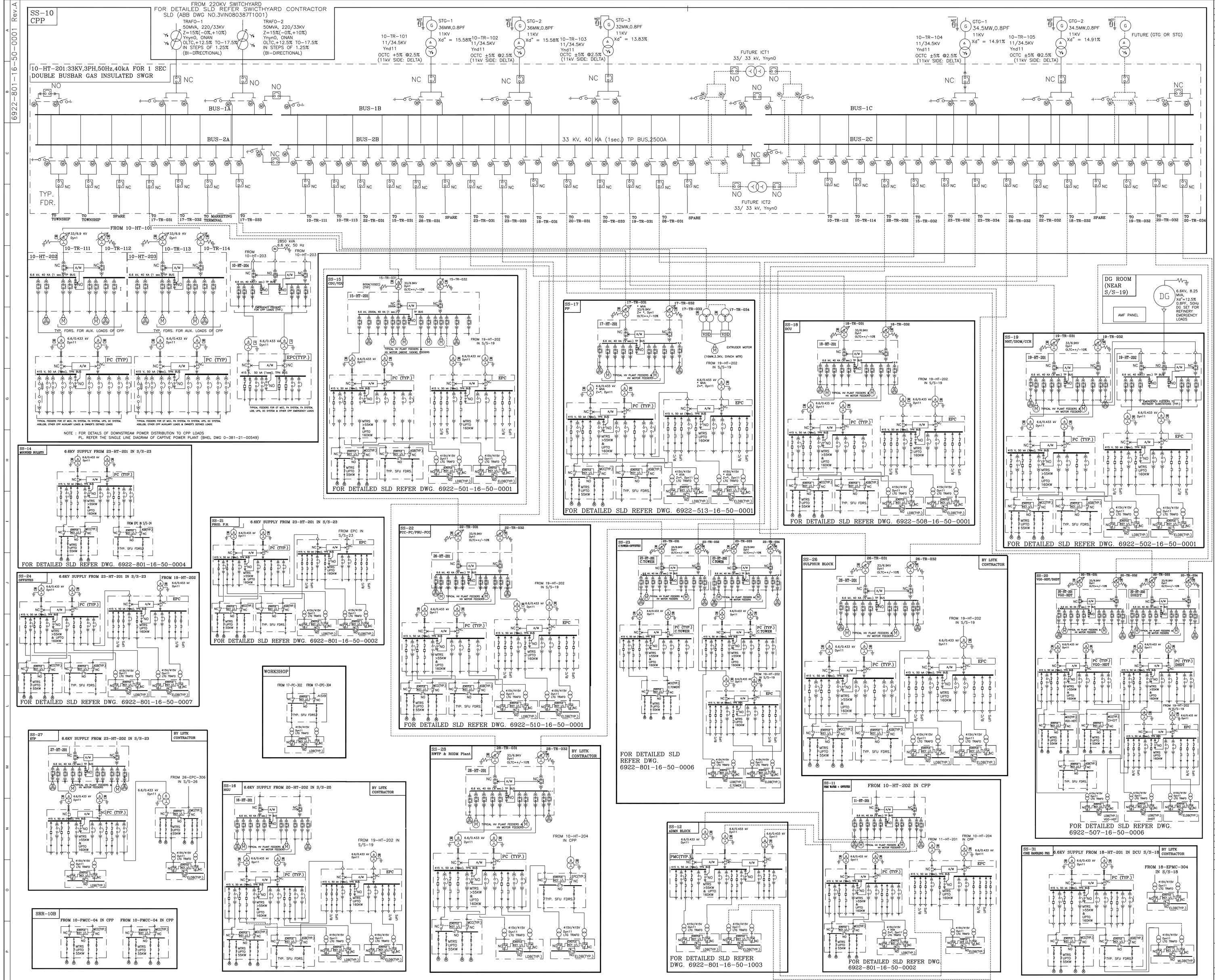

REF. DWG. NO.	REFERENCE DRAWING TITLE

NOTES :-

1.THIS SLD IS INDICATIVE ONLY AND IS INTENDED TO HIGHLIGHT THE DISTRIBUTION PHILOSOPHY AND BROADLY DEFINES THE SCOPE OF MAJOR ELECTRICAL EQUIPMENTS.

2. EARTH SWITCH DETAILS FOR 33KV GIS SWITCHBOARD ARE INDICATIVE ONLY. EXACT DETAILS SHALL BE AS PER VENDOR'S SLD.

3. FOR EQUIPMENT DETAILS & FEEDER DETAILS OF VARIOUS SWITCHBOARDS REFER DETAILED SLDs OF RESPECTIVE SUBSTATIONS.

4. ELECTRICAL SYSTEM SHALL BE DESIGNED FOR PARALLEL OPERATION OF ALL GENERATORS (INCLUDING ONE FUTURE GENERATOR) AND ONE NO. GRID TRANSFORMER. HOWEVER, DURING NORMAL OPERATION THE SYSTEM SHALL OPERATE AS UNDER:
– ALL THE GENERATORS (STGs & GTGs) SHALL OPERATE IN PARALLEL AMONG THEMSELVES AND GRID TRANSFORMER WILL OPERATE IN ISOLATION AND FEED THE TOWNSHIP LOADS AND HPCL MARKETING TERMINAL
– IN CASE OF OUTAGE OF ANY GTG OR STG, ONE GRID TRANSFORMER WILL BE SYNCHRONISED WITH THE BALANCE RUNNING GENERATORS TO MEET THE GENERATION SHORTFALL AND FEED THE TOTAL LOAD INCLUDING TOWNSHIP LOADS.

