

	شرکت پتروشیمی بوشهر واحد Utility and Offsite فاز 2 منطقه ویژه اقتصادی انرژی پارس جنوبی عسلویه																						
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 PUMP FOR CT1																							
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															
7	PUMP	☐		☐		1																	
8	MOTOR	☐		☐		2																	
9	GEAR	☐		☐		3																	
10	TURBINE	☐		☐		4																	
11 APPLICABLE OVERLAY STANDARD(S):																							
☐ OPERATING CONDITIONS (5.1.3)					☐ LIQUID (5.1.3)																		
13	FLOW,NORMAL	5400 (m³/h)	MAX	5750 (m³/h)	LIQUID TYPE OR NAME COOLING WATER																		
14	DESIGN	6000 (m³/h)			☐ HAZARDOUS ☐ FLAMABLE ☐ CORROSIVE (5.1.5)																		
16	SUCTION PRESSURE	NORMAL / MAX	-0.2 / 0.2 (barg)	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>MIN.</th> <th>NORMAL</th> <th>MAX.</th> </tr> <tr> <td></td> <td>35</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.		35			0.05			1			0.68	
MIN.	NORMAL	MAX.																					
	35																						
	0.05																						
	1																						
	0.68																						
17	DISCH. PRESSURE	6 (barg)																					
18	DIFFERENTIAL PRESSURE	6.2 (bar)																					
19	DIFF. HEAD	63.3 (m)	NPSH 7.6 (NOTE 2) (m)																				
20	PROCESS VARIATIONS(5.1.4)				VISCOSITY (cP)																		
21	STARTING CONDITIONS (5.1.4) Open Discharge valve				SPECIFIC HEAT, Cp 4.18 (kJ/kg.K)																		
22	SERVICE : ☒ CONT. ☐ INTERMITENT(STARTS/DAY)				☐ CHLORIDE CONCENTRATION(6.5.2.4) 300 (NOTE 4) (mg/kg)																		
23	☒ PARALLEL OPERATION REQ'D (5.1.13) (NOTE 1)				☐ H2S CONCENTRATION _____ (mol fraction) VET (5.12.1.12C)																		
24	☐ SITE DATA (5.1.3) (NOTE 3)				CORROSIVE/EROSIVE AGENT																		
25	LOCATION :(5.1.30)				MATERIALS (5.12.1.1)																		
26	☐ INDOOR ☐ HEATED ☒ OUTDOOR ☒ UNHEATED				☐ ANNEX H CLASS (5.12.1.1) _____ ☐ MIN DESIGN METAL TEMP.(5.12.4.1) _____ (°C) ☐ REDUCED HARDNESS MATERIALS REQD.(5.12.1.12) ☐ BARREL / CASE IMPELLER _____ ☐ CASE / IMPELLER WEAR RINGS _____ ☐ SHAFT _____ ☐ DIFFUSERS _____																		
27	☐ UNDER ROOF ☐ PARTIAL SIDE ☒ GRADE ☐ MEZZANINE																						
28	☐ ELECTRICAL AREA CLASSIFICATION(5.1.24 / 6.1.4) (IIA, T3)																						
29	CL GR DIV																						
30	☐ WINTERIZATION REQ'D ☐ TROPICALIZATION REQ'D																						
31	SITE DATA (5.1.30)																						
32	☐ ALTITUDE _____ (m) BAROMETER _____ (bar)																						
33	☐ RANGE OF AMBIENT TEMPS : MIN / MAX / (°C)																						
34																							
35	☐ RELATIVE HUMIDITY: MIN / MAX / (%)																						
36	☒ UNUSUAL CONDITIONS (5.1.30) ☒ DUST ☐ FUMES																						
37	☐ OTHER																						
38																							
39																							
40	☐ DRIVER TYPE				PERFORMANCE																		
41	☒ INDUCTION MOTOR ☐ STEAM TURBINE ☐ GEAR				PROPOSAL CURVE NO. ☐ r/m																		
42	☐ OTHER				☐ IMPELLER DIA. RATED MAX MIN mm																		
43	☐ MOTOR DRIVER (6.1.1 /6.1.4)				☐ IMPELLER TYPE 02																		
44	☐ MANUFACTURER				☐ HYDRAULIC POWER 1050 kw (NOTE 1) EFFICIENCY BY VENDOR																		
45	☐ FRAME (KW) ☐ ENCLOSURE IP55 (r/min)				☐ MINIMUM CONTINUOUS FLOW :																		
46	☐ HORIZONTAL ☒ VERTICAL ☐ SERVICE FACTOR				THERMAL _____ (m³/h) STABLE (m³/h)																		
47	☒ VOLTS / PHASE / HERTZ 6000 / 3 / 50				☐ PREFERRED OPERATING REGION TO (m³/h)																		
48	☐ TYPE				☐ ALLOWABLE OPERATING REGION TO (m³/h)																		
49	☐ MIN. STARTING VOLTAGE (6.1.5) 80%				☐ MAX HEAD @ RATED IMPELLER (m)																		
50	☒ INSULATION Class F ☐ TEMP. RISE Class B				☐ MAX POWER @ RATED IMPELLER (kW)																		
51	☒ FULL LOAD AMPS				☐ NPSHR AT RATED FLOW (5.1.10)																		
52	☒ LOCKED ROTOR AMPS				☒ MAX. SUCTION SPECIFIC SPEED (5.1.11)																		
53	☒ STARTING METHOD DOL				☒ MAX SOUND PRESS. LEVEL REQ'D (dBA) (5.1.16)																		
54	☒ LUBE				☒ EST MAX SOUND PRESS. LEVEL (dBA) (5.1.16)																		
55					☒ EST MAX SOUND POWER LEVEL (dBA) (5.1.16)																		
56					UTILITY CONDITIONS (NOTE 3)																		
57	BEARINGS (TYPE / NUMBER):				ELECTRICITY																		
58	☐ RADIAL /				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>VOLTAGE</th> <th>PHASE</th> <th>HERTZ</th> </tr> <tr> <td>6000</td> <td>3</td> <td>50</td> </tr> <tr> <td>230</td> <td>1</td> <td>50</td> </tr> </table>				VOLTAGE	PHASE	HERTZ	6000	3	50	230	1	50						
VOLTAGE	PHASE	HERTZ																					
6000	3	50																					
230	1	50																					
59	☐ THRUST /				DRIVERS																		
60	☐ VERTICAL THRUST CAPACITY				HEATING																		
61	UP (N) DOWN (N)				SYSTEM VOLTAGE DIP ☒ 80% ☐ OTHER (6.1.5)																		
62					STEAM																		
63					<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>NORMAL PRESS.</th> <th>NORMAL TEM.</th> <th>DESIGN PRESS.</th> <th>DESIGN TEM.</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>				NORMAL PRESS.	NORMAL TEM.	DESIGN PRESS.	DESIGN TEM.											
NORMAL PRESS.	NORMAL TEM.	DESIGN PRESS.	DESIGN TEM.																				
64					COOLING WATER: (5.1.19)																		
65					WATER SOURCE:																		
66					SUPPLY TEMP. (°C) MAX.RETURN TEMP. C																		
67					NORMAL PRESS. (bar) DESIGN PRESS. (bar)																		
68					MIN.RET.PRESS. (bar) MAX.ALLOW.D.P. (bar)																		
69					CHLORIDE CONCENTRATION: (mg/kg)																		
					INSTRIMENT AIR:																		
					MAX/MIN PRESSURE: / (bar)																		