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Dorado Development Project

Project	Dorado Development Project
Package Title	Hydraulic Submersible Pumps Package
Reference Number	**0D200-SEM-R-21-SA-000001-001**

Package Description/ Scope of Work	The Dorado Project is a greenfield oil development located offshore WA approximately 150km northwest of Port Hedland comprising of a Floating Production Storage and Offloading vessel (FPSO), Wellhead platform (WHP) and various subsea (SURF) equipment.
	
	The FPSO has a significant number of tanks, primarily crude oil storage and contaminated crude storage (with slops, seawater etc). These tanks each require submersible pumps to transfer their contents.
	
	These pumps which are hydraulically driven are of submersible type and sourced together with their hydraulic power unit (HPU) as a single package.
	
	This Hydraulic Submersible Pumps package comprises the following
	• 690V, 60Hz, 3Ph electrically driven Hydraulic Power Unit (HPU) to provide the hydraulic driving force behind for the submersible pumps. The package which shall be located in a safe area shall comprise.
	  ○ A single structural steel baseplate for mounting of al main equipment and accessories together with interconnecting piping, electrical and control wiring and all instrumentation.
	  ○ Main and Auxiliary Electric driven main hydraulic power packs (hydraulic pumps with built-in pulsation dampers
	  ○ Main hydraulic oil filter and cooler (shell and tube type)
	  ○ Expansion tan, TCV's, hydraulic piping and tubing
	  ○ On-skid control panel
	• Five (5) sets of various Pumps as listed below.
	
	<u>Equipment Particulars:</u>
	
	• 1 x 100% common electrically-driven Hydraulic Power Unit (HPU), Tag No. 65-CT-0001/. Main sized for the simultaneous operation of 6 x Cargo Pumps and the range of Slops Pumps listed below
	• Set of hydraulically-driven pump listed on following page

Item	1	2	3	4	5
Tag No	21-PH-0001-A~L	21-PH-0002-A/B	21-PH-0003-A/B	21-PH-0004	21-PH-0005
Description	Cargo Pumps	Slop Pumps	Slop Treatment Feed Pumps	Slop Skimming Pump	Portable Cargo Pump
Qty	12	2	2	1	1
Driver	Hydraulic motor	Hydraulic motor	Hydraulic motor	Hydraulic motor	Hydraulic motor
Fluid	Crude, 0.5% BS&W	Oil, Slop, wash water, salt water	Oil, Slop, wash water, salt water	Crude, 0.5% BS&W	Crude, 0.5% BS&W
Capacity, m3/h	825	350	20	50	150
Differential Pressure / Head, barg/ m	10.14 / 140	12 / 120	TBC/4	TBC/4	TBC/TBC
Pumping Temperature, Deg C Min/Norm/Max	24/37/50	18.5/27/60	18.5/27/60	18.5/27/60	24/37/50
Density, gravity, kg/m3	735	1022	1022	779	735
Viscosity, cP	0.831 cP	1 cSt	1 cSt	1.2 cSt	0.831 cP
Pump Zone Configuration	Zone 0	Zone 0	Zone 0	Zone 0	Zone 0

Supply of the package shall include design, manufacture, inspection, testing painting, preservation, packing and delivery incl. provision of documentation for the VRU package.

Package shall be marinized suitably for offshore environmental conditions at the Dorado field

Pre-Qualification Requirements:

- Must have minimum 5 years' experience in supply to the oil and gas industry.
- Must have a list of past offshore project experience and preferably in delivering to offshore Projects in Australian waters.

	• Must have existing capability & capacity to deliver. • Must have an ISO quality system and OSHAS or similar certifications. • Must have storage capability for the manufactured products. Must be able to provide after-sales services during operations in Australia.
Specifications and Standards	The equipment shall be in compliance with National, International and Industry Standards, Australian and WA Regulatory requirements including, but not limited to the following; • NOPSEMA requirements to ensure regulatory compliance. • National Standard for Occupational Noise [NOHSC:1007, National Standard for Occupational Noise, National Occupational Health and Safety Commission, 2nd Edition, July 2000]. • DNVGL-RU-OU-0102, DNV Rules for Classification of Offshore Units – Floating Production Storage and Loading Units. • DNVGL-OS-A101, Safety Principles and Arrangements. • DNVGL-OS-B101, Metallic Materials. • DNVGL-OS-D201, Electrical Installation • DNVGL-OS-E201, Oil and Gas Processing Systems. • Hull Piping: DNVGL-OS-B101/D101. • Hull Piping fittings: marine shipyard piping construction standard (as approved by Company). • Hull Pressure Vessels: DNV Rules for Classification - Ships Pt 4 Ch 7 “Boilers, pressure vessels, thermal oil installations and incinerators”. • AS 1210-2010 Pressure Vessels, incl. amendment 1 & 2 • AS 1200-2015 Pressure Equipment. • AS 3788-2006 Pressure Equipment - In-service inspection. • ISO. 3702. Control and mitigation of fire and explosions on Offshore Prod Installations. • ISO.15156 Parts 1 to 3 • EEMUA Document 191 Alarm system guidance. • ISO 13702 - Control and mitigation of fire and explosions on Offshore Prod Installations. • IEC 60079 series – electrical Apparatus for Explosive Gas Atmospheres. Aligned with equivalent AS/NZ standards • IEC 60079-10, Explosive Atmospheres – Part 10-1: classification of areas – Explosive gas atmospheres. Aligned with equivalent AS/NZ standards • IEC 60079-14, Electrical apparatus for explosive gas atmospheres, Inspection and maintenance of electrical installations in hazardous areas (other than mines). Aligned with equivalent AS/NZ standards. • IEC 60079-17, Electrical apparatus for explosive gas atmospheres. Electrical installations in hazardous areas (other than mines) Aligned with equivalent AS/NZ standards. • IEC 61508 Functional safety of electrical/ electronic/ programmable electronic safety related systems. Aligned with equivalent AS/NZ standards. • IEC 61511 Functional safety. Safety instrumented systems for the process industry sector. Aligned with equivalent AS/NZ standards. • AS/NZS 3000:2018 Electrical installations design, construction and verification minimum requirements from Standards Australia. Compliance with Class Society rules

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Delivery Place (if applicable)	Singapore
Full Scope Expression of Interest Closing Date	**19-Nov-2021**
Supplier Instructions	Supplier(s) are to express interest via ICN Gateway where competency and previous positive experiences for similar projects can be demonstrated for equipment of a similar size and service. Supplier(s) will only be considered for receipt of the Tender if deemed suitably qualified by the Company's Procurement Entity.
Contact	All initial enquiries should be made through the Industry Capability Network Western Australia. Ray Loh Ray.Loh@icnwa.org.au +61 8 9365 7499
URL	For more information about Santos please refer to their website www.santos.com