



DOCUMENT No: Q3126031-00-EL-LST-00001 REV. No. 10-Jan-24 1 OF 9

CUSTOMER: INNOVX

PHOSPHORIC ACID TREATMENT _ TRACE ELEMENT PROJECT:

PROJECT No: Q3126031

PLANT / ASSET: GENERAL - ALL AREAS

DOCUMENT TITLE: ELECTRICAL LOAD LIST

1. Supplier Data Status Code

2. Abbreviations used

P = Preliminary B = Bid Data DOL = Direct On Line VFD = Variable Frequency Drive

C = Certified A = As-Built FOL = Feeder On Line

Revision History and Approval

Rev.	Date	Revision Description	Originator	Checked	Lead Approval	Project Approval
0	10-Jan-24	Issued for Design	FMBARKI	TMULLA	AOUMGHAR	FELRHAZAL

CONFIDENTIAL INFORMATION. REPRODUCTION AND USE PROHIBITED EXCEPT IN ACCORDANCE WITH COMPANY'S WRITTEN PERMISSION

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Projec	t Name	Phosphoric Acid Treatment - Trace E	lement						31-0	0-EL-	LST-00001
Custor	ner	INNOVX					Rev	. 0			
Docum	nent Title	ELECTRICAL LOAD LIST					Pag	e 2			
Index	Sheet										
Page	Subject						Issue)			Remarks
				0							
	Cover Sheet			Х							
	Index Sheet			Х							
	Notes			Х							
	Load List			Х							
	Annexure 1			Х	4						
	Annexure 2			X X	4						
9	Annexure 3			Х	4						
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CALCULATION

NOTES

DOC. NO.: Q3126031-00-EL-LST-00001

: ELECTRICAL

REV. NO. 0 PAGE

GROUP

CONTRACT NO. / TITLE: Q3126031 Phosphoric Acid Treatment - Trace Element

ITEM NO. / NAME / SUBJECT : ELECTRICAL LOAD LIST OF PAT TE

OBJECTIVE

To prepare complete load list for this project including all type of loads: Mechanical equipment's, UPS load, Lighting/Sockets loads, SID, VDS, Instrumentation/DCS, and also loads for Cathodic protection and Heat tracing.

This document is the key document to conduct all electrical engineering activities: power balance, equipment sizing, single line diagrams, etc.

2 BASIS OF DESIGN / INPUTS

PAT_TE Area Classification Classification:

Hold 2

Absorbed kW:

As per mechanical data.

Vendor equipments for which details not available, load factor equal to 0.85 is used.

Selected Vendor:

This column can be filled after PO awarding for all packages.

It allows to know selected Vendor for each equipment for Vendor Data search when required.

UPS Power Requirement:

All Instrumentation, IT and related loads with relative type of power supply (UPS / Non-UPS),

voltage levels (220 VAC / 220 VDC), voltage types (AC / DC), ratings and quantity

shall be separately indicated in Annexure - I (Instrument / Electrical UPS & NON-UPS Power Requirement Summary).

Cathodic Protection and Heat Tracing System:

Refer to annexure 2 & 3 to define needs for cathodic protection and heat tracing.

Not Applicable

Based on available package vendor information, the load list has been prepared now. Presently, rating considered are as per process equipment list as they are higher then vendor offers. Upon receipt of final and firm data(VDR) from vendor, the load list will to be updated.

3 INFORMATION STATUS

P : Preliminary

B: Extraction from Bid (Highest Among Bids)

O : As per PO (Selected Vendor)

F: As per Code-F (Final) Approved Vendor Drg.

E : Estimated Power

Revision Sub Code:

- Added Consumer
- Deleted Consumer Revised TAG/Description
- Revised Rating
- Revised Voltage
- 6 Revised Duty C/I Revised W/S
- 8 Revised Load Categorization
- Revised SWG No. Revised Feeder Type 9
- 10 11
- Revised Feeder Typical
- 12 Revised CWA

4 HOLDS

- 1. UPS rating and consumer details
- 2. Hazardous areas

CODES, STANDARDS / STATUTORY REQUIREMENTS WITH EDITION / YEAR

6 COMPUTER PROGRAM	COMPANY STANDARDS.	REFERENCE DOCUMENTS
NIL	NIL	Q3126031-00-PR-LST-00003 Rev. A, Equipment List. Q3126031-01-EL-DSL-00001 Rev B, KEY SINGLE LINE DIAGRAM. Q3126031-00-EL-CAL-00001, Rev 0, LOAD CALCULATION AND TRANSFORMER SIZING. Q3126031-00-PI-DAL-00001, Rev B, PLOT PLAN

