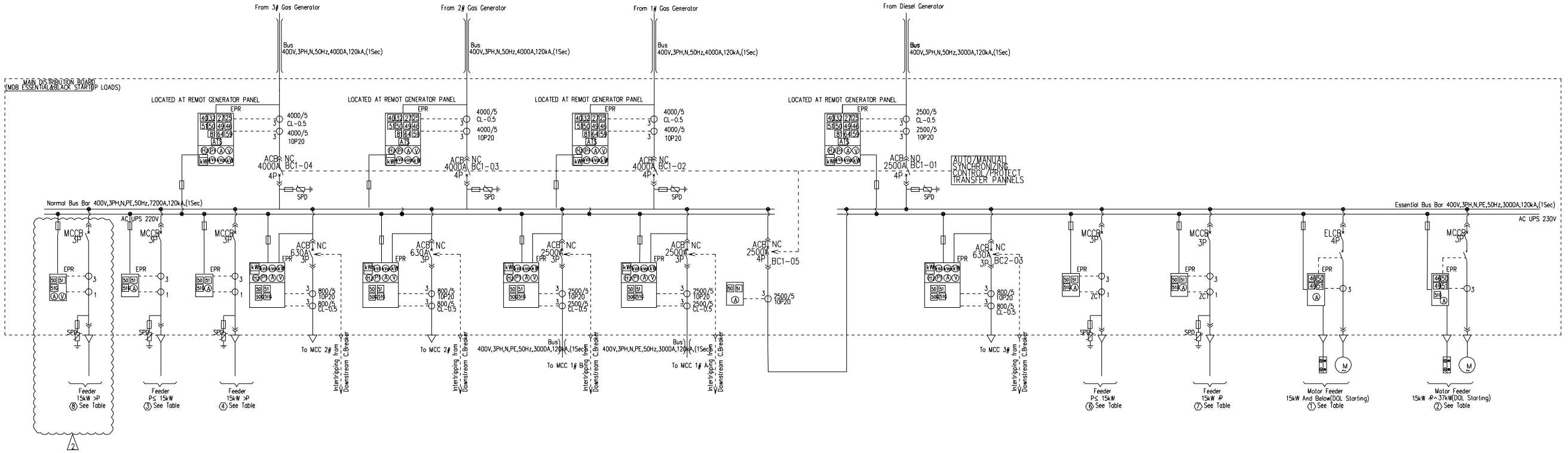

GENERAL NOTES

1. NORMALLY POWER SUPPLY TO FACILITIES SHALL BE MADE THROUGH 2 Nos GAS ENGINE DRIVEN GENERATORS WHILE 1 No. GENERATOR SHALL REMAIN STAND-BY.
2. DIESEL ENGINE DRIVEN SHALL BE RUN TO SUPPLY POWER TO THE ESSENTIAL LOAD OF FACILITIES AND SHALL ALSO BE USED FOR THE BLACK START OF PLANT.
3. THE EMERGENCY DIESEL GENERATOR SHALL BE SYNCHRONIZED WITH THE GAS GENERATOR IN AUTO /MANUAL MODE FOR PARALLEL OPERATION WHILE IT SERVICES AS BLACK START-UP GENERATOR.
4. CABLES SHALL BE USED TO CONNECT BUS-COUPLERS BETWEEN MCC.
5. BUS-COUPLERS BETWEEN MCCS SHALL BE MANUALLY OPERATED.
6. FIELD MOUNTED DISTRIBUTION BOARDS.
7. DURING BLACK STARTING STAGE, LOADS FOR DIESEL GENERATOR SHOULD INCLUDE ALL NECESSARY LOADS FOR GAS GENERATORS STARTING.
8. AFTER AUXILIARY DEVICE ARE POWERED AND PREPARED, THE GAS GENERATORS CAN BE STARTED. STARTING COMPLETE, THE INCOMER CB (BC1-02, BC1-03 OR BC1-04) CAN BE CLOSE MANUAL / AUTO PARALLEL RUNNING WITH DIESEL GENERATOR. AFTER LOAD DISTRIBUTION, THE DIESEL WILL QUIT OPERATION.
9. WHILE TWO GAS GENERATORS ARE IN SERVICE, IF ANY ONE GAS GENERATOR IS TRIPPED, THE LOAD SYSTEM SHOULD SHED PRESET LOADS INSTANTLY AND THE THIRD GAS GENERATOR SHOULD BE STARTED.
10. IF TWO GAS GENERATORS ARE TRIPPED, THE DIESEL GENERATOR SHOULD BE STARTED WHETHER THE GENERATOR IS IN SERVICE OR NOT. THE DIESEL GENERATOR CAN PARALLEL RUNNING WITH GAS GENERATOR.
11. NORMAL, THE FIRE WATER PUMP WILL BE COMMISSIONING REGULAR ONE BY ONE. WHILE COMMISSIONING THE WHOLE ELECTRICAL SYSTEM DOES NOT NEED TO DO ANY ADJUSTMENT.
12. IN THE CASE OF FIRE, IF THE BUS-TIE BC1-05 IS OPEN AND DIESEL GENERATOR IS IN SERVICE, BC2-03 SHOULD BE OPEN BEFORE FIRE WATER PUMP STARTING.
13. SHUNT TRIPPING DEVICE SHALL BE INSTALLED ON MCCBS WHICH WOULD BE SHED BY LOAD SHEDDING LOAD SHEDDING SYSTEM WILL SEND ONLY ONE TRIP SIGNAL FOR ALL BUS SECTION. THE SUPPLIER IS FOR SENDING THE TRIP SIGNAL TO THE MCCB WHICH NEED TO BE SHED .
