

PROJECT OVERVIEW	<p>Perdaman Chemicals and Fertilisers are focused on the development of the world's largest stream urea plant with a production capacity of 2 MTPA. The plant is located within the Burrup Strategic Industrial Area, Burrup Peninsula, approximately 10km from Dampier and 20km north-west of Karratha on the north west coastline of Western Australia. The development will utilise local natural gas for fertiliser production, using innovative and low-emissions technologies and will be Australia's first Urea Export Project generating Export Revenue of US\$ 800 Million/year. The facility will consist of a Syngas Production Block, Fertiliser Production Block and Offsite Facilities and Utilities.</p>																																																																																									
PACKAGE TITLE:	SHELL AND TUBE HEAT EXCHANGER																																																																																									
PACKAGE NO:	P5305																																																																																									
SCOPE:	<p>The Shell and Tube Heat Exchanger package will include the following:</p> <table border="1" data-bbox="285 963 1471 1799"> <thead> <tr> <th data-bbox="285 963 607 1058">Equipment Name.</th> <th data-bbox="607 963 686 1058">Qty.</th> <th data-bbox="686 963 870 1058">Capacity</th> <th data-bbox="870 963 1057 1058">Design Pressure (Mpag)</th> <th data-bbox="1057 963 1247 1058">Design Temperature (deg C)</th> <th data-bbox="1247 963 1471 1058">MOC</th> </tr> </thead> <tbody> <tr> <td data-bbox="285 1058 607 1129">BURNER STEAM PRE-HEATER</td> <td data-bbox="607 1058 686 1129">1</td> <td data-bbox="686 1058 870 1129"></td> <td data-bbox="870 1058 1057 1129"></td> <td data-bbox="1057 1058 1247 1129"></td> <td data-bbox="1247 1058 1471 1129"></td> </tr> <tr> <td data-bbox="285 1129 607 1161">STRIPPER REBOILER</td> <td data-bbox="607 1129 686 1161">1</td> <td data-bbox="686 1129 870 1161"></td> <td data-bbox="870 1129 1057 1161"></td> <td data-bbox="1057 1129 1247 1161"></td> <td data-bbox="1247 1129 1471 1161"></td> </tr> <tr> <td data-bbox="285 1161 607 1241">SOLUTION HEAT EXCHANGER (HT TO VERIFY QTY)</td> <td data-bbox="607 1161 686 1241">1</td> <td data-bbox="686 1161 870 1241"></td> <td data-bbox="870 1161 1057 1241"></td> <td data-bbox="1057 1161 1247 1241"></td> <td data-bbox="1247 1161 1471 1241"></td> </tr> <tr> <td data-bbox="285 1241 607 1272">LEAN SOLUTION COOLER</td> <td data-bbox="607 1241 686 1272">1</td> <td data-bbox="686 1241 870 1272"></td> <td data-bbox="870 1241 1057 1272"></td> <td data-bbox="1057 1241 1247 1272"></td> <td data-bbox="1247 1241 1471 1272"></td> </tr> <tr> <td data-bbox="285 1272 607 1346">DMW PREHEATER NO. 1</td> <td data-bbox="607 1272 686 1346">1</td> <td data-bbox="686 1272 870 1346"></td> <td data-bbox="870 1272 1057 1346"></td> <td data-bbox="1057 1272 1247 1346"></td> <td data-bbox="1247 1272 1471 1346">*SS304L (Shell) / SS304L (Tubes)</td> </tr> <tr> <td data-bbox="285 1346 607 1459">DMW PREHEATER NO. 2</td> <td data-bbox="607 1346 686 1459">1</td> <td data-bbox="686 1346 870 1459"></td> <td data-bbox="870 1346 1057 1459"></td> <td data-bbox="1057 1346 1247 1459"></td> <td data-bbox="1247 1346 1471 1459">*SS304L (Shell) / SS304L (Tubes)</td> </tr> <tr> <td data-bbox="285 1459 607 1491">CO2 PRODUCT COOLER</td> <td data-bbox="607 1459 686 1491">1</td> <td data-bbox="686 1459 870 1491"></td> <td data-bbox="870 1459 1057 1491"></td> <td data-bbox="1057 1459 1247 1491"></td> <td data-bbox="1247 1459 1471 1491"></td> </tr> <tr> <td data-bbox="285 1491 607 1522">FLASH GAS COOLER</td> <td data-bbox="607 1491 686 1522">1</td> <td data-bbox="686 1491 870 1522"></td> <td data-bbox="870 1491 1057 1522"></td> <td data-bbox="1057 1491 1247 1522"></td> <td data-bbox="1247 1491 1471 1522"></td> </tr> <tr> <td data-bbox="285 1522 607 1575">ABSORBER FEED PREHEATER</td> <td data-bbox="607 1522 686 1575">1</td> <td data-bbox="686 1522 870 1575"></td> <td data-bbox="870 1522 1057 1575"></td> <td data-bbox="1057 1522 1247 1575"></td> <td data-bbox="1247 1522 1471 1575"></td> </tr> <tr> <td data-bbox="285 1575 607 1606">PROCESS GAS COOLER</td> <td data-bbox="607 1575 686 1606">1</td> <td data-bbox="686 1575 870 1606"></td> <td data-bbox="870 1575 1057 1606"></td> <td data-bbox="1057 1575 1247 1606"></td> <td data-bbox="1247 1575 1471 1606"></td> </tr> <tr> <td data-bbox="285 1606 607 1638">PROCESS GAS CHILLER</td> <td data-bbox="607 1606 686 1638">1</td> <td data-bbox="686 1606 870 1638"></td> <td data-bbox="870 1606 1057 1638"></td> <td data-bbox="1057 1606 1247 1638"></td> <td data-bbox="1247 1606 1471 1638"></td> </tr> <tr> <td data-bbox="285 1638 607 1690">ATMOSPHERIC ABSORBER FEED COOLER</td> <td data-bbox="607 1638 686 1690">1</td> <td data-bbox="686 1638 870 1690"></td> <td data-bbox="870 1638 1057 1690"></td> <td data-bbox="1057 1638 1247 1690"></td> <td data-bbox="1247 1638 1471 1690"></td> </tr> <tr> <td data-bbox="285 1690 607 1795">ATMOSPHERIC FLASH CONDENSER</td> <td data-bbox="607 1690 686 1795">1</td> <td data-bbox="686 1690 870 1795">*7764 kW</td> <td data-bbox="870 1690 1057 1795">*0.5 (Shell)0.65 (Tubes)</td> <td data-bbox="1057 1690 1247 1795">*165 (Shell)65 (Tube)</td> <td data-bbox="1247 1690 1471 1795">*316 (Shell) / X2CrNiMoN17-13-5 (1.4439) or F51/F60 (Tubes)</td> </tr> </tbody> </table>						Equipment Name.	Qty.	Capacity	Design Pressure (Mpag)	Design Temperature (deg C)	MOC	BURNER STEAM PRE-HEATER	1					STRIPPER REBOILER	1					SOLUTION HEAT EXCHANGER (HT TO VERIFY QTY)	1					LEAN SOLUTION COOLER	1					DMW PREHEATER NO. 1	1				*SS304L (Shell) / SS304L (Tubes)	DMW PREHEATER NO. 2	1				*SS304L (Shell) / SS304L (Tubes)	CO2 PRODUCT COOLER	1					FLASH GAS COOLER	1					ABSORBER FEED PREHEATER	1					PROCESS GAS COOLER	1					PROCESS GAS CHILLER	1					ATMOSPHERIC ABSORBER FEED COOLER	1					ATMOSPHERIC FLASH CONDENSER	1	*7764 kW	*0.5 (Shell)0.65 (Tubes)	*165 (Shell)65 (Tube)	*316 (Shell) / X2CrNiMoN17-13-5 (1.4439) or F51/F60 (Tubes)