				L.	Project Title		FNFRAL -	ALL ARE	A.C.		ELECTRI	CAL LOAD L	ICT	-						_	Don No	Q3126031-00-EL-LST-00001	
1	5/A			· ·	Project Locat		ORF LASE				ELECTRI	CAL LOAD L	151	+							Rev. No.	0	
				i i	Client Name		NOVX														Date	1/10/2024	
REV. NO.	SUB- REV. NO. PAT-TE AREA	EQUIPMEI NO.		ERVICE / FIVE DESCRIPTION F	NAMEPL ATE LO RATING FA KW)	DAD L	BSORBE POWER W)	EFF (%)	FEED VOLT (V)		Y (C WORKIN SPARE (W/S)	OF LOAI (EME / NE)	FEEDER TYPE	FEEDER TYPICAL	WINDING TEMP. DETECTOR TYPE (PTCs / RTDs)	BEARING TEMP. DETECTO R (BTDs)	P&ID NO.	SWITCHGEAR TAG NO.	STATU S (P/B/F/ O)	SELECTED VENDOR	MOTOR BRAND	REMARKS	PACKAGE NAME
0	Area20-Primary Ex	xtraction TE-20-AP-	P-06-M1 An	rea 20 Clarified Acid Pump	110	0.71	78.6	95.1	0.86 6	30 C	W	NE	VFD	M9	3 WIRE RTDs - 3 NOS	NA	PR-PID-00002	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary E	xtraction TE-20-KP-	P-06-M2 An	rea 20 Clarified Acid Pump	110	0.71	78.6	95.1	0.86 6	60 C	S	NE	VFD	M9	3 WIRE RTDs - 3 NOS	NA	PR-PID-00002	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary E	xtraction TE-20-AP-	P-07-M1 Pri	rimary CIX Feed Pump	110	0.91	100	95.1	0.86 6	60 C	w	NE	DOL	M3	3 WIRE RTDs - 3 NOS	NA	PR-PID-00004	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary E	xtraction TE-20-KP-	P-07-M2 Pri	rimary CIX Feed Pump	110	0.91	100	95.1	0.86 6	60 C	S	NE	DOL	M3	3 WIRE RTDs - 3 NOS	NA	PR-PID-00004	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary E:	xtraction TE-20-AP-	P-08-M1 Re	eturn Acid Pump	75	0.63	47.6	95	0.87 6	30 C	w	NE	DOL	мз	3 WIRE RTDs - 3 NOS	NA	PR-PID-00007	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary Ex	xtraction TE-20-KP-	P-08-M2 Re	eturn Acid Pump	75	0.63	47.6	95	0.87 6	30 C	S	NE	DOL	МЗ	3 WIRE RTDs - 3 NOS		PR-PID-00007	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary E			IX Drains Pump		0.57		86.8		60 I	w	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00008	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary E:			IX Drains Pump		0.57		86.8		30 I	S	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00008	00EB40	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area20-Primary E			loth Wash Pump		0.85		93.7		30 I	w	NE	DOL	M2	3 WIRE RTDs - 3 NOS		PR-PID-00003	00EB40	P JESA	LATER	LATER		LATER
0	Area20-Primary E			rea 20 Sump Pump		0.65		88.6		30 I	W	NE	DOL	M0	2 WIRE PTC - 3 NOS		PR-PID-00007	00EB40	P JESA	LATER	LATER		Vertical Submerged Pump Package
0	Area20-Primary E			eturn Acid Tank Agitator		0.85		93.7		60 C	W	EME	DOL	M2	3 WIRE RTDs - 3 NOS		PR-PID-00007	00EB40	P JESA	LATER	LATER		Agitator
0	Area20-Primary E			Iter Cake Blower		0.85		94.8	0.88 6		W	NE	DOL	M2	3 WIRE RTDs - 3 NOS		PR-PID-00003	00EB40	P JESA	LATER	LATER		LATER
U	Area20-Primary E			rimary CIX Air Blower		0.85				30 I	W	NE	DOL	MO	2 WIRE PTC - 3 NOS		PR-PID-00006	00EB40	P JESA	LATER	LATER		Fans & Air Blowers Package
U	Area20-Primary E			rimary CIX Air Blower		0.85		88.6		30 I	S	NE	DOL	MO	2 WIRE PTC - 3 NOS		PR-PID-00006	00EB40	P JESA	LATER	LATER		Fans & Air Blowers Package
U	Area20-Primary E: Area20-Primary E:			larifled Acid Polishing Filter larifled Acid Polishing Filter		0.85		90.4		0 C	W	NE NE	DOL	MO	2 WIRE PTC - 3 NOS 2 WIRE PTC - 3 NOS		PR-PID-00003 PR-PID-00003	00EB40 00EB40	P JESA P JESA	LATER	LATER	1	LATER
0	Area20-Primary E:			larified Acid Polishing Filter rimary CIX Unit		0.85		90.4 88.6		50 C	S	NE NF	VFD	MU	2 WIRE PTC - 3 NOS 2 WIRE PTC - 3 NOS		PR-PID-00003 PR-PID-00004	00EB40 00EB40	P JESA P VENDOR	LATER	LATER	VFD in Vendor SCOPE	LATER
0	Area30-Secondary			econdary CIX Feed Pump		0.55		91.4		30 C	w	NE	VFD	MO	2 WIRE PTC - 3 NOS		PR-PID-00004 PR-PID-00009	00EB40 00EB41	P JESA	LATER	LATER	VFD III VERIOUS SCOPE	Centrifugal Pumps Package
0	Area30-Secondary			econdary CIX Feed Pump		0.55		91.4		50 C	o v	NE NE	VFD	MO	2 WIRE PTC - 3 NOS		PR-PID-00009	00EB41	P JESA P JESA	LATER	LATER		Centrifugal Pumps Package Centrifugal Pumps Package
0	Area30-Secondary	,		econdary CIX Feed Pump baded Secondary Regen Pump		0.55		91.4 85.3		50 C	S w	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00009 PR-PID-00013	00EB41	P JESA P JESA	LATER	LATER		Centrifugal Pumps Package Centrifugal Pumps Package
0	Area30-Secondary			paded Secondary Regen Pump		0.72		85.3		30 C	e e	NE	VFD	MO	2 WIRE PTC - 3 NOS		PR-PID-00013 PR-PID-00013	00EB41	P JESA P JESA	LATER	LATER		Centrifugal Pumps Package Centrifugal Pumps Package
0	Area30-Secondary			nent Solution Pump		0.72		91.4			w	NE	VFD	MO	2 WIRE PTC - 3 NOS		PR-PID-00013	00EB41	P JESA P JESA	LATER	LATER		
0	Area30-Secondary	,		pent Solution Pump		0.6			0.83 6		o v	NE	VFD	MO	2 WIRE PTC - 3 NOS		PR-PID-00017 PR-PID-00017	00EB41	P JESA P JESA	LATER	LATER		Centrifugal Pumps Package Centrifugal Pumps Package
0	Area30-Secondary			econdary Pretreat Feed Pump		0.55	1.2			50 C	w S	NE	DOL	MO	2 WIRE PTC - 3 NOS		PR-PID-00017 PR-PID-00011	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package Centrifugal Pumps Package
n	Area30-Secondary			econdary Pretreat Feed Pump		0.55	1.2	_		50 C	9	NE	DOL	MO	2 WIRE PTC - 3 NOS		PR-PID-00011	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary			econdary Raffinate Pump		0.33	3.9	89		50 C	W	NF	VFD	MC	2 WIRE PTC - 3 NOS		PR-PID-00011	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
