









Owner:	Client:	GENERAL AUTHORITY OF HORMOZGAN PERSIAN GULF PORT PAYA OIL PRODUCT TERMINAL				Consultant:	Supervisor:
							
DOC. TITLE		ELECTRICAL LOAD LIST & BALANCE				Behin Tarh Paydar	
DOC. NO.	POT-150-DE-EL-LST-3102	Rev.	01	Page No:	1 Of 3		
<h1>ELECTRICAL LOAD LIST & BALANCE</h1>							
01	1404.04.07	Issued For Approval	BTP	A.Madhian	A.Madhian	R.Razmi	
00	1403.12.21	First Issued	BTP	A.Madhian	A.Madhian	R.Razmi	
Rev.	Issue Date	Purpose of Issue	ORG.	Prepared	Checked	Approved	

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1. Status:

E: Estimated Data
P: Preliminary Data
F: Finalized Data
V: Vendor Data

2. Load Type:

M: Motor
F: Feeder

3. Load Category:

N: Normal Feeder (Non-Essential)
E: Emergency Feeder (Essential)
V: Vital (Critical) Feeder

4. Duty Cycle:

C: Continuous Load
I: Intermittent Load
S: Standby Load

5. Diversity Factor:

Duty Cycle	Range	Coefficient value for different app.
Continuous	(100-110)%	100% for all Continuous Loads
Intermittent	(30-75)%	Socket & Welding Outlets: 30%
		MOVs: 30%
		Process Loads: 50%
Standby	(0-10)%	0% for all Standby Loads

6. API factor: Based on API 610, Table 11, design margine for sizing of motor rating power shall be:





Motor Name Plate Rating		Percentage of Rated Pump Power(%)
kW	HP	
P<22	P<30	125
22<P<55	30<P<75	115
P>55	P>75	110

7. Equations are as follow:

Required Power (kW) = Mech. Power or BHP x API Factor
Absorbed Power (kW) = (Rated Power / Efficiency) x Diversity Factor
Apparent Power (KVA) = Active Power / Power Factor
Reactive Power (KVAR) = $\sqrt{(S^2 - P^2)}$

8. Motor's Data

Data related to Power Factor & Efficiency of LV Motors has been specified considering IE1 motors.
Final data will be specified after receiving Vendor's data.

