (HCU) TR-8201 FEEDER, TR-8202 FEEDER)	08, 20	630A	02 SET
12.	OUTGOING TRANSFORMER FEEDER (SS-86 (CT) TR-8601 FEEDER, TR-8602 FEEDER)	11, 21	630A	02 SET
13.	OUTGOING TRANSFORMER FEEDER (SS-90 (HGU) FEEDER-1, 2)	13, 23	630A	02 SET
14.	BUS PT BAY WITH DISCONNECTOR & EARTHSWITCH	BUS#1, 2, 3, 4 PT	630A	04 SET
15.	BUS EARTH SWITCH BAY	BUS EARTH SWITCH#1, 2, 3, 4	630A	04 SET

1. KEY SINGLE LINE DIAGRAM B016-606-16-50-00001 REV. B
2. EHV GIS DATA SHEET B016-606-16-50-DS-1029 REV. A
3. ENGINEERING DESIGN BASIS-ELECTRICAL A758-999-16-50-EDB-1001 REV0
4. CT & VT SIZING CALCULATION FOR 66KV GIS , TB-402-510-024

[illegible]

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