n	Area30-Secondary			econdary Raffinate Pump		0.71	3.9	89		50 C	9	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00014	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary			econdary Pretreat Effluent Pump		0.6		86.8		30 C	w	NE	DOL	MO	2 WIRE PTC - 3 NOS		PR-PID-00016	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
n	Area30-Secondary			econdary Pretreat Effluent Pump		0.6		86.8		50 C	9	NE	DOL	MO	2 WIRE PTC - 3 NOS		PR-PID-00016	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary			rea 30 Sump Pump		0.55		88.6		30 I	w	NE	DOL	MO	2 WIRE PTC - 3 NOS		PR-PID-00017	00EB41	P JESA	LATER	LATER		Vertical Submerged Pump Package
0	Area30-Secondary			econdary Regen Effluent Pump		0.55		80.8		30 C	w	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00019	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary			econdary Regen Effluent Pump		0.55		80.8		30 C	s	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00019	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary			oncentrated Secondary Regen Pump		0.22	0.08	82		30 C	w	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00018	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary	y Extraction TE-30-BP-	P-20-M2 Co	oncentrated Secondary Regen Pump		0.22	0.08	82		30 C	w	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00018	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary	y Extraction TE-30-AP-	P-21-M1 Of	ff-Spec Recycle Pump	1.1	0.55	0.6	84.1	0.8 6	30 C	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00018	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary	y Extraction TE-30-AP-	P-22-M1 Ca	austic Pump	0.37	0.35	0.13	82	0.81 3	30 C	w	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00020	00EB41	P JESA	LATER	LATER		Metering Pump Package
0	Area30-Secondary			austic Pump		0.35	0.13	82		30 C	s	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00020	00EB41	P JESA	LATER	LATER		Metering Pump Package
0	Area30-Secondary	y Extraction TE-30-AP-	P-28-M1 NF	F Area Sump Pump	4	0.55	2.2	88.6	0.82 6	30 I	w	NE	DOL	MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00019	00EB41	P JESA	LATER	LATER		Vertical Submerged Pump Package
0	Area30-Secondary	y Extraction TE-30-AP-	P-32-M1 Co	oncentrated Spent Solution Pump	1.5	0.6	0.9	85.3	0.78 6	60 C	w	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00022	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary	y Extraction TE-30-KP-	P-32-M2 Co	oncentrated Spent Solution Pump	1.5	0.85	1.3	85.3	0.78 6	60 C	S	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00022	00EB41	P JESA	LATER	LATER		Centrifugal Pumps Package
0	Area30-Secondary	y Extraction TE-30-AA-	A-03-M1 Se	econdary CIX Feed Tank Agitator	3	0.85	2.6	86.8	0.79 6	60 C	W	NE	DOL	MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00009	00EB41	P JESA	LATER	LATER		Agitator
0	Area30-Secondary			paded Secondary Regen Tank Agitator		0.85		85.3		60 C	W	NE	DOL	MO			PR-PID-00013	00EB41	P JESA	LATER	LATER		Agitator
0	Area30-Secondary	y Extraction TE-30-AA-	A-04-M1 Sp	pent Solution Tank Agitator	2.2	0.85	1.9	90	0.9 6	30 C	W	NE	DOL	MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00013	00EB41	P JESA	LATER	LATER		Agitator
0	Area30-Secondary	y Extraction TE-30-AA-	N-06-M1 Se	econdary Pretreat Feed Tank Agitator	0.75	0.85	0.6	82.5	0.75 6	30 C	W	NE	DOL	MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00011	00EB41	P JESA	LATER	LATER		Agitator
0	Area30-Secondary	y Extraction TE-30-AA-	A-07-M1 Co	oncentrated Secondary Regen Tank Agitator	0.55	0.85	0.5	80.8	0.78 3	30 C	w	NE	DOL	МО	2 WIRE PTC - 3 NOS	NA	PR-PID-00018	00EB41	P JESA	LATER	LATER		Agitator
0	Area30-Secondary	y Extraction TE-30-BA-	A-07-M2 Co	oncentrated Secondary Regen Tank Agitator	0.55	0.85	0.5	80.8	0.78 3	30 C	w	NE	DOL	МО	2 WIRE PTC - 3 NOS	NA	PR-PID-00018	00EB41	P JESA	LATER	LATER		Agitator
0	Area30-Secondary			oncentrated Spent Solution Tank Agitator		0.85	1.9			60 C	W	NE	DOL	MO			PR-PID-00022	00EB41	P JESA	LATER	LATER		Agitator
0	Area30-Secondary			econdary CIX Air Blower		0.85		88.6			W	NE	DOL	M0	2 WIRE PTC - 3 NOS		PR-PID-00010	00EB41	P JESA	LATER	LATER		Fans & Air Blowers Package
0	Area30-Secondary			econdary CIX Unit		0.85		88.6		60 C	W	NE	VFD	MO	2 WIRE PTC - 3 NOS		PR-PID-00012	00EB41	P VENDOR	LATER	LATER	VFD in Vendor SCOPE	LATER
0	Area30-Secondary			econdary Regen Filtration Package		0.85	181.1		6			NE	FOL	P0			PR-PID-00015	00EB41	P JESA	LATER	LATER		Secondary Regen Filtration Package
0	Area30-Secondary			F Feed Pump		0.85	1.9			60 C	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00015	Package vendor MCC	P VENDOR	LATER	LATER		Secondary Regen Filtration Package
0	Area30-Secondary			F Backwash Pump		0.85		84.1		30 I	W	NE	VFD	M6	2 WIRE PTC - 3 NOS		PR-PID-00015	Package vendor MCC	P VENDOR	LATER	LATER		Secondary Regen Filtration Package
0	Area30-Secondary			NF Feed Pump		0.85				0 C	W	NE	VFD	M9	3 WIRE RTDs - 3 NOS		PR-PID-00015	Package vendor MCC	P VENDOR	LATER	LATER		Secondary Regen Filtration Package
0	Area30-Secondary			2 NF Feed Pump		0.85				0 C	W	NE	VFD	M9	3 WIRE RTDs - 3 NOS		PR-PID-00015	Package vendor MCC	P VENDOR	LATER	LATER		Secondary Regen Filtration Package
	Area30-Secondary	y Extraction TE-30-AP-	2-27-M1 UF	F Backwash Transfer Pump	7.5	0.85	6.4 1.9	90.4	0.83 6	30 C	w	NE	VFD	M6	2 WIRE PTC - 3 NOS 2 WIRE PTC - 3 NOS		PR-PID-00015	Package vendor MCC Package vendor MCC	P VENDOR P VENDOR	LATER	LATER		Secondary Regen Filtration Package

