

PROJECT:		REVISION		PREPARED BY		CHECKED BY		APPROVED BY		PDC-4160-01						
DOCUMENT No.:										DATE: 06/26/07						
LOADS LIST										PAGE: 1						
Equipments										CONSUMED LOAD						
Tag Equipment	Description	Load Classification (1)	RATED POWER	NOMINAL LOAD	LOAD FACTOR = A/B	EFFICIENCY f _η	NOMINAL VOLTAGE	RPM	POWER FACTOR pf	kW = A/D						
			kW	kW	P.U.	P.U.	kV	RPM	cos φ	Continuous (3)		Intermittent (3)		Spare (3)		
										kW	kVA	kW	kVA	kW	kVA	
1	D3.140305	Demethanizer Bottom Pump	E	605,00	671,40	0,90	0,95	4,16	3.600,00	0,90	634,17	307,14				
2	D3.140306	Demethanizer Bottom Pump	E	605,00	671,40	0,90	0,95	4,16	3.600,00	0,90					634,17	307,14
3	D3.140303	Absorber Bottom Pump # 1	E	268,00	298,40	0,90	0,95	4,16	3.600,00	0,85	282,11	174,83				
4	D3.140304	Absorber Bottom Pump # 2	E	268,00	298,40	0,90	0,95	4,16	3.600,00	0,85					282,11	174,83
5	D3.142601	Fire Water Pump #1	E	268,00	298,40	0,90	0,95	4,16	3.600,00	0,85			282,11	174,83		
6	D3.142602	Fire Water Pump #2	E	268,00	298,40	0,90	0,95	4,16	3.600,00	0,85			282,11	174,83		
7	PDC-480-01	Power Distribution Center 480 #1	E	2.046,70	2.276,33	0,90	0,95	4,16		0,86	1.210,43	647,82	436,47	239,48	548,57	320,93
8	PDC-480-02	Power Distribution Center 480 #2	E	2.030,92	2.254,98	0,95	0,95	4,16		0,86	1.378,00	837,43	293,00	141,91	504,52	304,42

REMARKS:

1) **Load Classification**
 - Essential Loads (E): A load that when failing, will affect the continuity, the quality or the quantity of the product
 - Non Essential Loads (NE): A load that when failing, will not affect the continuity, the quality or the quantity of the product.
 - Vital Loads (V): A load that when failing, can cause an unsafe condition of the process and/or electrical installation, jeopardize life or cause major damage to the installation

2) **Rated Power**
 For Motors: shaft power at the operation point
 For instrumentation, computers, communication, HVAC: load required during normal operation
 For lighting: total load during dark hours
 For workshops: average total load in normal operations

3) **Type of Load**
 - Continuous (C): Continuously required for normal operation
 - Intermittent (I): Intermittent or eventually required for normal operation
 - Spare (S): Spare or Stand-by Loads

4) **Sizing Criteria**
 Transformer shall be sizing in a such way, that the Peak Load value multiply by a design factor must not exceed the air forced cooling capacity (ONAF). In the same way, the operation in normal conditions must not exceed the natural cooling capacity (ONAN).

Demand Factor "x", "y", "z"

Continuous Demand → (MD = xE + yF)	15 min. Peak Load → (PL = xE + yF + zG)	Maximum Connected Load → MCL = E + F + G
---------------------------------------	--	---

Design Factor: 1,20

Transformer and Feeder Sizing

Minimum ONAF Capacity	5.987 kVA	H + K
Reserve	237 kVA	N - H
Transformer Capacity	5.000 kVA (ONAN) 6.250 kVA (ONAF)	N/A

Primary Voltage: 13,80 kV
 Secondary Voltage: 4,16 kV

ONAN	ONAF
200	261
400	367
600	467

TOTAL kVA = √(kW² + kVA²)