






OGDCL PAKISTAN:
OIL & GAS DEVELOPMENT
COMPANY LIMITED

KPD-TAY COMPRESSION PROJECT

RE-ISSUED FOR TENDER

1	25-FEB-2022	RE-ISSUED FOR TENDER	JAB	ZHW					
0	07-JAN-2022	ISSUED FOR TENDER	JAB	ZHW	AIB	MPM	MAS		
REV	DATE	DESCRIPTION	ORIG	CHKD	LE	QA	PM	LPE/TA	
REVISIONS			APPROVAL					OWNER APPROVAL	
<div></div> <div>ENAR PETROTECH SERVICES (PVT) LTD. 7-B, KORANGI INDUSTRIAL AREA, KORANGI-KARACHI</div>			TITLE :						
			ELECTRICAL LOAD LIST (TAY-03 GGS)						
			DOCUMENT NO:						
PROJECT NUMBER 14-0258			0258 - ELA - 6513 - 1						
			PROJECT. CODE	DOC. TYPE	SEQ. NO.	REV.			
							SHEET 1 OF 2		

<div></div> <div>ENAR PETROTECH SERVICES (PVT) LTD.</div> <div>7-B, KORANGI INDUSTRIAL AREA, KORANGI-KARACHI</div>	ELECTRICAL LOAD LIST (TAY-03 GGS)													PROJECT NO. : 14-0258			<div></div> <div>OIL & GAS DEVELOPMENT COMPANY LIMITED</div>
														REV. NO. : 1			
	DATE : 25-FEB-2022																
	PROJECT : KPD-TAY COMPRESSION PROJECT																
CLIENT : OIL & GAS DEVELOPMENT COMPANY LIMITED (OGDCL)																	
DOC. NO. : 0258-ELA-6513																	

S.NO.	LOAD DESCRIPTION	TAG NO.	LOAD TYPE	STARTING METHOD	PHASE SYSTEM	LOAD DUTY C/I/S	EQUIPMENT RATING			ABSORBED LOAD (B)	LOAD FACTOR (uF)	POWER FACTOR (P.f)	EFFICIENCY (%η)	MAIN BUS								
							VOLTAGE RATING (V)	RATED OUTPUT CAP (kW)	AMPACITY (A)					CONTINUOUS			INTERMITTENT			STANDBY		
														kW	kVA	kVAr	kW	kVA	kVAr	kW	kVA	kVAr
1	PROCESS DRAIN PIT PUMP MOTOR	PM-5601	Motor	DOL	3-Ø	I	400	7.5	12.03	5.48	0.73	0.9	0.914				6.0	6.67	2.91			
2	RAW WATER BORE PUMP MOTOR	PM-5602	Motor	DOL	3-Ø	C	400	4	6.42	2.92	0.73	0.9	0.914	3.20	3.56	1.55						
3	FIRE WATER PUMP ENGINE DRIVEN CONTROL PANEL	CP-5603 A	Feeder	-	1-Ø	I	230	2	10.87	2.00	1.0	0.8	0.914				2.19	2.74	1.64			
4	FIRE WATER PUMP MOTOR-B	PM-5603 B	Motor	DOL	3-Ø	S	400	110	176.41	91.40	0.83	0.9	0.914							100.00	111.11	48.43
5	JOCKEY PUMP MOTOR A	PM-5604 A	Motor	DOL	3-Ø	C	400	5.5	8.82	4.02	0.73	0.9	0.914	4.40	4.89	2.13						
6	JOCKEY PUMP MOTOR B	PM-5604 B	Motor	DOL	3-Ø	S	400	5.5	8.82	4.02	0.73	0.9	0.914							4.40	4.89	2.13
7	RAW WATER SUPPLY PUMP MOTOR	PM-5605	Motor	DOL	3-Ø	C	400	3.7	5.93	2.71	0.73	0.9	0.914	3.0	3.29	1.43						
8	INSTRUMENT AIR COMPRESSOR PACKAGE-A	K-5602A	Feeder	-	3-Ø	C	400	30	54.13	30.00	1.0	0.8	1.0	30.0	37.50	22.50						
9	INSTRUMENT AIR COMPRESSOR PACKAGE-B	K-5602B	Feeder	-	3-Ø	S	400	30	54.13	30.00	1.0	0.8	1.0							30.00	37.50	22.50
10	WELDING OUTLET (32 A, 3-Ø)	WO-01	Feeder	-	3-Ø	S	400	17.71	32.0	17.71	1.0	0.8	1.0							8.86	11.07	6.64
11	TRANSFORMER RECTIFIER (CP)	TR-01	Feeder	-	1-Ø	C	230	2.2	12.0	2.2	1.0	0.8	1.0	2.2	2.75	1.65						
12	UPS (15kVA)	UPS-01	Feeder	-	3-Ø	C	400	12.75	23.0	12.8	1.0	0.8	1.0	12.75	15.94	9.56						
13	BUILDING ELECTRIFICATION LOAD (Refer Note-5)	BLD-EL	Feeder	-	3-Ø	C	400	40	72.17	40.0	1.0	0.8	1.0	40.00	50.00	30.00						
14	LIGHTING DB (Refer Note-6)	LDB-01	Feeder	-	3-Ø	I	400	5	9.02	5.0	1.0	0.8	1.0				5.0	6.3	3.8			
15	EXISTING LOAD	-	Feeder	-	3-Ø	I	400	10	18.04	10.0	1.0	0.8	1.0				10.0	12.5	7.5			
TOTAL LOW VOLTAGE LOAD														95.51	117.92	68.83	23.19	28.15	15.80	143.26	164.57	79.70