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		T			Client Nar	ne	INNOVX					-								Date	1/10/2024	
	EV. SUB- REV. NO.	PAT-TE AREA	EQUIPMENT NO.	SERVICE / DRIVE DESCRIPTION	NAMEPL ATE RATING (KW)	LOAD FACTOR	ABSORBE D POWER (kW)	EFF (%)	FEEDER VOLTAG (V)	E DUTY	(C WORKING SPARE (W/S)	OF LOAI (EME / NE)		FEEDEI TYPICA		BEARING FEMP. DETECTO R (BTDs)	SWITCHGEAR TAG NO.	STATU S (P/B/F/ O)	SELECTE VENDOR	MOTOR BRAND	REMARKS	PACKAGE NAME
57 (Area30-Secondary Extraction	TE-30-AX-06	Spent Solution Filtration Package	169.9	0.85	135.2		660			NE	FOL	P0		PR-PID-00021	00EB41	P JESA	LATER	LATER		Spent Solution Filtration Package
58 (Area30-Secondary Extraction	TE-30-AP-29-M1	Spent Solution UF Feed Pump	5.5	0.85	4.3	89 0	8 660	С	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	VA PR-PID-00021	Package vendor MCC	P VENDOR	LATER	LATER		Spent Solution Filtration Package
59 (Area30-Secondary Extraction	TE-30-AP-30-M1	Spent Solution UF Backwash Pump	2.2	0.85	1.9	90 0	9 660	ı	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	VA PR-PID-00021	Package vendor MCC	P VENDOR	LATER	LATER		Spent Solution Filtration Package
60 0		Area30-Secondary Extraction	TE-30-AP-31-M1	Spent Solution NF Feed Pump	160	0.85	127.5	95.6 0.	38 660	С	W	NE	VFD	M10	3 WIRE RTDs - 6 NOS		Package vendor MCC	P VENDOR	LATER	LATER		Spent Solution Filtration Package
61 (Area30-Secondary Extraction	TE-30-CIP-02-M1	Spent Solution Clean in Place System	2.2	0.85	1.9	90 0	9 660	ı	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00021	Package vendor MCC	P VENDOR	LATER	LATER		Spent Solution Filtration Package
62 (Area40-Refinery-Wet Side	TE-40-AP-33-M1	Area 40 Sump Pump	1.5	0.6	0.9	85.3 0.	78 660	ı	w	NE	DOL	MO	2 WIRE PTC - 3 NOS	VA PR-PID-00026	00EB41	P JESA	LATER	LATER		LATER
63 0		Area40-Refinery-Wet Side	TE-40-AT-01-M1	Area 40 Bridge Crane	11	0.85	7.7	91.4 0.	33 660	1	W	NE	DOL	MO	2 WIRE PTC - 3 NOS	NA PR-PID-00024	00EB41	P JESA	LATER	LATER		LATER
64 6		Area40-Refinery-Wet Side	TE-40-AX-07	Refinery Wet Side Package	51	0.85	43.4		660			NE	FOL	P0	NA I	NA	LV PCC-00EB01	P JESA	LATER	LATER	Only 10kW is emergency load	Refinery Wet Side Package
35 0		Area40-Refinery-Wet Side	TE-40-AP-34-M1	Refinery Feed Pump	1.1	0.85	0.9	84.1 0	8 660	С	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	VA PR-PID-00023	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
66 (Area40-Refinery-Wet Side	TE-40-KP-34-M2	Refinery Feed Pump	1.1	0.85	0.9	84.1 0	8 660	С	S	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00023	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
67		Area40-Refinery-Wet Side	TE-40-AP-35-M1	Chilled Water Circulation Pump	1.1	0.85	0.9	84.1 0	8 660	С	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00023	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
68		Area40-Refinery-Wet Side	TE-40-KP-35-M2	Chilled Water Circulation Pump	1.1	0.85	0.9		8 660	С	S	NE	VFD	M6		NA PR-PID-00023	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
69 (Area40-Refinery-Wet Side	TE-40-AP-36-M1	Hydrogen Peroxide Unloading Pump	0.37	0.85	0.3	82 0.		1	S	NE	DOL	MO	E WILLET TO UTGO	VA PR-PID-00025	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
70 0		Area40-Refinery-Wet Side	TE-40-AP-37-M1	Caustic Dosing Pump 1	0.37	0.85	0.3		380	С	w	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00025	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
71 (Area40-Refinery-Wet Side	TE-40-KP-37-M2	Caustic Dosing Pump 1	0.37	0.85	0.3	82 0.		С	S	NE	VFD	M6		NA PR-PID-00025	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
72 (Area40-Refinery-Wet Side	TE-40-AP-38-M1	Caustic Dosing Pump 2	0.37	0.85	0.3		31 380	С	W	NE	VFD	M6	2 WIRE PTC - 3 NOS		Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
73 (Area40-Refinery-Wet Side	TE-40-KP-38-M2	Caustic Dosing Pump 2	0.37	0.85	0.3		31 380	С	S	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00025	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
74 (Area40-Refinery-Wet Side	TE-40-AP-39-M1	Hydrogen Peroxide Dosing Pump	0.37	0.85	0.3	82 0.		С	W	NE	VFD	M6		NA PR-PID-00025	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
5 0		Area40-Refinery-Wet Side	TE-40-KP-39-M2	Hydrogen Peroxide Dosing Pump	0.37	0.85	0.3		31 380	С	S	NE	VFD	M6		NA PR-PID-00025	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
76 0		Area40-Refinery-Wet Side	TE-40-AP-40-M1	Fluid Bed Recirculation Pump	1.5	0.85	1.3		78 660	С	W	EME	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00024		P VENDOR	LATER	LATER		Refinery Wet Side Package
77 (Area40-Refinery-Wet Side	TE-40-KP-40-M2	Fluid Bed Recirculation Pump	1.5	0.85	1.3		78 660	С	S	EME	VFD	M6		NA PR-PID-00025		P VENDOR	LATER	LATER		Refinery Wet Side Package
78 (Area40-Refinery-Wet Side	TE-40-AP-41-M1	Fluid Bed Underflow Pump	1.1	0.85	0.9	84.1 0		С	w	EME	VFD	M6	2 WIRE PTC - 3 NOS		Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
79 (Area40-Refinery-Wet Side	TE-40-KP-41-M2	Fluid Bed Underflow Pump	1.1	0.85	0.9		8 660	С	S	EME	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00026	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
30 0		Area40-Refinery-Wet Side	TE-40-AP-42-M1	Fluid Bed Overflow Pump	1.1	0.85	0.9		8 660	С	W	NE	VFD	M6	2 WIRE PTC - 3 NOS			P VENDOR	LATER	LATER		Refinery Wet Side Package
31 (Area40-Refinery-Wet Side	TE-40-KP-42-M2	Fluid Bed Overflow Pump	1.1	0.85	0.9	84.1 0		С	S	NE	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00024		P VENDOR	LATER	LATER		Refinery Wet Side Package
32 (Area40-Refinery-Wet Side	TE-40-AP-43-M1	Refinery Settler Underflow Pump	0.37	0.85	0.3		31 380	С	W	NE	VFD	M6	2 WIRE PTC - 3 NOS	VA PR-PID-00024	-	P VENDOR	LATER	LATER		Refinery Wet Side Package