14. THE CABLE GLANDS BETWEEN MDB AND GENERATOR PANEL SHALL BE CONSIDERED BY MANUFACTURE.
15. 01 NO. OF NEW SWITCHGEAR/MCC PANEL SHALL BE ADDED AND COUPLED WITH EXISTING MAIN DISTRIBUTION BOARD. NOS. OF FEEDERS WHICH SHALL TAKE PART IN AFORESAID EXTENSION IS 04 NOS. OF 400AMPS & 01 NO. OF 250AMPS MCCB WITH ALL ALLIED PROTECTION AS SHOWN.
16. LOCATION OF NEW SWITCHGEAR/MCC PANEL SHALL BE AS PER EQUIPMENT LAYOUT, NGP-B10-ELE-15-01-009-13
17. SINCE THE AFORESAID WORK IS EXTENSION OF EXISTING SWITCHGEAR/MCC, THEREFORE, IT IS ADVISABLE THAT WORK TO BE PERFORMED THROUGH EXISTING MANUFACTURER (M/S SCHNEIDER) OR AUTHORIZED LOCAL REPRESENTATIVE THEREOF.
18. NEW PANEL SHALL BE IEC-61439-1 & IEC-61439-2 TYPE TESTED AND TO EMULATE EXISTING SWITCHGEAR/MCC IN ALL DESIGN PARAMETERS, UNLESS OTHERWISE SPECIFIED/AGREED.
19. ALL THE MCCB'S SHALL HAVE BREAKING AND MAKING CAPACITY NOT LESS THAN THE SHORT CIRCUIT LEVEL OF MAIN HORIZONTAL BUS BAR.
20. MENTIONED KW RATING IS PRELIMINARY, AND NEED TO BE UPDATED BY EPCC AS PER RELEVANT COMPRESSOR VENDOR INFORMATION. HOWEVER, MIN. AMPS RATING OF CIRCUIT BREAKER SHALL REMAIN SAME.
21. CT RATIO & SETTING OF PROTECTIVE DEVICE, etc. SHALL BE CONFIRMED BY EPC CONTRACTOR CONSIDERING VENDOR DATA & EXISTING SYSTEM COORDINATION.
22. AS THE INTEND OF THIS SINGLE LINE DIAGRAM IS NOT TO MENTION EVERY REQUIREMENT AND, ANY PART OR ASPECT OF WORK NOT EXPRESSLY DETAIL IN THIS DOCUMENT OR ELSEWHERE FURNISHED TO THE CONTRACTOR BUT NECESSARY FOR THE PROPER EXECUTION & COMPLETION OF AFOREMENTIONED ACCORDING TO THE PROVISION OF SUBJECT TENDER DOCUMENT/WORK & NECESSARY TO ENSURE THAT THE WORK ARE FIT FOR THE PURPOSE FOR WHICH THEY ARE INTENDED (WHICH SHALL NOT ONLY INCLUDE THE SUPPLY & INSTALLATION OF NEW SWITCHGEAR/MCC PANEL BUT ALSO ENSURING THE COMPLIANCE OF IEC CODES/STANDARD, MANUFACTURER RECOMMENDATION & SATISFACTORY OPERATION THROUGHOUT THEIR INTENDED LIFE) SHALL BE PERFORMED BY CONTRACTOR AND DEEMED TO BE INCLUDED IN, AND TO FORM A PART, OF THE SCOPE OF WORK.

