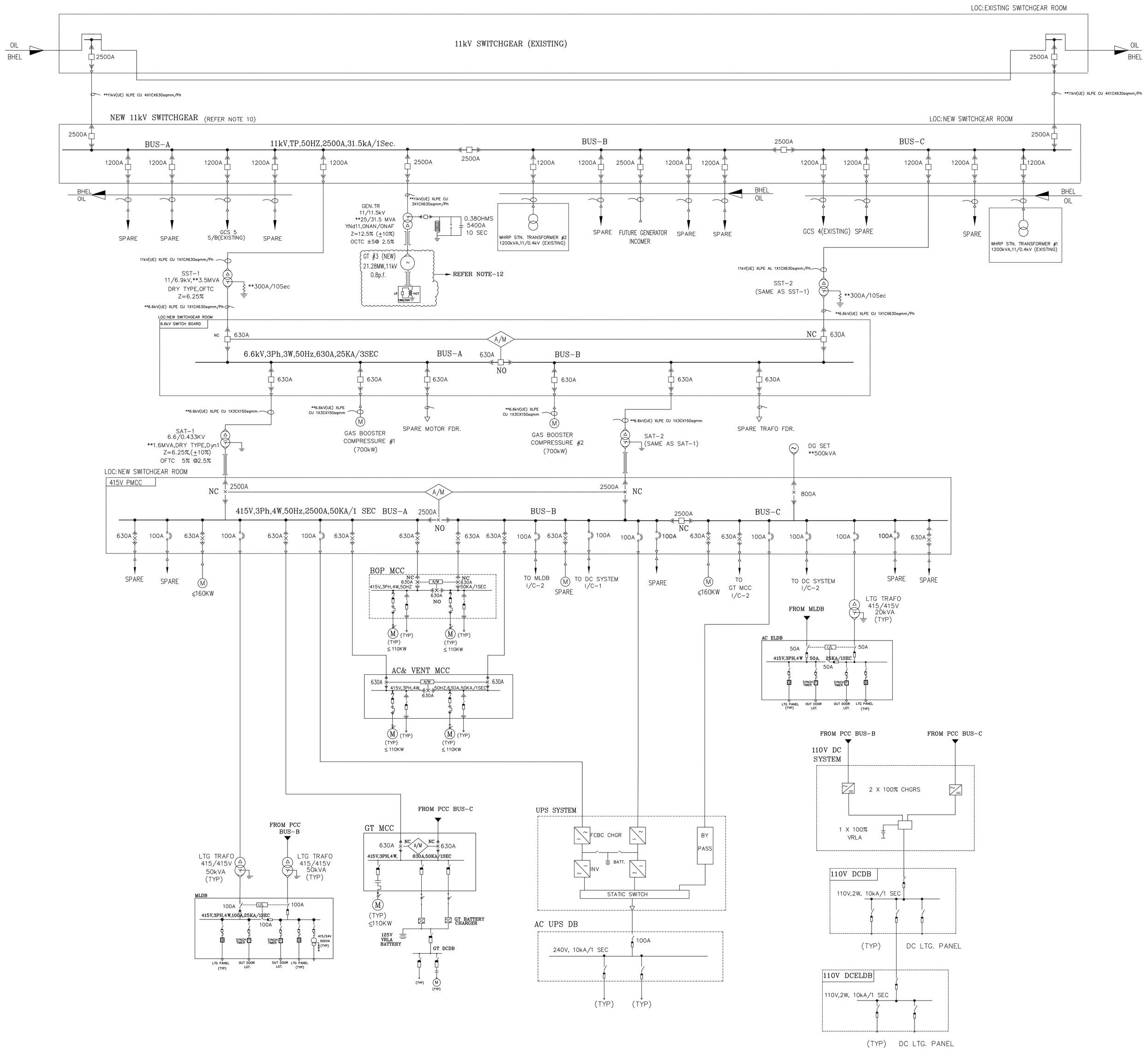
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DRG. NO. 0-381-21-02034 SH. OF