83 C		Area40-Refinery-Wet Side	TE-40-AP-44-M2	Refinery Settler Overflow Pump	1.1	0.85	0.9	84.1 0		C	W	NE	VFD	M6 M6		VA PR-PID-00024	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package
34 (Area40-Refinery-Wet Side	TE-40-AA-09-M1 TE-40-AA-10-M1	Refinery Feed Tank Agitator	1.1	0.85	0.9	84.1 0 90 0		C C	w	NE EME	VFD	M6	2 WIRE PTC - 3 NOS	VA PR-PID-00023	Package vendor MCC	P VENDOR P VENDOR	LATER	LATER		Refinery Wet Side Package
35 (Area40-Refinery-Wet Side Area40-Refinery-Wet Side	TE-40-AA-10-M1	Fluid Bed Linderflow Tank Anitator	2.2	0.85	1.9		9 660 78 660	C	w	FMF	VFD	M6	2 WIRE PTC - 3 NOS I	NA PR-PID-00024 NA PR-PID-00026	Package vendor MCC Package vendor MCC	P VENDOR	LATER	LATER		Refinery Wet Side Package Refinery Wet Side Package
00 0		Area40-Refinery-Wet Side	TE-40-AA-11-M1	Water Chiller	37	0.85	31.5	94.6 0.		0	w	NF	DOL	M2	3 WIRE RTDs - 3 NOS II			P VENDOR	LATER	LATER		Refinery Wet Side Package
18 (Area50-Refinery-Dry Side	TE-50-AX-08	Refinery Dry Side Package	323	0.85	274.6	94.6 0.	660	C	W	NE	FOL	P0	NA I	VA PR-PID-00023		P JESA	LATER	LATER	Only 30kW is emergency	Refinery Dry Side Package
										_	1	-	1		1			1	-		ruau	
39 (Area50-Refinery-Dry Side Area50-Refinery-Dry Side	TE-50-AP-45-M1 TE-50-AP-46-M1	Area 50 Sump Pump	0.37	0.85	0.3	82 0. 82 0		-	W	NE	DOL	MO MO	2 WIRE PTC - 3 NOS I	NA PR-PID-00031 NA PR-PID-00031	Package vendor MCC	P VENDOR P VENDOR	LATER	LATER	1	Refinery Dry Side Package
5U C		Areabu-Helinery-Dry Side	TE-50-AP-46-M1 TE-50-AP-47-M1	Drum Loading Sump Pump Centrifuge Feed Pump	0.37	0.85	0.3	82 0. 84.1 0	31 380 8 660	1	w	NE NF	VFD	M0 M6		VA PR-PID-00031 VA PR-PID-00027	Package vendor MCC Package vendor MCC	P VENDOR P VENDOR	LATER	LATER	1	Refinery Dry Side Package Refinery Dry Side Package
12	_	Area50-Refinery-Dry Side	TE-50-AP-47-M1 TE-50-KP-47-M2	Centrifuge Feed Pump Centrifuge Feed Pump	1.1	0.85	0.9		8 660	c	e e	NE	VFD	MO	2 WIRE PTC - 3 NOS II	VA PR-PID-00027	Package vendor MCC Package vendor MCC	P VENDOR	LATER	LATER	+	Refinery Dry Side Package Refinery Dry Side Package
13 (_		TE-50-KP-47-M2		1.1	0.85	0.9		8 660	c	o w	NE NE	VFD	MO	2 WIRE PTC - 3 NOS II			P VENDOR	LATER	LATER	+	Refinery Dry Side Package Refinery Dry Side Package
13 (-	Area50-Refinery-Dry Side	TE-50-AP-48-M1 TE-50-AP-49-M1	Centrate Pump Venturi Recirculating Pump	1.1	0.85	1.3	84.1 U 85.3 O.		c	w	NE NF	VFD	M6	2 WIRE PTC - 3 NOS II		Package vendor MCC Package vendor MCC	P VENDOR P VENDOR	LATER	LATER	1	Refinery Dry Side Package Refinery Dry Side Package
25 (Area50-Refinery-Dry Side	TE-50-KP-49-M2	Venturi Recirculating Pump	1.5	0.85	1.3		78 660	c	9	NE	VFD	M6	2 WIRE PTC - 3 NOS I	VA PR-PID-00029	Package vendor MCC	P VENDOR	LATER	LATER		Refinery Dry Side Package
26	-	Pricaso melliely-biy side	TF-50-RP-49-M2	Packed Scrubber Recirculating Pump	1.5	0.85	1.3		78 660	c	w	NE	VFD	M6	2 WIRE PTC - 3 NOS II	VA PR-PID-00029	Package vendor MCC Package vendor MCC	P VENDOR	LATER	LATER	1	Refinery Dry Side Package
97 (Area50-Refinery-Dry Side	TE-50-KP-50-M2	Packed Scrubber Recirculating Pump	1.5	0.85	1.3	00.0	78 660	c	s	NE	VFD	M6	2 WIRE PTC - 3 NOS	VA PR-PID-00029	Package vendor MCC	P VENDOR	LATER	LATER	1	Refinery Dry Side Package
98 (Area50-Refinery-Dry Side	TE-50-AA-12-M1	Centrifuge Feed Tank Agitator	1.5	0.85	1.3		78 660	c	w	EME	DOL	MO	2 WIRE PTC - 3 NOS	VA PR-PID-00027	Package vendor MCC	P VENDOR	LATER	LATER	1	Refinery Dry Side Package
99 (Area50-Refinery-Dry Side	TE-50-AC-02-M1	Cooling Air Fan	5.5	0.85	4.7		8 660	c	w	EME	VFD	M6		VA PR-PID-00028	Package vendor MCC	P VENDOR	LATER	LATER	1	Refinery Dry Side Package
100 0		Area50-Refinery-Dry Side	TE-50-AC-05-M1	Scrubber Vent Fan	18	0.85	15.3	91.9 0.		c	w	NE	VFD	M7	3 WIRE RTDs - 3 NOS		Package vendor MCC	P VENDOR	LATER	LATER	1	Refinery Dry Side Package
01 0		Area50-Refinery-Dry Side	TE-50-AC-06-M1	Baghouse Vent Fan	5.5	0.85	4.7		8 660	c	w	NE	DOL	MO		VA PR-PID-00030		P VENDOR	LATER	LATER		Refinery Dry Side Package
02 (Area50-Refinery-Dry Side	TE-50-AS-21-M1	Uranyl Peroxide Centrifuge	22	0.85	18.7		33 660	С	w	EME	VFD	M7	3 WIRE RTDs - 3 NOS		Package vendor MCC	P VENDOR	LATER	LATER		Refinery Dry Side Package
03		Area50-Refinery-Dry Side	TE-50-AF-01-M1	Uranyl Peroxide Rotary Kiln (12 heaters)	255	0.85	216.8		36 660	С	w	3 Kw driv	_	M10	3 WIRE RTDs - 6 NOS			P VENDOR	LATER	LATER		Refinery Dry Side Package
104		Area50-Refinery-Dry Side	TE-50-AT-03-M1	Kiln Feed Screw	1.1	0.85	0.9	84.1 0	8 660	С	w	EME	VFD	M6	2 WIRE PTC - 3 NOS	NA PR-PID-00027	Package vendor MCC	P VENDOR	LATER	LATER	1	Refinery Dry Side Package
05 0		Area50-Refinery-Dry Side	TE-50-AT-02-M1	Kiin Outlet Conveyor	2.2	0.85	1.9		9 660	c	w	NE	VFD	M6	2 WIRE PTC - 3 NOS	VA PR-PID-00027	Package vendor MCC	P VENDOR	LATER	LATER	1	Refinery Dry Side Package
106		Area50-Refinery-Dry Side	TE-50-AR-53-M1	Product Hopper Rotary Feeder	0.37	0.85	0.3	82 0.		С	w	NE	VFD	M6	2 WIRE PTC - 3 NOS		Package vendor MCC	P VENDOR	LATER	LATER		Refinery Dry Side Package
107		Area50-Refinery-Dry Side	TE-50-AT-07-M1	Product Drum Loading System (multiple)	5.5	0.85	4.3		8 660	c	w	NE	DOL	MO	2 WIRE PTC - 3 NOS	VA PR-PID-00031		P VENDOR	LATER	LATER	1	Refinery Dry Side Package
108		Area60-Offsites	TE-60-AP-51-M1	Process Water Pump	45	0.79	35.6	94.2 0.		c	w	NE	VFD	M8	3 WIRE RTDs - 3 NOS			P JESA	LATER	LATER		Centrifugal Pumps Package
~		Prices Offsites	1.2 00-AF-01-WI	1 100000 Water Fullip	40	0.75	30.0	J4.2 U.	~ 000	ľ	1**	IVE	WED	MO	O WINE HIDS - 3 NOS II	EU-LID-00030	OULD42	, prov	EATER	LATER	1	Ochanogai Fullips Fackage