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DOCUMENT TITLE : ELECTRICAL LOAD LIST & BALANCE																												
ITEM	REVISION	TAG NUMBER	LOAD DISCRIPTION	UPSTREAM PANEL	LOAD TYPE	LAOD CATEGORY		DUTY CYCLE	DIVERSITY FACTOR	BASIC DATA				RATED DATA				EMERGENCY ABSORB POWER				NORMAL ABSORB POWER			NOTE			
						EMG	NOR.			HYD. POWER(KW)	API FACTOR (%)	BHP (KW)	VOLTAGE	EFFICIENCY	POWER FACTOR	REQ. POWER (KW)	FLC	RATED POWER(KW)	ABSORBED ACTIVE POWER(KW)	ABSORBED REACTIVE POWER(KW)	ABSORB APARANT POWER (KVA)	ABSORBED ACTIVE POWER(KW)	ABSORBED REACTIVE POWER(KW)	ABSORB APARANT POWER (KVA)				
1	0	P-10A	OIL LOAD/UNLOADING PUMP GEAR PUMP	LV-MCC	M	1	0	INT.	0.75	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	18.73	11.61	22.03	0.00	0.00	0.00				
2	0	P-10B	OIL LOAD/UNLOADING PUMP GEAR PUMP	LV-MCC	M	1	0	INT.	0.75	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	18.73	11.61	22.03	0.00	0.00	0.00				
3	0	P-10C	OIL LOAD/UNLOADING PUMP GEAR PUMP	LV-MCC	M	1	0	INT.	0.75	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	18.73	11.61	22.03	0.00	0.00	0.00				
4	0	P-10D	OIL LOAD/UNLOADING PUMP GEAR PUMP	LV-MCC	M	1	0	INT.	0.75	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	18.73	11.61	22.03	0.00	0.00	0.00				
5	0	P-20	CIRCULATING PUMP	LV-MCC	M	0	1	INT.	0.75	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	0.00	0.00	0.00	18.73	9.87	22.03				
6	0	P-21	CIRCULATING PUMP	LV-MCC	M	0	1	INT.	0.75	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	0.00	0.00	0.00	18.73	9.87	22.03				
7	0	P-22	CIRCULATING PUMP	LV-MCC	M	0	1	STA.	0.1	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	0.00	0.00	0.00	2.50	1.32	2.94				
8	0	P-23	CIRCULATING PUMP	LV-MCC	M	0	1	STA.	0.1	17.78	1.25	22.23	0.4	0.89	0.85	24.97	50.94	30	0.00	0.00	0.00	2.50	1.32	2.94				
9	0	P-40A	SHIP LOADING SCREW PUMP	LV-MCC	M	1	0	INT.	0.75	60	1.1	66.00	0.4	0.87	0.93	75.86	139.69	90	56.90	22.49	61.18	0.00	0.00	0.00				
10	0	P-40B	SHIP LOADING SCREW PUMP	LV-MCC	M	1	0	INT.	0.75	60	1.1	66.00	0.4	0.87	0.93	75.86	139.69	90	56.90	22.49	61.18	0.00	0.00	0.00				
11	0	P-40C	SHIP LOADING SCREW PUMP	LV-MCC	M	1	0	STA.	0.1	60	1.1	66.00	0.4	0.87	0.93	75.86	139.69	90	7.59	3.00	8.16	0.00	0.00	0.00				
12	0	B-01	HOT OIL BOLER PACKAGE	LV-MCC	F	1	0	INT.	0.75	N/A	N/A	N/A	0.4	N/A	0.85	N/A	N/A	100	75.00	46.48	88.24	0.00	0.00	0.00				
13	0	P-70	FUEL PUMP	LV-MCC	M	0	1	INT.	0.75	1.85	1.25	2.31	0.4	0.81	0.85	2.85	5.09	3	0.00	0.00	0.00	2.14	1.13	2.52				
14	0	P-602	FIRE WATER ELECTRICAL PUMP	LV-MCC	M	0	1	INT.	0.75	157.41	1.1	173.15	0.4	0.93	0.89	186.18	324.36	200	0.00	0.00	0.00	139.64	63.67	156.90				
15	0	P-603A	JUCKY PUMP	LV-MCC	M	1	0	CON.	1	4.17	1.25	5.21	0.4	0.87	0.83	5.99	19.13	11	5.99	4.03	7.22	0.00	0.00	0.00				
16	0	P-603B	JUCKY PUMP	LV-MCC	M	1	0	STA.	0.1	4.17	1.25	5.21	0.4	0.87	0.83	5.99	19.13	11	0.60	0.40	0.72	0.00	0.00	0.00				
17	0	P-90	OILY SEWER TANK PUMP	LV-MCC	M	0	1	INT.	0.75	2.02	1.25	2.53	0.4	0.85	0.81	2.97	9.80	5.5	0.00	0.00	0.00	2.23	1.31	2.75				
18	0	P-91	OILY SUMP PUMP	LV-MCC	M	0	1	INT.	0.75	0.25	1.25	0.31	0.4	0.85	0.81	0.37	5.35	3	0.00	0.00	0.00	0.28	0.16	0.34				