LEGEND

LEGEND	DESCRIPTION	LEGEND	DESCRIPTION
	Motor Space Heater	50	Instantaneous Over Current Relay
	Motor Remote Control Unit	50G	Instantaneous Earth Fault Relay
M	AC Motor	51	Time Over Current Relay
EPR	Electronic Protection Relay	51G	Time Delay Earth Fault Relay
NC	Normal Closed	51N	Inverse Time Neutral Overcurrent Relay
NO	Normal Open	59	A.C Overvoltage Relay
25	Synchronizing or Synchronism -check Device	64	Ground Detector Relay
27	Undervoltage Relay	81	Frequency Relay
32	Directional Power Relay	87	Differential Protective Relay
40	Field Relay	ACB	Air Circuit Breaker
46	Reverse-phase or Phase-balance Current Relay	MCCB	Moulded Case Circuit Breaker
49	Machine or Transformer Thermal Relay	ELCB	Earth Leakage Circuit Breaker

REFERENCE DOCUMENTS

TITLE	DOC No.
ELECTRIC LOAD LIST	NGP-000-ELE-15.02-0001-00
TYPICAL SCHEMATIC FOR MOTOR CONTROL CIRCUITS	NGP-000-ELE-15.08-0004-00
ELECTRICAL DESIGN BASIS	NGP-000-ELE-15.05-0001-00
SINGLE LINE DIAGRAM FOR MCC	NGP-010-ELE-15.01-0003-13
SINGLE LINE DIAGRAM FOR POWER DISTRIBUTION SCHEME	NGP-010-ELE-15.01-0001-13
DATA SHEET FOR LV SWITCHGEARS / MCC	NGP-000-ELE-15.17-0005-13
SPECIFICATION FOR LV SWITCHGEARS / MCC	NGP-000-ELE-15.03-0005-13
ELECTRICAL LOAD LIST	0193-ELA-6501 (2)

③ 0.4kV Feeder

ZEL Tag	FEEDER	CAPACITY(kW)	CB(A)	CONTACTOR (A)	CT	REMARKS	SHEDDING LOADING
	Spare		32		30/5		
	Spare		32		30/5		
	Spare		16		20/5		
	Spare		16		20/5		