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	REV. F	SUB- REV. NO.	PAT-TE AREA	EQUIPMENT NO.		NAMEPL ATE	LOAD FACTOR	ARSORRE	EFF (%) PF	FEEDE VOLTA (V)		TY (C WOF SPAI (W/S	RE OF	TURE LOAD FEE ME / TYP		FEEDER TYPICAL		BEARING TEMP. DETECT R (BTDs	O PAID NO.	SWITCHGEAR TAG NO.	STATU S (P/B/F/ O)	SELECTED VENDOR	MOTOR BRAND	REMARKS PACKAGE NAME
109 0)		Area60-Offsites	TE-60-KP-51-M2	Process Water Pump	45	0.79	35.6	94.2 0	.86 660	С	s	NE	VFD)	M8	3 WIRE RTDs - 3 NO	S NA	PR-PID-00038	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
110 0)		Area60-Offsites	TE-60-AP-52-M1	Seal Water Pump	7.5	0.57	4.3	90.4 0			W	NE			MO	2 WIRE PTC - 3 NOS		PR-PID-00040	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
111 0)		Area60-Offsites	TE-60-KP-52-M2	Seal Water Pump	7.5	0.57	4.3	90.4 0			s	NE	DOL		MO	2 WIRE PTC - 3 NOS		PR-PID-00040	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
112 0)		Area60-Offsites	TE-60-AP-53-M1	Fire Water Pump (Jockey)	2.2		1.3		.9 660		w	EM	_		MO	2 WIRE PTC - 3 NOS		PR-PID-00039	00EB42	P JESA	LATER	LATER	LATER
113 0)		Area60-Offsites	TE-60-KP-53-M2	Fire Water Pump (Jockey)	2.2	0.59	1.3		.9 660	-!-	S	EM			M0	2 WIRE PTC - 3 NOS		PR-PID-00039	00EB42	P JESA	LATER	LATER	LATER
114 0)		Area60-Offsites	TE-60-AP-54-M1	Fire Water Pump (Main)	75 11	0.68	50.9 7.5	95 0 91.4 0			S	NE NF	DOL		M3 M0	3 WIRE RTDs - 3 NOS		PR-PID-00039	00EB42	P JESA P JESA	LATER	LATER	LATER Centrifunal Pumos Package
116 0	,		Area60-Offsites	TE-60-AP-57-M1	Diesel Pump	0.37	0.68	0.3	91.4 0			w	NE EM			MO MO	2 WIRE PTC - 3 NOS		PR-PID-00040 PR-PID-00037	00EB42	P JESA P JESA	LATER	LATER	Centritugal Pumps Package Metering Pump Package
116 0	,		Area60-Offsites	TE-60-AP-57-M1	Area 60 Sump Pump	0.37	0.85		88.6 0			w	EM	E DOL		MU	2 WIRE PTC - 3 NOS		PR-PID-00037 PR-PID-00032	00EB42	P JESA P JESA	LATER	LATER	Vertical Submerged Pump Package
118 0)		Area60-Offsites	TE-60-AP-59-M1	Ammonia Transfer Pump	30	0.75		93.7 0			w	NE.			M2	3 WIRE RTDs - 3 NO		PR-PID-00035	00EB42	P JESA	LATER	LATER	Metering Pump Package
119 0)		Area60-Offsites	TE-60-AP-60-M1	Ammonia Feed Pump	0.37	0.43	0.16	82 0			w	NE	VFD		M6	2 WIRE PTC - 3 NOS		PR-PID-00035	00EB42	P JESA	LATER	LATER	Metering Pump Package
120 0)		Area60-Offsites	TE-60-KP-60-M2	Ammonia Feed Pump	0.37	0.43	0.16	82 0			s	NE	VFD) [M6	2 WIRE PTC - 3 NOS	NA	PR-PID-00035	00EB42	P JESA	LATER	LATER	Metering Pump Package
121 0)		Area60-Offsites	TE-60-AP-61-M1	Ammonium Carbonate Pump	5.5	0.62	3.4	89 C			w	NE	DOL	_	MO	2 WIRE PTC - 3 NOS		PR-PID-00033	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
122 0)		Area60-Offsites	TE-60-KP-61-M2	Ammonium Carbonate Pump	5.5	0.62	3.4	89 C	1.8 660	С	S	NE	DOL	_	MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00033	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
123 0)		Area60-Offsites	TE-60-AP-62-M1	Ammonium Hydroxide Pump	18.5	0.74			.84 660	С	w	NE	DOL	L	M0	2 WIRE PTC - 3 NOS		PR-PID-00036	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
124 0)		Area60-Offsites	TE-60-KP-62-M2	Ammonium Hydroxide Pump	18.5	0.74	13.3	92.4 0		С	s	NE			MO	2 WIRE PTC - 3 NOS		PR-PID-00036	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
125 0)		Area60-Offsites	TE-60-AP-63-M1	Sulfuric Acid Feed Pump	0.55	0.55	0.3	80.8 0			W	NE	VFD		M6	2 WIRE PTC - 3 NOS		PR-PID-00041	00EB42	P JESA	LATER	LATER	Metering Pump Package
126 0)		Area60-Offsites	TE-60-KP-63-M2	Sulfuric Acid Feed Pump	0.55	0.55	0.3	80.8 0			S	NE			M6	2 WIRE PTC - 3 NOS		PR-PID-00041	00EB42	P JESA	LATER	LATER	Metering Pump Package
127 0)		Area60-Offsites	TE-60-AP-64-M1	Dilute Sulfuric Acid Pump	11	0.7	7.7	91.4 0			W	NE			M0	2 WIRE PTC - 3 NOS		PR-PID-00042	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
128 0)		Area60-Offsites	TE-60-KP-64-M2	Dilute Sulfuric Acid Pump	11	0.7			.83 660	_	S	NE	_		M0	2 WIRE PTC - 3 NOS		PR-PID-00042	00EB42	P JESA	LATER	LATER	Centrifugal Pumps Package
129 0 130 0	,		Area60-Offsites Area60-Offsites	TE-60-AP-65-M1 TE-60-AP-67-M1	Sulfuric Acid Transfer Pump Sulfuric Acid Sump Pump	5.5 1.1	0.58 0.65	3.2 0.72	89 C			w	NE.	DOL		MO	2 WIRE PTC - 3 NOS 2 WIRE PTC - 3 NOS		PR-PID-00041 PR-PID-00042	00EB42 00EB42	P JESA P JESA	LATER	LATER	Centrifugal Pumps Package Vertical Submerged Pump Package Package
130 0	,		AreabU-Offsites Area60-Offsites	TE-60-AP-67-M1	Diesel Storage Sump Pump	1.1	0.65	0.72	84.1 0			w	NE NF			MO	2 WIRE PTC - 3 NOS		PR-PID-00042	00EB42	P JESA P JESA	LATER	LATER	Vertical Submerged Pump Package Package Vertical Submerged Pump Package Package
132 0	1		Area60-Offsites	TE-60-AP-69-M1	Foam Concentrate Pump	0.37	0.85	0.74		.81 380		S	EM			M0	2 WIRE PTC - 3 NOS		PR-PID-00037	00EB42	P JESA P JESA	LATER	LATER	LATER
133 0	1		Area60-Offsites	TE-60-AX-10	Carbon Dioxide Storage Package	4	0.85			.82 660		w	NE.			PO	NA NA	NA	PR-PID-00037	00EB42	P JESA	LATER	LATER	LATER
134 0)		Area60-Offsites	TE-60-AX-11	Plant & Instrument Air Package	90	0.85	76.5		660			NE	FOL		P0	NA		PR-PID-00043	00EB42	P JESA	LATER	LATER	Only 45kW is emergency load Plant & Instrument Air Package
135 0)		Area60-Offsites	TE-60-AC-09-M1	Spare Air Compressor	45	0.85	38.3	94.2 0	.86 660	С	s	NE	DOL	.	M2	3 WIRE RTDs - 3 NO	S NA	PR-PID-00043	00EB42	P JESA	LATER	LATER	Plant & Instrument Air Package
136 0)		Area60-Offsites	TE-60-AC-08-M1	Instrument Air Compressor	45	0.85	38.3	94.2 0	.86 660	С	w	EM	ME DOL	.	M2	3 WIRE RTDs - 3 NO	S NA	PR-PID-00043	00EB42	P JESA	LATER	LATER	Plant & Instrument Air Package
137 0)		Area60-Offsites	TE-60-AC-10-M1	Plant Air Compressor	45	0.85	38.3	94.2 0	.86 660	С	w	NE	DOL	_	M2	3 WIRE RTDs - 3 NO	S NA	PR-PID-00043	00EB42	P JESA	LATER	LATER	Plant & Instrument Air Package
138 0)		Area60-Offsites	TE-60-AX-09	Ammonia Scrubber Package	10	0.85	8.5		660			NE	FOL		P0	NA	NA	PR-PID-00034	00EB42	P JESA	LATER	LATER	Ammonia Scrubber Package