19	0	C-01	AIR COMPRESSOR PACKAGE	LV-MCC	F	0	1	INT.	0.75	N/A	N/A	N/A	0.4	N/A	0.85	N/A	169.81	100	0.00	0.00	0.00	75.00	39.51	88.24				
20	0	BA-10	BASCULE	LV-MCC	F	0	1	INT.	0.75	N/A	N/A	N/A	0.4	N/A	0.85	N/A	1.70	1	0.00	0.00	0.00	0.75	0.40	0.88				
21	0	AC-UPS-01	AC UPS SYSTEM	LV-MCC	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	19.10	11.25	11.25	6.97	13.24	0.00	0.00	0.00	REVISED			
22	0	DC-UPS-01	DC UPS SYSTEM	LV-MCC	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	7.64	4.5	4.50	2.79	5.29	0.00	0.00	0.00	REVISED			
23	0	BD-00-DP-01	AREA LIGHTING PANEL 01	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	14.86	8.75	8.75	5.42	10.29	0.00	0.00	0.00	REVISED			
24	0	BD-00-DP-02	AREA LIGHTING PANEL 02	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	15.71	9.25	9.25	5.73	10.88	0.00	0.00	0.00	REVISED			
25	0	BD-00-DP-03	AREA LIGHTING PANEL 03	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	6.52	3.84	3.84	2.38	4.52	0.00	0.00	0.00	REVISED			
26	0	S8-FO1	SREVICE BOX FEEDER 01	BD-DP-02	F	0	1	INT.	0.75	N/A	N/A	N/A	0.4	0.9	0.85	N/A	63.00	37.1	0.00	0.00	0.00	27.83	14.66	32.74				
27	0	S8-FO2	SREVICE BOX FEEDER 02	BD-DP-02	F	0	1	INT.	0.75	N/A	N/A	N/A	0.4	0.9	0.85	N/A	63.00	37.1	0.00	0.00	0.00	27.83	14.66	32.74				
28	0	S8-FO3	SREVICE BOX FEEDER 03	BD-DP-02	F	0	1	INT.	0.75	N/A	N/A	N/A	0.4	0.9	0.85	N/A	63.00	37.1	0.00	0.00	0.00	27.83	14.66	32.74				
29	0	BD-07-DP-01	DISTRIBUTION PANEL FOR SUBSTATION	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	113.78	67	67.00	41.52	78.82	0.00	0.00	0.00	REVISED			
30	0	BD-08-DP-01	ADMIN EMG. DISTRIBUTION PANEL	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	63.00	37.1	37.10	22.99	43.65	0.00	0.00	0.00	REVISED			
31	0	BD-08-DP-02	ADMIN NOR. DISTRIBUTION PANEL	BD-DP-02	F	0	1	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	67.04	39.48	0.00	0.00	0.00	39.48	20.80	46.45	REVISED			
32	0	BD-09-DP-01	GATE HOUSE PANEL	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	14.43	8.5	8.50	5.27	10.00	0.00	0.00	0.00	REVISED			
33	0	BD-06-DP-01	FIRE FIGHTING EMG. PANEL	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	38.51	22.68	22.68	14.06	26.68	0.00	0.00	0.00	REVISED			
34	0	BD-05-DP-01	BOILER ROOM EMG. PANEL	BD-DP-01	F	1	0	CON.	1	N/A	N/A	N/A	0.4	0.9	0.85	N/A	38.51	22.68	22.68	14.06	26.68	0.00	0.00	0.00	REVISED			
NOTE : FOR DIESEL GENERATOR CALCULATIONS SIMULTANEOUS OPERATING 2 SHIP LOADING PUMP OR 3 TRUCK PUMPS SHALL BE CONSIDERED																												
TOTAL ABSORBED EMERGENCY ACTIVE POWER (KW)				473.44		TOTAL ABSORBED NORMAL ACTIVE POWER (KW)								385.44		TOTAL (N+E) ABSORBED ACTIVE POWER (KW)						858.88						
TOTAL ABSORBED EMERGENCY REACTIVE POWER (KVAR)				266.50		TOTAL ABSORBED NORMAL REACTIVE POWER (KVAR)								193.30		TOTAL (N+E) ABSORBED REACTIVE POWER (KVAR)						459.80						
TOTAL ABSORBED EMERGENCY APPARENT POWER (KVA)				544.89		TOTAL ABSORBED NORMAL APPARENT POWER (KVA)								446.22		TOTAL (N+E) ABSORBED APPARENT POWER (KVA)						991.11						