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FIRST STAGE EVAPORATOR	1	*34069 kW	*0.40 (TBC) (Shell)0.35 (Tubes)	*175 (TBC) (Shell)165 (Tube)	*Upper part : 304 Lower part : CS (Shell) / 304 (Tubes)
SEPARATOR AT FIRST STAGE EVAPORATION	1	*(TBC) kW	*0.35	*165	*304 (Shell) / 304 (Internals)
SECOND STAGE EVAPORATOR	1	*4280 kW	*0.65 (TBC) (Shell)0.35 (Tubes)	*195 (TBC) (Shell)190 (Tube)	*CS (Shell) / 304L (Tubes)
SEPARATOR AT SECOND STAGE EVAPORATION	1	*(TBC) kW	*0.35	*165	*304 (Shell) / 304 (Internals)
FIRST STAGE EVAPORATION CONDENSER	1	*37101 kW	*0.35 (Shell)0.65 (Tubes)	*165 (Shell)65 (Tube)	*304 (Shell) / 304 (Tubes)
SECOND STAGE EVAPORATION CONDENSER	1	*3270 (TBC) kW	*0.35 (Shell)0.65 (Tubes)	*160 (Shell)65 (Tube)	*304 (Shell) / 304 (Tubes)
STEAM CONDENSER	1	*6544 kW	*0.15 (Shell)0.65 (Tubes)	*130 (Shell)65 (Tube)	*CS (Shell) / CS (Tubes)
ATMOSPHERIC ABSORBER FEED COOLER	1				
ATMOSPHERIC FLASH CONDENSER	1	*7764 kW	*0.5 (Shell)0.65 (Tubes)	*165 (Shell)65 (Tube)	*316 (Shell) / X2CrNiMoN17-13-5 (1.4439) or F51/F60 (Tubes)
FIRST STAGE EVAPORATOR	1	*34069 kW	*0.40 (TBC) (Shell)0.35 (Tubes)	*175 (TBC) (Shell)165 (Tube)	*Upper part : 304 Lower part : CS (Shell) / 304 (Tubes)
SEPARATOR AT FIRST STAGE EVAPORATION	1	*(TBC) kW	*0.35	*165	*304 (Shell) / 304 (Internals)
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SEPARATOR AT SECOND STAGE EVAPORATION	1	*(TBC) kW	*0.35	*165	*304 (Shell) / 304 (Internals)
FIRST STAGE EVAPORATION CONDENSER	1	*37101 kW	*0.35 (Shell)0.65 (Tubes)	*165 (Shell)65 (Tube)	*304 (Shell) / 304 (Tubes)
SECOND STAGE EVAPORATION CONDENSER	1	*3270 (TBC) kW	*0.35 (Shell)0.65 (Tubes)	*160 (Shell)65 (Tube)	*304 (Shell) / 304 (Tubes)
STEAM CONDENSER	1	*6544 kW	*0.15 (Shell)0.65 (Tubes)	*130 (Shell)65 (Tube)	*CS (Shell) / CS (Tubes)
OXYGEN PREHEATER NO. 2	1				



	START-UP N2 COOLER	1	*5440 kW	*1.4 (Shell)0.7 (Tubes)	*-5 / 330 (Shell)-5 / 60 (Tube)	*CS with 1.6mm CA (Shell) / CS (Tubes)
	AMMONIA CONDENSER (TAG TBC BY HT)	2	*34150 kW	*2.5 (Shell)0.75 (Tubes)	*170 (Shell)70 (Tube)	*CS (Shell) / CS (Tubes)
	INERT VENT GAS CHILLER	1	*427.748 kW	*2.5 (Shell)2.5 (Tubes)	*70 (Shell)70 (Tube)	*LTCS (Shell) / LTCS (Tubes)
	AMMONIA PRODUCT HEATER	1	*2411 kW	*2.5 (Shell)2.75 (Tubes)	*70 (Shell)70 (Tube)	*CS (Shell) / CS (Tubes)
	PROCESS CONDENSATE EXCHANGER	1				
	STRIPPED CONDENSATE COOLER	1				
	START-UP N2 HEATER	1	*5540 kW	*4.6 (Shell)13.2 (Tubes)	*-5 / 330 (Shell)-5 / 370 (Tube)	*CS with 1.6mm CA (Shell) / CS (Tubes)
	OXYGEN PREHEATER NO. 1					
	START-UP RECYCLE H2 COOLER					
	Exchangers to be designed in accordance with TEMA Class R. Protective coating and insulation are included in vendor scope.					
Contact:	Industry Capability Network of Western Australia – www.icnwa.org.au/ContactUs.asp					
Project URL:						
Close Date:	19 March 2019					