139 0)		Area60-Offsites	TE-60-AP-66-M1	Ammonia Scrubber Pump	2.2	0.85	1.9	90 0			w	NE	DOL		MO	2 WIRE PTC - 3 NOS		PR-PID-00034	00EB42	P JESA	LATER	LATER	Ammonia Scrubber Package
140 0)		Area60-Offsites	TE-60-KP-66-M2	Ammonia Scrubber Pump	2.2	0.85	1.9		.9 660		s	NE			MO	2 WIRE PTC - 3 NOS		PR-PID-00034	00EB42	P JESA	LATER	LATER	Ammonia Scrubber Package
141 0)		Area60-Offsites	TE-60-AC-07-M1	Ammonia Scrubber Fan	7.5	0.85			.83 660		w	NE			MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00034	00EB42	P JESA	LATER	LATER	Ammonia Scrubber Package
142 0)		Area60-Offsites	TE-60-AG-01-M1	Emergency Generator	250	0.85		95.6 0		_	s	EM			P0	NA	NA	N/A	LATER	P JESA	LATER	LATER	LATER
143 0)		00_ELECT.SUBSTATION	00HVAC001-1	HVAC	250	0.85	212.5		.85 380		W	NE	FOL		P0	NA	NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	E&I Package
144 0)		00_ELECT.SUBSTATION	00HVAC001-2	HVAC	250	0.85	212.5	85 0			S	NE	FOL	_	P0	NA	NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	E&I Package
145 0 146 0)		00_ELECT.SUBSTATION 00_ELECT.SUBSTATION	00UPS-1 00UPS-2	PAT-TE 220 UPS I/C-1 PAT-TE 220 UPS I/C-2	90	0.85	76.5 76.5	90 0			W	EM EM			P0	NA NA	NA NA	N/A N/A	LV PCC-00EB01 LV PCC-00EB01	P JESA P JESA	LATER	LATER	Hold-1 UPS Package Hold-1 UPS Package
147 0	,		00_ELECT.SUBSTATION	00UPS-2	PAT-TE 220 UPS I/C-2 PAT-TE 220 LIPS BYPASS	90	0.85	76.5		1.9 660		0	EM			PO PO	NA NA	NA NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	Hold-1 UPS Package
148 0)		00 ELECT.SUBSTATION	00220BC-1	220 V DC BATTERY CHARGER I/C-1	33	0.85	28.1	90 0			w	EM		_	P0	NA NA	NA NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	Hold-1 UPS Package
149 0)		00 ELECT.SUBSTATION	00220BC-2	220 V DC BATTERY CHARGER I/C-2	33	0.85	28.1	90 0		_	s	EM			P0	NA NA	NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	Hold-1 UPS Package
150 0)		00 ELECT.SUBSTATION	0024BC-1	24 V DC BATTERY CHARGER I/C-1	3.6	0.85	3.1	90 0			w	EM			P0	NA	NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	Hold-1 UPS Package
151 0)		00_ELECT.SUBSTATION	0024BC-2	24 V DC BATTERY CHARGER I/C-2	3.6	0.85	3.1	90 0	1.9 660	С	s	EM	IE FOL	.	P0	NA	NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	Hold-1 UPS Package
152 0)		00_ELECT.SUBSTATION	-	EMERGENCY LIGHTING	68	- 1	68	90 0	1.8 380	С	w	EM	ME FOL	- 1	P0	NA	NA	N/A	LV PCC-00EB01	P JESA	LATER	LATER	Including Future Trains 2, 3 & 4 E&I Package
153 0)		00_ELECT.SUBSTATION	-	POWER AND LIGHTING MISCELLANEOUS LOADS	572.75	1	572.8	90 0	.8 380	С	w	NE	FOL	-	P0	NA	NA	N / A	LV PCC-00EB01	P JESA	LATER	LATER	Including Future Trains 2, 3 8.4 E&I Package
154 n	,	-1	00 ELECT.SUBSTATION	00EC51	10KVA, 660/380V TRANSFORMER	9	0.22	1.95	90 0	1.9 660	С	w	NF	FOL	_	P0	NA	NA	N/A	00EB41	P JESA	LATER	LATER	LV SWITCHGEAR Package
155 0)	-1	00 ELECT.SUBSTATION	00EC52	10KVA, 660/380V TRANSFORMER	9	0.08	0.73	90 0			w	NE			P0	NA	NA	N/A	00EB42	P JESA	LATER	LATER	LV SWITCHGEAR Package
156 0	,		00 ELECT.SUBSTATION	TE-40-AP-XX2-M1	Area 40 Sump Pump Train 2 FUTURE	1.5	0.6	0.9	85.3 0		_	w	NF	DOL		MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00026	00EB41	P JESA	LATER	LATER	LATER
157 0)		00_ELECT.SUBSTATION	TE-40-AT-XX2-M1	Area 40 Bridge Crane Train 2_FUTURE	11	0.85	7.7	91.4 0	_		w	NE	DOL		МО	2 WIRE PTC - 3 NOS	NA	PR-PID-00024	00EB41	P JESA	LATER	LATER	LATER
158 0)		00_ELECT.SUBSTATION	TE-40-AP-XX3-M1	Area 40 Sump Pump Train 3_FUTURE	1.5	0.6	0.9	85.3 0	.78 660	ı	w	NE	DOL		МО	2 WIRE PTC - 3 NOS	NA	PR-PID-00026	00EB41	P JESA	LATER	LATER	LATER
159 0)		00_ELECT.SUBSTATION	TE-40-AT-XX3-M1	Area 40 Bridge Crane Train 3_FUTURE	11	0.85	7.7		.83 660	ı	w	NE	DOL	_	MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00024	00EB41	P JESA	LATER	LATER	LATER
160 0)		00_ELECT.SUBSTATION	TE-40-AP-XX4-M1	Area 40 Sump Pump Train 4_FUTURE	1.5	0.6	0.9	85.3 0	.78 660	ı	w	NE	DOL		МО	2 WIRE PTC - 3 NOS	NA	PR-PID-00026	00EB41	P JESA	LATER	LATER	LATER
161 0)		00_ELECT.SUBSTATION	TE-40-AT-XX4-M1	Area 40 Bridge Crane Train 4_FUTURE	11	0.85	7.7	91.4 0	.83 660	1	w	NE	DOL	-	MO	2 WIRE PTC - 3 NOS	NA	PR-PID-00024	00EB41	P JESA	LATER	LATER	LATER
162 0)		00_ELECT.SUBSTATION	00EB43	AREA20_TRAIN 2_FUTURE	432.5	0.85	367.6	96 0	.85 660	С	w	NE	FOL	- 1	P0	NA	NA	N/A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	LATER
163 0)		00_ELECT.SUBSTATION	00EB44	AREA20_TRAIN 3_FUTURE	432.5	0.85	367.6	96 0	.85 660	С	w	NE	FOL		P0	NA	NA	N/A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	LATER
164 0)		00_ELECT.SUBSTATION	00EB45	AREA20_TRAIN 4_FUTURE	432.5	0.85	367.6	96 0	.85 660	С	w	NE	FOL	- 1	P0	NA	NA	N/A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	LATER
165 0)		Area40-Refinery-Wet Side	40EB41	AREA40_TRAIN 2_FUTURE REFINEY WET SIDE PACKAGE	63.5	0.85	54	96.3 0	.85 660	С	w	NE	FOL	. 1	P0	NA	NA	N / A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	LATER
166 0)		Area40-Refinery-Wet Side	40EB42	AREA40_TRAIN 3_FUTURE REFINEY WET SIDE PACKAGE	63.5	0.85	54	96.3 0	.85 660	С	w	NE	FOL]	P0	NA	NA	N/A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	LATER
167 0)		Area40-Refinery-Wet Side	40EB43	AREA40_TRAIN 4_FUTURE REFINEY WET SIDE PACKAGE	63.5	0.85	54	96.3 0	.85 660	С	w	NE	FOL	.]	P0	NA	NA	N / A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	LATER
168 0)		Area30-Secondary Extraction	30EB40	AREA30_TRAIN 2_FUTURE SPENT SOLUTION NF PACKAGE	159	0.85	135.2	90 0	.85 660	С	w	NE	FOL		P0	NA	NA	N / A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	Spent Solution Filtration Package
169 0)		Area30-Secondary Extraction	30EB41	AREA30_TRAIN 3_FUTURE SPENT SOLUTION NF PACKAGE	159	0.85	135.2	90 0	.85 660	С	w	NE	FOL		P0	NA	NA	N / A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	Spent Solution Filtration Package
170 0)		Area30-Secondary Extraction	30EB42	AREA30_TRAIN 4_FUTURE SPENT SOLUTION NF PACKAGE	159	0.85	135.2	90 0	.85 660	С	w	NE	FOL	-	P0	NA	NA	N/A	LV PCC-00EB02-FUTURE	P JESA	LATER	LATER	Spent Solution Filtration Package
																					•			*