④ 0.4kV Feeder

ZEL Tag	FEEDER	CAPACITY(kW)	CB(A)	CONTACTOR (A)	CT	REMARKS	SHEDDING LOADING
010-MCC-K250A	Sale Gas Compressor A	108.6	250		250/5	C	
010-MCC-K250B	Sale Gas Compressor B	108.6	250		250/5	C	
010-MCC-K250C	Sale Gas Compressor C	108.6	250		250/5	S	
010-MCC-K201	Condensate Stabilizer Overhead Compressor	61.87	200		200/5	C	
MCC-K-2301A	Regen Gas Compressor Electrical Control Panel	55	160	HOLD	200/5	C	
MCC-K-2301B	Regen Gas Compressor Electrical Control Panel	55	160		200/5	S	
011-SDB-A	Existing Crude oil loading Pumps 011-SDB-A	100	250		250/5	C	
011-SDB-B	Weighing Bridge Area 011-SDB-B	35	125		150/5	C	
011-SDB-C	New condensate loading gantry 011-SDB-C	140	400		400/5	C	
011-SDB-D	Existing Process Plant Office Building/Control Room 011-SDB-D	35	200		200/5	C	
011-SDB-E	Existing Process Plant (Dehydration Unit 1&2) 011-SDB-E	90	315		300/5	C	
	Spare		160		200/5		
	Spare		250		250/5		
	Spare		315		300/5		
	Spare		400		400/5		

⑧ 0.4kV Feeder — SEE NOTE-15 TO 22

ZEL Tag	FEEDER	CAPACITY(kW)	CB(A)	CONTACTOR (A)	CT	REMARKS	SHEDDING LOADING
MCC-K2001	Feed gas compressor	125	400		400/5		
MCC-K2002	Feed gas compressor	125	400		400/5		
MCC-K2003	Feed gas compressor	125	400		400/5		
MCC-K2004	Feed gas compressor	125	400		400/5		
MCC-K3401C	Instrument Air Compressor	75	250		250/5		

⑥ 0.4kV Feeder

ZEL Tag	FEEDER	CAPACITY(kW)	CB(A)	CONTACTOR (A)	CT	REMARKS	SHEDDING LOADING
MCC-PU-3502	Foam Injection Skid Electrical Control Panel	2	20	HOLD	20/5	I	
007-EDB-001	Fire Fighting Shed Lighting EDB	7.5	40		40/5	C	
010-EDB-002	Electrical Building Power 010-EDB-002	6.3	40		40/5	C	
010-EDB-003	Electrical Building Power 010-EDB-003	1.2	40		40/5	C	
010-EDB-005	Electrical Building Power 010-EDB-005	6	40		40/5	C	
010-EDB-006	Generator Sets Power 010-EDB-006	6	40		40/5	C	
010-EDB-007	Generator Sets Power 010-EDB-007	6	40		40/5	C	
001-EDB-004	Process Area Power 001-EDB-004	4.5	40		40/5	C	
001-EDB-B02	Emergency Lighting Distribution Board	2.52	25		30/5	C	
001-EDB-005	Compressor Local Control Room	4	40		40/5	C	
001-EDB-402	Dehydration (Mol.Sieve) Unit 001-EDB-402	1.5	32		32/5	I	
001-EDB-501	Emergency Lighting Distribution Board	1	40		40/5	I	
010-GCP1	1# Gas Generator Parallel Control Panel 220V	15	63		75/5	C	
010-GCP2	2# Gas Generator Parallel Control Panel 220V	15	63		75/5	C	
010-GCP3	3# Gas Generator Parallel Control Panel 220V	15	63		75/5	C	
010-DCP	Diesel Engine Generator Auxiliary Electricity Panel 220V	15	80		75/5	C	
010-DG-ECP	Diesel Engine Generator Distribution Panel in Sound Attenuation Container	15	80		75/5	C	
001-EDB-101	condensate stabilization & oil compressor unit lighting	5	40		40/5	I	
001-EDB-301	Instrument & Utility Air System lighting	2	40		40/5	I	
	Spare		40		40/5		
	Spare		40		40/5		
	Spare		80		75/5		
	Spare		80		75/5		
	Spare		25		30/5		
	Spare		25		30/5		