LEGEND

- HT VACCUM CIRCUIT BREAKER WITH DRAWOUT FEATURE
- AIR CORE REACTOR
- LT CIRCUIT BREAKER WITH DRAWOUT FEATURE
- TWO WINDING TRANSFORMER
- CABLE
- BUS DUCT, HT/LT
- NGT WITH LOADING RESISTOR (LR)
- AUTO/MANUAL CHANGE OVER FACILITY WITH UNDER VOLTAGE
- TERMINAL POINT
- NEUTRAL GROUNDING RESISTOR (NGR)
- EARTH
- BATTERY
- GENERATOR
- MOTOR
- 415V CONTACTOR
- O/L RELAY
- MCCB
- MCB
- ISOLATOR (OFF LOAD)
- SWITCH FUSE UNIT

PMCC–POWER& MOTOR CONTROLLED CENTER
MCC–MOTOR CONTROLLED CENTER
MLDB–MAIN LIGHTING DISTRIBUTION BOARD BOARD
ELDB–EMERGENCY LIGHTING DISTRIBUTION BOARD

NOTE:–

1. THIS DRG. INDICATES THE PRINCIPLE OF POWER DISTRIBUTION FOR THE PLANT.
2. EQUIPMENT RATING/PARAMETERS/QUANTITY (MARKED WITH **) ARE SUBJECT TO APPROVAL OF RESPECTIVE EQUIPMENT SIZING CALCULATIONS WHICH WILL BE SUBMITTED SEPARATELY BASED ON LOAD ANALYSIS.
3. THE LV FEEDERS SHOWN IN THIS SLD ARE TYPICAL ONLY. EXACT DETAILS WILL BE SHOWN IN THE CORRESPONDING SWITCH BOARD SLD.
4. HT SWITCHBOARDS AND BREAKER FEEDER IN 415V SWGR SHALL BE SINGLE FRONT DRAWOUT TYPE MODULES, ALL OTHER OUTGOING FDRS IN 415V PCC/MCC's SHALL BE DOUBLE FRONT DRAWOUT TYPE MODULES.
5. ALL AC&DC DB's SHALL BE DOUBLE FRONT FIXED (NON DRAWOUT) TYPE MODULES/PANELS.
6. THE STATION BATTERY SHALL BE 110V LEAD ACID VRLA TYPE. ONE SET 110V STATION DC SYSTEM SHALL BE PROVIDED TO CATER FOR THE DC REQUIREMENTS OF HT SW.GR,LT SW.GR, GEN. CONTROLS, AUX.PANELS
7. MULTIFUNCTION NUMERICAL PROTECTIVE RELAYS SHALL BE PROVIDED IN THE HT SW.GEAR & 415V LT SWGR FOR CERTAIN PROTECTIONs WHERE NUMERICAL RELAYS ARE NOT AVAILABLE CONVENTIONAL ELECTRO –MECHANICAL RELAYS SHALL BE PROVIDED.
8. SUPPLY OF CABLES & OTHER ACCESSORIES REQUIRED FOR THE SPARE FEEDERS,O/G FEEDERS FOR CUSTOMER USE, ARE NOT IN BHEL'S SCOPE OF SUPPLY.
9. ALL 11 & 6.6kV POWER CABLES SHALL BE UN-EARTH GRADE XLPE INSULATED CU. CONDUCTOR, LT CABLES SHALL BE HR-PVC INSULATED COPPER CONDUCTOR .CONTROL CABLES SHALL BE PVC INSULATED CU. CONDUCTOR
10. THE NO. OF 11kV FEEDERS SHALL BE AS INDICATED IN THIS SLD ONLY.
11. 20% SPARE OUTGOING FEEDERS OR ATLEAST ONE NUMBER OF EACH RATING AND TYPE (WHICH EVER IS MORE) SHALL BE PROVIDED IN ALL LV SW. BOARDS.
12. FOR DETAILS LIKE GENERATOR RATINGS, GENERATOR DEDICTED PROTECTIONS,. PT&SP CUBICLE,NGT,GAC ETC, PLEASE REFER KEY MEASURING & PROTECTION DIAGRAM.

REFERENCE DRAWINGS:–

1. CUSTOMER KEY SLD ,DWG.NO. K5212-DWG-E-001,REV D

GENERAL DIMENSIONAL LIMITS,FITS & TOLERANCES AS PER HY0230261

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

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD	ZONE		CHD/APPD

REV.	DATE	ALTERED	
01	16.12.09	CHD/APPD	AVS JKP
ZONE	REVISED IN LINE WITH M/s DCPL/OIL COMMENTS VIDE LETTER TR.NO K5212/E/003 DATED 12-11-2009.		