5. THE MAXIMUM RATING OF THE DISTRIBUTION TRANSFORMERS AND LIGHTING TRANSFORMERS SHALL BE LIMITED TO 2500kVA/ 250KVA RESPECTIVELY.

6. THE POWER TRANSFORMER DETAILS IN VARIOUS SUBSTATIONS SHALL BE AS FOLLOWS:

TRAFO	LOCATION	RATING	VECTOR GROUP	% IMP ON MAX MVA
10–TR–101 TO 10–TR–105	S/S–10 (CPP)	50MVA ONAN OCT±5%@2.5 %	YnD11	15% (–0%,+10%)
10–TR–111 TO 10–TR–114	S/S–10 (CPP)	25/31.5MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	12.5% (±10%)
15–TR–031, 15–TR–032	S/S–15 (CDU/VDU)	20/25MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	10% (–10%,+0%)
17–TR–031, 17–TR–032	S/S–17 (PP)	16/20MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	8.35% (–10%,+0%)
17–TR–033, 17–TR–034	S/S–17 (PP)	10.5 MVA 33/241.2kV OLTC ±5%@2.5%	D(–7.5)Y500	12.5%
18–TR–031, 18–TR–032	S/S–18 (DCU)	16/20MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	8.35% (–10%,+0%)
19–TR–031, 19–TR–032	S/S–19 (MS BLOCK)	20/25MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	10% (–10%,+0%)
20–TR–031, 20–TR–032	S/S–20 (VGO–HDT) (DHDT)	20/25MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	10% (–10%,+0%)
20–TR–033, 20–TR–034	S/S–20 (VGO–HDT) (DHDT)	20/25MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	10% (–10%,+0%)
22–TR–031, 22–TR–032	S/S–22 (FCC–PC)	20/25MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	10% (–10%,+0%)
23–TR–031, 23–TR–032 (CT)	S/S–23	20/25MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	10% (–10%,+0%)
23–TR–033, 23–TR–034	S/S–23 (CT)	20/25MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	10% (–10%,+0%)
26–TR–031, 26–TR–032	S/S–26 (SULPHUR BLOCK)	16/20MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	8.35% (–10%,+0%)
28–TR–031, 28–TR–032	S/S–28 (RWTP)	16/ 20MVA ONAN/ONAF OLTC ±10%@1.25%	DYn1	8.35% (–10%,+0%)

LEGEND

G	GENERATOR
	NGT FOR GENERATOR
	HV CIRCUIT BREAKER (VCB)
	POWER TRANSFORMER WITH OLTC
	POWER/DISTRIBUTION TRANSFORMER
	DRAWOUT FEATURE
	AIR CIRCUIT BREAKER
	SWITCH
	FUSE
	CONTACTOR
	BIMETALLIC RELAY
M	MOTOR
	CABLE GLAND
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
	MINIATURE CIRCUIT BREAKER
	EMERGENCY STOP PB FOR TRANSFORMER
	NEUTRAL GROUNDING RESISTOR
A/M	AUTO MANUAL CHANGEOVER
DG	DIESEL GENERATOR
	MCCB

REV.	DATE	REVISIONS	BY	CHKD	APPD	PEMPC
1	09.07.10	REVISED & REISSUED FOR ENGG.	PVM	SV	SV	
0	10.12.08	REVISED AS PER CLIENT'S COMMENTS & ISSUED FOR ENGG.	SV	UAP	JMS	
A	17.10.08	ISSUED FOR CLIENT'S APPROVAL	SV	UAP	JMS	

इंजीनियर्स इंडिया लिमिटेड (भारत सरकार का उपक्रम) ENGINEERS INDIA LIMITED (A Govt. of India Undertaking)

HMEL एच पी सी एल-मित्तल एनर्जी लिमिटेड HPCL-MITTAL ENERGY LTD.

गुरु गोबिन्द सिंह रिफाइनरी परियोजना बठिंडा — GURU GOBIND SINGH REFINERY PROJECT BATHINDA

सम्पूर्ण एकल लाईन चित्र — OVERALL KEY SINGLE LINE DIAGRAM

SCALE	JOB NO.	UNIT	DEPT.	SECT.	DWG. NO.	REV.
NTS	6922801	16	5	0	0001	1

3-1641-0500 REV.1 A0-1189 x 841

प्रस्तुत आरेख एवं इसमें निहित डिजाइन, इंजीनियर्स इंडिया लिमिटेड की संपत्ति है। ये माल उधार दिए गए हैं और उधारकर्ता ने यह वचन प्रस्तावित किया है कि न तो इन्हें पुनः मुद्रित किया जाएगा, न नकल की जाएगी, न उपयोग किए जाएगे, न प्रतिलिपि किए जाएंगे और न इसका उधार देने वाले द्वारा उधारकर्ता को लिखित रूप में दी गयी अनुमति के अलावा इसका कोई अन्य प्रयोग कोई अन्य प्रयोग होगा और यह प्रयोग उधार देने वाले द्वारा लिखित रूप में दी गयी अनुमति के अनुसार ही होगा ।

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