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			Project Title		Phosphori	c Acid Treat	ment - Trace E						Doc. No.		Q3126031-0	0-EL-LST-000	001
		SA	Project Location			SFAR, MOR					L UPS & NO	ON-UPS	Rev. No.		0		
			Client Name		INNOVX			POWER	REQUIRE	MENT SU	MMARY		Date		1/10/2024		
								TOTAL F	OWER CO	ONSUMPT	ION (VA)						
							UNIT			POWER		AC 380V					
							POWER		DC	DC		3Ф KW					
SR.	REV.	ITEM	EQUIPMENT			STATUS	CONSUMP	AC 220V	220V	24V	AC		REDUNDANCY	INPUTS	PACKAGE	SELECTED	
NO.	NO.	DESCRIPTION	NO.	LOCATION	QTY	(P/B/O/F)	(kVA)	220V			380V	UPS	(R / NR)	BY	NAME	VENDOR	REMARKS
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NOTES:

1. ELECTRICAL WILL PROVIDE REDUNDANT UPS POWER SUPPLIES TILL IPDB-01 AND IPDB-02. FURTHER DISTRIBUTION WITHIN IPDB'S AND TILL INDIVIDUAL CONSUMERS SHALL BE BY I&C / TELECOM.

2. ANY VOLTAGE OTHER THAN MENTIONED SHALL BE DERIVED INTERNALLY BY EQUIPMENT SUPPLIER.

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7	E	SA			Project Title Project Location Client Name		Phosphoric Acid JORF LASFAR, I INNOVX		ce Element	ANNEXURE-2 LIST OF EQUIPM	IENT REQUI	RING CATHODIC I	PROTECTION	Doc. No. Rev. No. Date	Q3126031-00-EL-LST-00001 0 1/10/2024
SR. NO.			EQUIPMENT TO BE PROTECTED	DOC. REF. NO. & REV.	INSTALLATION TYPE	SOIL RESISTIVITY	SERVICE	MATERIAL	PAINTING TYPE	(DFT) (MM)	PIPE LINE LENGTH (METERS)	THICKNESS	EQUIPMENT DIAMETER (METERS)	EQUIPMENT HIGHT (METERS)	REMARKS
1 2															
5	i	Not Applicable													
10															
11 12 13															

TBA: TO BE ADVISED
DFT: DRY FILM THICKNESS

NOTES:

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¹ DATA IS INDICATIVE. CATHODIC PROTECTION VENDOR TO VERIFY SOIL RESISTIVITY DATA BY DOING ACTUAL SOIL TESTING AND DESIGN THE CATHODIC PROTECTION SYSTEM AS PER ACTUAL DATA.

				Project Title			Phosph	oric Acid Treatr	nent - Trace FI	eme														Doc.	No		Q312603	1-00-EL-LS	T-00001			
	JES		A	Project Location	1			ASFAR, MORO		ANNEXL														Rev.			0					
			-	Client Name			INNOV			LIST OF	EQUIPMEN ¹	REQUIRI	NG HEAT I	RACING										Date			1/10/2024	4				
		FLUID	DATA	PIPELINE / TANK / VE	SSEL DATA																		- 1	SENERAL DATA			TRACE I	HEATING D	ATA			
			1 4	PIPELINE		TANK / VI	ESSELS DET.		_	MAXIMU	M SERVICE	CONDITIO	NS					INSULATION	ON			REFERENCE	L	OCATION				TRACING				
SR. NO). REV. NO.	PARTI CULA	GRAVI I		NO. OF VALV S, TEE'S PIPE & LENG SUPP TH ORT (METE SHOE RS) ETC.	T. V E. TI	ANK / ESS TANK / VESS HICK EL IESS MATE	TANK / S, VESS TEE'S L DIMEN SUPP SIONS ORT (METE SHOE RS) ETC.		MAXIMU M OPERAT NG PRESSU RE (BARG)	OPERATI NG TEMP.		UP TEMP.	OUS EXPOSU RE TEMP.	M EXPOSU RE TEMP.	BLOWOU T (STEAM CLEANIN G OF PIPELINE	DURING STEAM BLOWOU T (DEG.	INSULATI	TYPE OF INSULATI	INSULATI ON THICKNE SS (MM)	TIVITY (BTU/ HR.	IC DRAWIN	I C EV. NO. F	NDOOR / OUS OUTDOO (WITI R RATI	LOCA OUTS	ND	APPLICATION - FROST PROTECTION M /TEMP. IT MAINTAI	TYPE (E-		(SEE NOTE #	WATT/ METER/ CIRCUIT NO. (SEE	REMARKS
	1 2 3 4 4 5 6 6 7 7 8 8 9 10 11 11 11 12 13	Not app	plicable																													

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