PROJECT : 1X21.28 MW GAS TURBINE POWER PLANT
(1XF7-5 GT OPEN CYCLE POWER PLANT)

CUSTOMER : OIL INDIA LTD. DULIAJAN, ASSAM.

DEVELOPMENT CONSULTANTS PVT. LTD.
CONSULTING ENGINEERS
KOLKATA • MUMBAI • CHENNAI NEW DELHI

BHARAT HEAVY ELECTRICALS LTD. HYDERABAD

	NAME	SIGN.	DATE	NO.OF VAR.
DRN.	B.NEELIMA	–sd–	20.10.09	N.A.
CHD.	A.V.SURESH	–sd–	20.10.09	
APPD.	J.K.PATNAIK	–sd–	20.10.09	

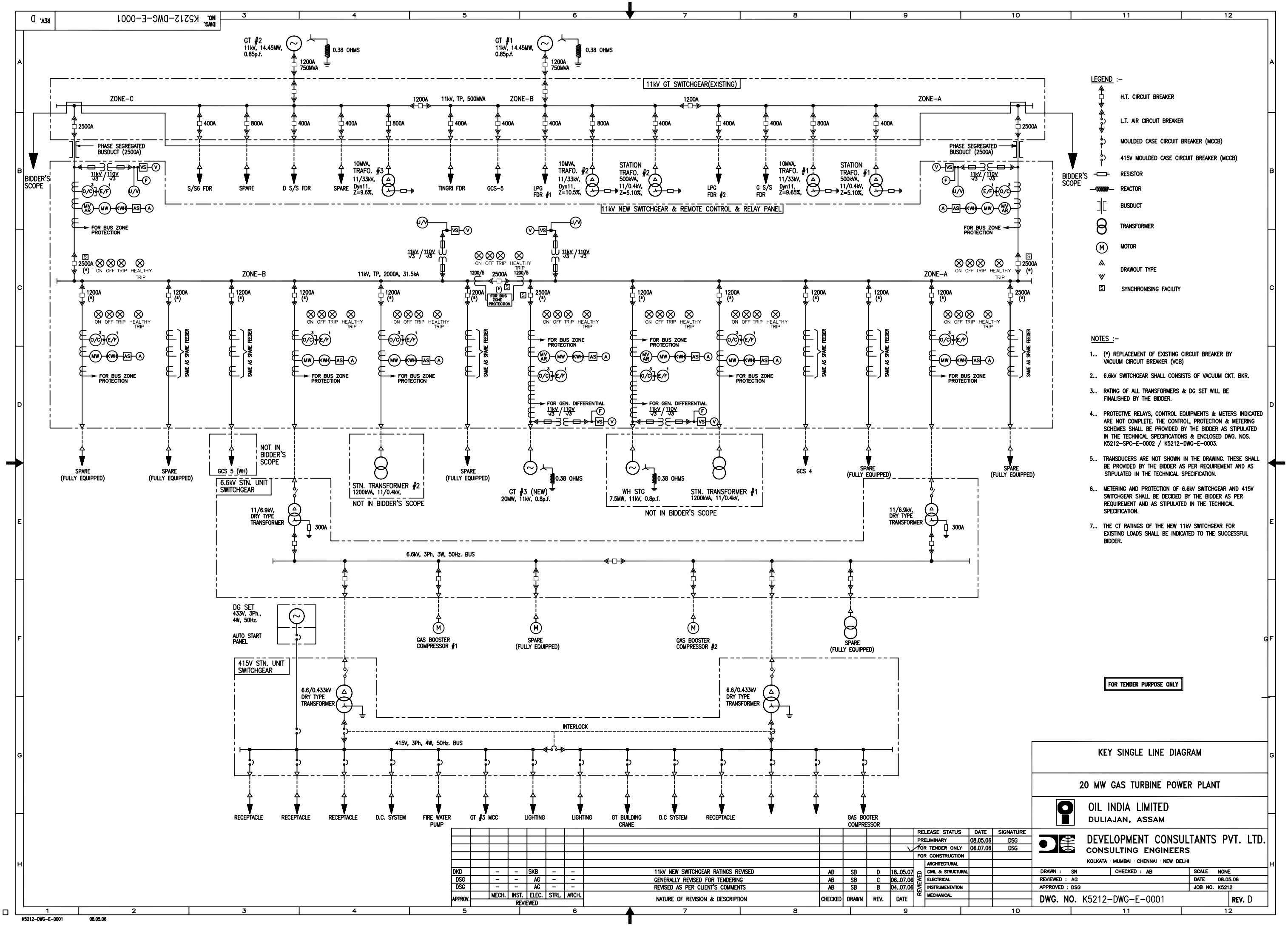
DEPT. CODE	UNTOL. DIMS. OR:	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.	NO.OF ITEMS
PEDE 450	~~0.5/M.F.~~	N.T.S	N.A.	–N.A.–	–N.A.–	–N.A.–

