

	شرکت پتروشیمی بوشهر واحد Utility and Offsite فاز 2 منطقه ویژه اقتصادی انرژی پارس جنوبی عسلویه	 Bushehr Petrochemical Company 																					
1 APPLICABLE TO : ☒ PROPOSAL ☐ PURCHASE ☐ AS BUILT ☐ FOR BASIC DESIGN																							
2 FOR: BUSHEHR PETROCHEMICAL COMPANY (BUPC) UNIT COOLING WATER UNIT																							
3 SITE: SERVICE: COOLING WATER MAKE-UP PUMP																							
4 NOTES: INFORMATDN BELOW TO BE COMPLETED ☐ BY PURCHASER ☐ BY MAUFACTURER ☒ BY MANUFACTURER OR PURCHASER																							
5 ☐ DATA SHEETS ☐ REVISIONS																							
	ITEM NO:	ATTACHED	ITEM NO:	ATTACHED	ITEM NO:	NO	DATE	BY															
6	PUMP	P-1003 A/B	☐	☐		1																	
7	MOTOR		☐	☐		2																	
8	GEAR		☐	☐		3																	
9	TURBINE		☐	☐		4																	
10	11 APPLICABLE OVERLAY STANDARD(S):																						
12	☐ OPERATING CONDITIONS (5.1.3)				☐ LIQUID (5.1.3)																		
13	FLOW,NORMAL	1830	(m³/h)	MAX	(m³/h)	LIQUID TYPE OR NAME COOLING WATER MAKE UP																	
14	DESIGN	2000	(m³/h)			☐ HAZARDOUS ☐ FLAMABLE ☒ CORROSIVE (5.1.5)																	
15	SUCTION PRESSURE	NORMAL / MAX	ATM	/	0.9	(barg)	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MIN.</th> <th>NORMAL</th> <th>MAX.</th> </tr> <tr> <td>5</td> <td>AMB</td> <td></td> </tr> <tr> <td></td> <td>0.05</td> <td></td> </tr> <tr> <td></td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>0.68</td> <td></td> </tr> </table>		MIN.	NORMAL	MAX.	5	AMB			0.05			1			0.68	
MIN.	NORMAL	MAX.																					
5	AMB																						
	0.05																						
	1																						
	0.68																						
16	DISCH. PRESSURE	6				(barg)	PUMPING TEMP. (°C)																
17	DIFFERENTIAL PRESSURE			6		(bar)	VAP. PRESS. (bara)																
18	DIFF. HEAD	61.2	(m)	NPSH	8.9 (NOTE 2)	(m)	RELATIVE DENSITY (SG)																
19	PROCESS VARIATIONS(5.1.4)						VISCOSITY (cP)																
20	STARTING CONDITIONS (5.1.4) Manual/ Close valve						SPECIFIC HEAT, Cp 4.18 (kJ/kg.K)																
21	SERVICE :	☒ CONT.	☐ INTERMITENT(STARTS/DAY)				☐ CHLORIDE CONCENTRATION(6.5.2.4) (mg/kg)																
22	☐ PARALLEL OPERATION REQ'D (5.1.13) (NOTE 1)						☐ H2S CONCENTRATION (mol fraction) WET (5.12.1.12C)																
23	☐ SITE DATA (5.1.3) (NOTE 3)						☐ CORROSIVE/EROSIVE AGENT (5.12.1.9)																
24	LOCATION :(5.1.30)						MATERIALS (5.12.1.1)																
25	☐ INDOOR ☐ HEATED ☒ OUTDOOR ☐ UNHEATED ☐ UNDER ROOF ☐ PARTIAL SIDE ☐ GRADE ☐ MEZZANINE						☐ ANNEX H CLASS (5.12.1.1) _____																
26	☐ Non Hazardous / Unclassified						☐ MIN DESIGN METAL TEMP.(5.12.4.1) (°C)																
27	CL	GR	DIV				☐ REDUCED HARDNESS MATERIALS REQD.(5.12.1.12)																
28	☐ WINTERIZATION REQ'D ☒ TROPICALIZATION REQ'D						☐ BARREL / CASE IMPELLER _____																
29	SITE DATA (5.1.30)						☐ CASE / IMPELLER WEAR RINGS _____																
30	☐ ALTITUDE (m) BAROMETER (bar)						☐ SHAFT _____																