⑦ 0.4kV FEEDER

ZEL Tag	FEEDER	CAPACITY(kW)	CB(A)	CONTACTOR (A)	CT	REMARKS	SHEDDING LOADING
MCC-P-3501A	Main Fire Water Pumps(Motor Driven) Electrical Control Panel	100	250	HOLD	250/5	S	
MCC-P-3501B	Main Fire Water Pumps(Motor Driven) Electrical Control Panel	100	250		250/5	S	
MCC-PU-3501	Jockey Pump Skid	18.5	50		50/5	I	
010-UPS-001-1	Load of UPS1#	96	200		200/5	S	
010-UPS-002-1	Load of UPS2#	96	200		200/5	S	
MCC-K-3401A/B	Instrument & Utility Air System MCCB Control Unit	150	360		400/5	I	
010-GG1-ECP	1# Distribution Panel in Sound Attenuation Container	18	50		50/5	C	
010-GG1-RFP	1# Radiator Fan Panel	27	80		75/5	C	
010-GG2-ECP	2# Distribution Panel in Sound Attenuation Container	18	50		50/5	C	
010-GG2-RFP	2# Radiator Fan Panel	27	80		75/5	C	
010-GG3-ECP	3# Distribution Panel in Sound Attenuation Container	18	50		50/5	C	
010-GG3-RFP	3# Radiator Fan Panel	27	80		75/5	C	
SPAC-001A	Control Box of The Package Air Condition Units	90	200	HOLD	200/5	S	
SPAC-001B	Control Box of The Package Air Condition Units	90	200		200/5	S	
009-EDB-001	Flare System Power 009-EDB-001	45	160		150/5	C	
010-CCR-001	CCR 010-EDB-01	24.65	63		75/5	C	
010-EDB-004	Electrical Building Power 010-EDB-004	30	80		75/5	C	
	Spare		80		75/5		
	Spare		80		75/5		
	Spare		100		100/5		
	Spare		160		150/5		
	Spare		200		200/5		
	Spare		250		250/5		

① 0.4kV Motor Feeder

ZEL Tag	FEEDER	CAPACITY(kW)	CB(A)	CONTACTOR (A)	CT	REMARKS	SHEDDING LOADING
	Spare		32	40	30/5		
	Spare		32	40	30/5		

② 0.4kV Motor Feeder

ZEL Tag	FEEDER	CAPACITY(kW)	CB(A)	CONTACTOR (A)	CT	REMARKS	SHEDDING LOADING
	Spare		50	50	50/5		
	Spare		80	80	75/5		

MODIFIED UNDER NASHPA COMPRESSION PROJECT (PHASE-II) # 14-0193

RE-ISSUED FOR TENDER

REV.	DESCRIPTION	PRPD	CHKD	REVD	APPD	DATE
2	RE-ISSUED FOR TENDER (Modified Under NASHPA Compression Project Phase-II)	MAA	JAB	AIB	MAS	12/07/2018
1	ISSUED FOR TENDER (Modified Under NASHPA Compression Project Phase-II)	MAA	JAB	AIB	MAS	09/03/2018
0A	Issued for Review & Approval (Modified Under NASHPA Compression Project Phase-II)	MAA	JAB	AIB	AHB	1/02/2018
00	Approved for Design	Zhang Baopeng	Zhang Xyl	Liu Na	Cheng Xin	29/11/2016
C	Issued for Approval	Zhang Baopeng	Zhang Xyl	Liu Na	Cheng Xin	12/07/2016
B	Issued for Review	Zhang Baopeng	Zhang Xyl	Liu Na	Cheng Xin	22/04/2016
A	Internal Discipline Check	Zhang Baopeng	Zhang Xyl	Liu Na	Cheng Xin	25/02/2016

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CONTRACTOR: HONG KONG HUIHUA GLOBAL TECHNOLOGY LIMITED
PROJECT NO. NASHPA 1247

PROJECT TITLE: NASHPA GAS PROCESSING AND LPG RECOVERY PLANT PROJ-FC-CB/NASHPA/PROJ-1247/0015
DRAWING NO. NGP-010-ELE-15.01-0002-13

DRAWING TITLE: SINGLE LINE DIAGRAM FOR MAIN DISTRIBUTION BOARD

REV.	SCALE	SHEET
2	~	1 OF 1

Drawing Size: ISO A0 (V