






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	AIB	MPM	MAS		
0	07-JAN-2022	ISSUED FOR TENDER	JAB	ZHW	AIB	MPM	MAS		
A	12-NOV-2021	ISSUED FOR REVIEW	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						
			DOCUMENT NO:						
			0258 - ELA - 6501 - 1						
PROJECT NUMBER 14-0258			PROJECT. CODE		DOC. TYPE		SEQ. NO.		REV.

<div> ENAR PETROTECH SERVICES (PVT) LTD. 7-B, KORANGI INDUSTRIAL AREA, KORANGI-KARACHI</div>		ELECTRICAL LOAD LIST												PROJECT NO. :		14-0258		<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-6501																				

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
A	KPD-GPP																					
1	FRONT END COMPRESSOR-01 (K-4601A)																					
1.1	COMPRESSOR CRANKCASE HEATER	-	Feeder	-	3-Ø	C	400	6	10.83	6.00	1.00	0.8	1.0	6.0	7.50	4.50						
1.2	ELECTRIC TRACER HEATING SYSTEM#1	-	Feeder	-	1-Ø	C	230	3	16.30	3.00	1.00	0.8	1.0	3.0	3.75	2.25						
1.3	ELECTRIC TRACER HEATING SYSTEM#2	-	Feeder	-	1-Ø	C	230	4	21.74	4.00	1.00	0.8	1.0	4.00	5.00	3.00						
1.4	FUELL GAS HEATER	-	Feeder	-	3-Ø	C	400	4	7.22	4.00	1.00	0.8	1.0	4.00	5.00	3.00						
1.5	ENGINE BREATHE PUMP MOTOR	-	Motor	DOL	1-Ø	C	230	0.37	1.79	0.27	0.73	0.9	0.914	0.296	0.33	0.14						
1.6	ENGINE OIL & COOLANT HEATER SYSTEM	-	Feeder	-	3-Ø	C	400	25.50	46.01	25.50	1.00	0.8	1.0	25.50	31.88	19.13						
2	FRONT END COMPRESSOR-02 (K-4601B)																					
2.1	COMPRESSOR CRANKCASE HEATER	-	Feeder	-	3-Ø	C	400	6	10.83	6.00	1.00	0.8	1.0	6.0	7.50	4.50						
2.2	ELECTRIC TRACER HEATING SYSTEM#1	-	Feeder	-	1-Ø	C	230	3	16.30	3.00	1.00	0.8	1.0	3.0	3.75	2.25						
2.3	ELECTRIC TRACER HEATING SYSTEM#2	-	Feeder	-	1-Ø	C	230	4	21.74	4.00	1.00	0.8	1.0	4.00	5.00	3.00						
2.4	FUELL GAS HEATER	-	Feeder	-	3-Ø	C	400	4	7.22	4.00	1.00	0.8	1.0	4.00	5.00	3.00						
2.5	ENGINE BREATHE PUMP MOTOR	-	Motor	DOL	1-Ø	C	230	0.37	1.79	0.27	0.73	0.9	0.914	0.296	0.33	0.14						
2.6	ENGINE OIL & COOLANT HEATER SYSTEM	-	Feeder	-	3-Ø	C	400	25.50	46.01	25.50	1.00	0.8	1.0	25.50	31.88	19.13						
3	FRONT END COMPRESSOR-03 (K-4601C)																					
3.1	COMPRESSOR CRANKCASE HEATER	-	Feeder	-	3-Ø	C	400	6	10.83	6.00	1.00	0.8	1.0	6.0	7.50	4.50						
3.2	ELECTRIC TRACER HEATING SYSTEM#1	-	Feeder	-	1-Ø	C	230	3	16.30	3.00	1.00	0.8	1.0	3.0	3.75	2.25						
3.3	ELECTRIC TRACER HEATING SYSTEM#2	-	Feeder	-	1-Ø	C	230	4	21.74	4.00	1.00	0.8	1.0	4.00	5.00	3.00						
3.4	FUELL GAS HEATER	-	Feeder	-	3-Ø	C	400	4	7.22	4.00	1.00	0.8	1.0	4.00	5.00	3.00						
3.5	ENGINE BREATHE PUMP MOTOR	-	Motor	DOL	1-Ø	C	230	0.37	1.79	0.27	0.73	0.9	0.914	0.296	0.33	0.14						
3.6	ENGINE OIL & COOLANT HEATER SYSTEM	-	Feeder	-	3-Ø	C	400	25.50	46.01	25.50	1.00	0.8	1.0	25.50	31.88	19.13						
4	FRONT END COMPRESSOR-04 (K-4601D)																					
4.1	COMPRESSOR CRANKCASE HEATER	-	Feeder	-	3-Ø	S	400	6	10.83	6.00	1.00	0.8	1.0							6.00	7.50	4.50
4.2	ELECTRIC TRACER HEATING SYSTEM#1	-	Feeder	-	1-Ø	S	230	3	16.30	3.00	1.00	0.8	1.0							3.00	3.75	2.25
4.3	ELECTRIC TRACER HEATING SYSTEM#2	-	Feeder	-	1-Ø	S	230	4	21.74	4.00	1.00	0.8	1.0							4.00	5.00	3.00
4.4	FUELL GAS HEATER	-	Feeder	-	3-Ø	S	400	4	7.22	4.00	1.00	0.8	1.0							4.00	5.00	3.00
4.5	ENGINE BREATHE PUMP MOTOR	-	Motor	DOL	1-Ø	S	230	0.37	1.79	0.27	0.73	0.9	0.914							0.296	0.33	0.14
4.6	ENGINE OIL & COOLANT HEATER SYSTEM	-	Feeder	-	3-Ø	S	400	25.50	46.01	25.50	1.00	0.8	1.0							25.50	31.88	19.13
5	FRONT END COMPRESSOR-05 (K-4601E)																					
5.1	COMPRESSOR CRANKCASE HEATER	-	Feeder	-	3-Ø	S	400	6	10.83	6.00	1.00	0.8	1.0							6.00	7.50	4.50
5.2	ELECTRIC TRACER HEATING SYSTEM#1	-	Feeder	-	1-Ø	S	230	3	16.30	3.00	1.00	0.8	1.0							3.00	3.75	2.25
5.3	ELECTRIC TRACER HEATING SYSTEM#2	-	Feeder	-	1-Ø	S	230	4	21.74	4.00	1.00	0.8	1.0							4.00	5.00	3.00
5.4	FUELL GAS HEATER	-	Feeder	-	3-Ø	S	400	4	7.22	4.00	1.00	0.8	1.0							4.00	5.00	3.00
5.5	ENGINE BREATHE PUMP MOTOR	-	Motor	DOL	1-Ø	S	230	0.37	1.79	0.27	0.73	0.9	0.914							0.296	0.33	0.14
5.6	ENGINE OIL & COOLANT HEATER SYSTEM	-	Feeder	-	3-Ø	S	400	25.50	46.01	25.50	1.00	0.8	1.0							25.50	31.88	19.13
	MISCELLANEOUS LOAD																					
6	WELDING OUTLET (32 A, 3-Ø)	WO-01	Feeder	-	3-Ø	S	400	17.71	32.0	17.71	1	0.8	1.0							8.86	11.07	6.64
7	WELDING OUTLET (32 A, 1-Ø)	WO-02	Feeder	-	1-Ø	S	230	5.89	32.0	5.89	1	0.8	1.0							2.95	3.68	2.21
8	TRANSFORMER RECTIFIER (CP)	TR-01	Feeder	-	1-Ø	C	230	2.2	12.0	2.2	1	0.8	1.0	2.2	2.75	1.65						
9	BUILDING LOAD - CONTROL ROOM DB	CR-DB	Feeder	-	3-Ø	C	400	15	27.1	15	1	0.8	1.0	15	18.75	11.3						
10	UPS LOAD	UPS-01	Feeder	-	3-Ø	C	400	12.5	22.6	12.5	1	0.8	1.0	12.5	15.63	9.4						
11	LIGHTING DB-01	LDB-01	Feeder	-	3-Ø	I	400	6.5	11.73	6.5	1	0.8	1.0				6.5	8.1	4.9			
12	OPERATOR ROOM	OR-DB	Feeder	-	3-Ø	C	400	3	5.4	3	1	0.8	1.0	3	3.75	2.3						