31	☐ RANGE OF AMBIENT TEMPS : MIN / MAX / (°C)						☐ DIFFUSERS _____																
32	☐ RELATIVE HUMIDITY: MIN / MAX / (%)						PERFORMANCE																
33	☐ UNUSUAL CONDITIONS (5.1.30) ☒ DUST ☐ FUMES						PROPOSAL CURVE NO. ☐ r/m																
34	☐ OTHER						☐ IMPELLER DIA. RATED MAX MIN mm																
35	☐ DRIVER TYPE						☐ IMPELLER TYPE																
36	☒ INDUCTION MOTOR ☐ STEAM TURBINE ☐ GEAR						☐ HYDRAULIC POWER 340 kw (NOTE 1) EFFICIENCY BY VENDOR																
37	☐ OTHER						☐ MINIMUM CONTINUOUS FLOW :																
38	☐ MOTOR DRIVER (6.1.1 /6.1.4)						THERMAL (m³/h) STABLE (m³/h)																
39	☐ MANUFACTURER						☐ PREFERRED OPERATING REGION TO (m³/h)																
40	☐ FRAME (KW) ☐ ENCLOSURE IP55 (r/min)						☐ ALLOWABLE OPERATING REGION TO (m³/h)																
41	☒ HORIZONTAL ☐ VERTICAL ☐ SERVICE FACTOR						☐ MAX HEAD @ RATED IMPELLER (m)																
42	☒ VOLTS / PHASE / HERTZ 6000 / 3 / 50						☐ MAX POWER @ RATED IMPELLER (kW)																
43	☐ TYPE						☐ NPSHR AT RATED FLOW (5.1.10)																
44	☐ MIN. STARTING VOLTAGE (6.1.5) 80%						☒ MAX. SUCTION SPECIFIC SPEED (5.1.11)																
45	☒ INSULATION Class F ☐ TEMP. RISE Class B						☒ MAX SOUND PRESS. LEVEL REQ'D (dBA) (5.1.16)																
46	☒ FULL LOAD AMPS						☒ EST MAX SOUND PRESS. LEVEL (dBA) (5.1.16)																
47	☒ LOCKED ROTOR AMPS						☒ EST MAX SOUND POWER LEVEL (dBA) (5.1.16)																
48	☒ STARTING METHOD DOL						UTILITY CONDITIONS (NOTE 3)																
49	☒ LUBE						ELECTRICITY																
50	BEARINGS (TYPE / NUMBER):						<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th></th> <th>VOLTAGE</th> <th>PHASE</th> <th>HERTZ</th> </tr> <tr> <td>DRIVERS</td> <td>6000 V</td> <td>3</td> <td>50</td> </tr> <tr> <td>HEATING</td> <td>230 V</td> <td>1</td> <td>50</td> </tr> </table>			VOLTAGE	PHASE	HERTZ	DRIVERS	6000 V	3	50	HEATING	230 V	1	50			
	VOLTAGE	PHASE	HERTZ																				
DRIVERS	6000 V	3	50																				
HEATING	230 V	1	50																				
51	☐ RADIAL /						SYSTEM VOLTAGE DIP ☒ 80% ☐ OTHER (6.1.5)																
52	☐ THRUST /						STEAM																
53	☐ VERTICAL THRUST CAPACITY						<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th></th> <th>NORMAL PRESS.</th> <th>NORMAL TEM.</th> <th>DESIGN PRESS.</th> <th>DESIGN TEM.</th> </tr> <tr> <td>DRIVERS</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>HEATING</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			NORMAL PRESS.	NORMAL TEM.	DESIGN PRESS.	DESIGN TEM.	DRIVERS					HEATING				
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DRIVERS																							
HEATING																							
54	UP (N) DOWN (N)						COOLING WATER: (5.1.19)																
55	WATER SOURCE:						SUPPLY TEMP. (°C) MAX.RETURN TEMP. C																
56	NORMAL PRESS. (bar) DESIGN PRESS. (bar)						MIN.RET.PRESS. (bar) MAX.ALLOW.D.P. (bar)																
57	CHLORIDE CONCENTRATION: (mg/kg)						INSTRIMENT AIR:																
58	MAX/MIN PRESSURE: / (bar)																						