<div><div>EXPLANATION OF CALCULATIONS</div><div>Motor load is calculated as follows: Absorbed / Required Load (API Pumps) : Absorbed Load (B) for API Pump motors is calculated as: When CAP(kW) < 22 then (CAP(kW) / 1.25) * Efficiency, When 22 >= CAP(kW) <= 55 then B = (CAP(kW) / 1.15) * Efficiency, When CAP(kW) > 55, then B = (CAP(kW) / 1.10) * Efficiency. Absorbed Load (Non-API Pumps): Absorbed Load (B) for Non API Pump motors is calculated as: = CAP(kW) * Efficiency Load Factor : The Load Factor is calculated as: LF = B / CAP(kW) kW, kVAr & kVA: kW = (B)/(EF) kVAr = kW * tan kVA = $\sqrt{(kW^2 + kVAr^2)}$ Where: B = Absorbed/Required Power (kW), CAP = Rated Output (kW), uF = Load Factor, EF = Efficiency, PF = Power Factor ABBREVIATION: C - Continuous I - Intermittent S - Standby</div></div>	LOAD SUMMARY - LOW VOLTAGE												
								kW		kVA		kVAr	
	CONTINUOUS LOAD							95.51		117.92		68.83	
	MAXIIMUM DEMAND (100% of Continuous + 50% of Intermitant)							107.10		132.00		76.73	
	PEAK DEMAND (100% of Continuous + 50% of Intermitant + Maximum Individual Load)							207.10		243.11		125.16	
	NOTES: 1. Developed electrical load list is based on FEED stage/preliminary; and no. of loads as marked may increase or decrease which will be further evaluated & updated by the CONTRACTOR after incorporating all details from package Vendors. 2. Typical values of efficiency and power factor have been used; actual values shall be incorporated after the availability of Vendor data. 3. 0.9 power factor (p.f) shall be considered by the Contractor for procurement of all Low Voltage Electrical motors. 4. IEC-IE3 efficeincy class shall be considered by the Contractor for procurement of all Low Voltage Electrical motors. 5. Building electrification load comprises the loads of Switchgear/MCC Room, CCR, Generator Shed, Security Guard Room, FC Living Compound, Pantry/Operator/Emplyoee room, Watch towers and Workshop. The CONTRACTOR shall be responsible to evaluate and update the referred loads individually to be finalized during detailed engineering 6. Lighting load comprises the loads of Perimeter/Boundary Lighting, Area Lighting, and Skid Lighting etc. The CONTRACTOR shall be responsible to evaluate and update the referred loads individually to be finalized during the detailed engineering.												