<div><div></div><div>ENAR PETROTECH SERVICES (PVT) LTD.</div><div>7-B, KORANGI INDUSTRIAL AREA, KORANGI-KARACHI</div></div>		ELECTRICAL LOAD LIST												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-6501																			

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

B	TAY-GPP																					
13	LP CONDENSATE PUMP MOTOR -A	PM-4601 A	Motor	DOL	3-Ø	C	400	4	6.42	2.92	0.73	0.9	0.914	3.20	3.56	1.55						
14	LP CONDENSATE PUMP MOTOR -B	PM-4601 B	Motor	DOL	3-Ø	C	400	4	6.42	2.92	0.73	0.9	0.914	3.20	3.56	1.55						
	MISCELLANEOUS LOAD																					
15	UPS LOAD	UPS-01	Feeder	-	3-Ø	C	400	6.5	11.7	6.5	1	0.8	1.0	6.5	8.13	4.9						
16	OPERATOR ROOM	OR-DB	Feeder	-	3-Ø	C	400	3.0	5.4	3.0	1	0.8	1.0	3.0	3.75	2.3						
17	LIGHTING DB-02	LDB-02	Feeder	-	3-Ø	I	400	3.5	6.31	3.5	1	0.8	1.0				3.5	4.4	2.6			
TOTAL LOW VOLTAGE LOAD														176.99	220.22	130.80	10.00	12.50	7.50	97.39	121.66	72.89

<div><div><u>EXPLANATION OF CALCULATIONS</u></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</div><div>Load Factor : The Load Factor is calculated as: LF = B / CAP(kW)</div><div>kW, kVAr & kVA: kW = (B)/(EF) kVAr = kW * tan kVA = $\sqrt{\left(kW^2 + kVAr^2\right)}$</div><div>Where: B = Absorbed/Required Power (kW), CAP = Rated Output (kW), uF = Load Factor, EF = Efficiency, PF = Power Factor</div><div>ABBREVIATION: C - Continuous I - Intermittent S - Standby</div></div>	LOAD SUMMARY - LOW VOLTAGE													
								kW		kVA		kVAr		
	CONTINUOUS LOAD							176.99		220.22		130.80		
	MAXIIMUM DEMAND (100% of Continuous + 50% of Intermitant)							181.99		226.47		134.55		
	PEAK DEMAND (100% of Continuous + 50% of Intermittant + 50% Standby)							230.68		287.30		171.00		
	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 effeciency class shall be considered by the Contractor for procurement of all Low Voltage Electrical motors.														