TITLE: KEY SINGLE LINE DIAGRAM

CARD CODE: N.A.

DRAWING NO. 0-381-21-02034 REV. 01

SHT. No 01 NO. OF SHT. 01



LEGEND :-

- H.T. CIRCUIT BREAKER
- L.T. AIR CIRCUIT BREAKER
- MOULDED CASE CIRCUIT BREAKER (MCCB)
- 415V MOULDED CASE CIRCUIT BREAKER (MCCB)
- RESISTOR
- REACTOR
- BUSDUCT
- TRANSFORMER
- MOTOR
- DRAWOUT TYPE
- SYNCHRONISING FACILITY

NOTES :-

1... (*) REPLACEMENT OF EXISTING CIRCUIT BREAKER BY VACUUM CIRCUIT BREAKER (VCB)

2... 6.6kV SWITCHGEAR SHALL CONSISTS OF VACUUM CKT. BKR.

3... RATING OF ALL TRANSFORMERS & DG SET WILL BE FINALISHED BY THE BIDDER.

4... PROTECTIVE RELAYS, CONTROL EQUIPMENTS & METERS INDICATED ARE NOT COMPLETE. THE CONTROL, PROTECTION & METERING SCHEMES SHALL BE PROVIDED BY THE BIDDER AS STIPULATED IN THE TECHNICAL SPECIFICATIONS & ENCLOSED DWG. NOS. K5212-SPC-E-0002 / K5212-DWG-E-0003.

5... TRANSDUCERS ARE NOT SHOWN IN THE DRAWING. THESE SHALL BE PROVIDED BY THE BIDDER AS PER REQUIREMENT AND AS STIPULATED IN THE TECHNICAL SPECIFICATION.

6... METERING AND PROTECTION OF 6.6kV SWITCHGEAR AND 415V SWITCHGEAR SHALL BE DECIDED BY THE BIDDER AS PER REQUIREMENT AND AS STIPULATED IN THE TECHNICAL SPECIFICATION.

7... THE CT RATINGS OF THE NEW 11kV SWITCHGEAR FOR EXISTING LOADS SHALL BE INDICATED TO THE SUCCESSFUL BIDDER.

FOR TENDER PURPOSE ONLY

APPROV.	MECH.	INST.	ELEC.	STRL.	ARCH.	NATURE OF REVISION & DESCRIPTION	CHECKED	DRAWN	REV.	DATE
DKD	–	–	SKB	–	–	11kV NEW SWITCHGEAR RATINGS REVISED	AB	SB	D	18..05.07
DSG	–	–	AG	–	–	GENERALLY REVISED FOR TENDERING	AB	SB	C	06..07.06
DSG	–	–	AG	–	–	REVISED AS PER CLIENT'S COMMENTS	AB	SB	B	04..07.06

REVIEWED

RELEASE STATUS	DATE	SIGNATURE
PRELIMINARY	08.05.06	DSG
✓ FOR TENDER ONLY	06.07.06	DSG
FOR CONSTRUCTION		
ARCHITECTURAL		
CML & STRUCTURAL		
ELECTRICAL		
INSTRUMENTATION		
MECHANICAL		

KEY SINGLE LINE DIAGRAM

20 MW GAS TURBINE POWER PLANT

OIL INDIA LIMITED
DULIAJAN, ASSAM

DEVELOPMENT CONSULTANTS PVT. LTD.
CONSULTING ENGINEERS
KOLKATA · MUMBAI · CHENNAI · NEW DELHI

DRAWN : SN	CHECKED : AB	SCALE	NONE
REVIEWED : AG		DATE	08.05.06
APPROVED : DSG		JOB NO.	K5212

DWG. NO. K5212-DWG-E-0001 REV. D