



Barossa Offshore Project ConocoPhillips						
Package No:	AIP-SOF-004					
Package Name:	Manual/Check Valves Package					
Scope of Work	Valves will be installed on the Turret Mooring structure of an FPSO for gas production, service and export risers. Valves will be located in a marine, topside environment. Relative humidity will be 100% and salt laden. Ambient air temperature ranged from 21°C to 35°C. Valves will be subjected to salt spray, rainwater, and direct exposure to sun light (UV rays).					
	Valves to be designed and tested to full ASME class rated pressure. All valves to be certified to an internationally recognized design, materials and testing standard (API 6D / ISO 5208, API 6FA, 6FB / API 607 / ISO 10497, Prequalified to ISO 15848-1 (Sour Service), ISO 15156/NACE MR 0175, ASME B16.10, ASME B16.34, BS EN 10204, BS EN 10204, BS EN ISO 17292).					
	The high-level valves requirements are as follows:					
	Valves will be design in accordance with ISO 15156 / NACE MR0175 for Sour Service Category N.					
	Valves shall be fire safe design per ISO 10497 / API 607 / API 6FA.					
	Low fugitive emission test prequalified to ISO 15848-1 (Sour Service).					
	Lifting and support lugs are required for 250 kg and heavier valves.					
	Pressure testing of HUB ended valves shall be using the blind hub and seal ring. Test blind and seal ring shall be arranged by Manufacturer.					
	Valve shall be suitable for horizontal and vertical installation.					
	For the manual valves listed with HUB end connections Supplier should propose two (2) options:					
	 Option 1: Hubs and clamps (Grayloc/Techlok); Option 2: Compact flanges to NORSOK L-005. 					
	Ball Valves:					
	 Valves shall be bolted body with top entry or split body two- or three-piece top or side entry construction. Valves shall be bi-directional designed to seal in both directions against all pressures up to 					
	 full class differential pressure, unless specified otherwise. Valves shall be fitted with anti-static device in accordance with API 6D to ensure electrical continuity between the ball, stem, and body of the valve. 					
	 Trunnion mounted ball valve with metal seat, self-energized and self-relieving. 					
	 Ball shall be solid single piece construction. Hollow balls are not acceptable. Trunnion, thrust support, bearing bush shall be of corrosion resistant alloys (CRA) material 					
	equivalent to trim material to ensure valve performance in corrosive conditions.					
	 Stem shall be blowout proof and single piece construction. Stem shall not be integral with the ball. Weakest section of stem shall be outside the valve body. 					
	 Seat rings of trunnion mounted ball valves shall be single piece and single piston effect. 					
	 Valves are quarter turn valves and shall be provided with travel stops at open and closed positions. 					

- Valves shall be provided with a locking arrangement to lock the valve in open or close position.
- Valve shall be provided with positions indicator.
- RTJ Flanged to ASME B16.5.
- Gear box should be heavy duty ductile iron / steel housing with solid SS316 shaft and handwheel.
- Supplier to propose compact valves as an option.

Dual Plate Check Valves:

- Valve shall be retainer less design, heavy spring loaded and suitable for horizontal installation and vertical installation with flow upward.
- Valve shall have metal to metal seating surface. Seating areas shall be hard faced.
- Valve shall have integral seat design.
- Check Valves shall be double flanged type, unless specified as lugged wafer or with hub ends. In case of lugged wafer design lug holes shall be drilled through (not threaded) to allow the stud bolts to slide through.

Valves Size, Description and Service:

Size [Inches]	Valve Description	Valve Tag	Service	Approximate Qty Subject to Change
6*	Ball Valve, Class 2500, Duplex SS, Inconel 718 or Elgiloy Spring, Full Bore, RTJ, API 6D with Gear Operator	06-G5DN-2JBX	Gas Production Risers	12
6"	Ball Valve, Class 2500, Duplex SS, Inconel 718 or Elgiloy Spring, Full Bore, HUB, API 6D with Gear Operator	06-G5DFN-2GBX	Service Risers	15
14", 16"	Ball Valve, Class 2500, Duplex SS (see Note 1), Inconel 718 or Eigiloy Spring, Full Bore, HUB, API 6D with Gear Operated	XX-G5DN-2GBX	Gas Production Risers	11
6"-14"	Ball Valve, Class 1500, Carbon Steel Body with SS316 ball / trim, Inconel 718 or Elgiloy Spring, Full Bore, RTJAPI 6D, Gear Operator	XX-F2N-2JBC	Gas Export Risers	6
4"-16"	Ball Valve, Class 900, Duplex SS, Inconel 718 or Elgitoy Spring, Full Bore, RTJ, API6D with Gear Operator	XX-E5DN-2JBX	Gas Production Risers	29
16*	Ball Valve, Class 900, Duplex SS, Inconel 718 or Elgiloy Spring, Reduced Bore, RTJ, API 6D with Gear Operator	16-E5DN-2JNX	Service Risers	1
10"-14"	Ball Valve, Class 150, SS316, Inconel 718 or Elgitoy Spring, Full Bore, RF, API 6D with Gear Operator	XX-ASN-2RBS	Gas Production and Service Risers	10
6"	Check Valve, Class 2500, Duplex SS, Alloy 718 or Elgiloy Spring, Dual Plate Retainerless, HUB, API-594	06-G5DFN-5GWX	Service Risers	10
14"	Check Valve, Class 2500, Duplex SS (see Note 1), Alloy 718 or Elgiloy Spring, Dual Plate Retainerless, HUB, API- 594	14-G5DN-5GWX	Gas Production Risers	10
14"	Check Valve, Class 1500, Carbon Steel, Seat same as Body plus Hard Faced (Stellite 6), SS316 Plates and Trim, Alloy 718 or Elgiloy Spring, Dual Plate Retainerless Double RTJ, API 594	14-F2N-5JWC	Gas Export Risers	2

Note 1: Large size valves (14", 16") in corrosive service shall be made of duplex stainless steel or from carbon steel body with full weld overlay of Inconel 625 (minimum 3mm thickness after machining) on all wetted parts including flange faces and /or RTJ grooves is an acceptable substitution in lieu of Duplex SS valve body material.

The full package scope and services provided by the Supplier shall include:

- Ball and Check Valves;
- Hydrostatic Pressure Tests (Shell, Seat);
- Factory Acceptance/Functional Test;
- Charpy Impact and Hardness Tests;
- Valves shall be coated per project painting and corrosion protection specification;
- Visual Inspection 100%; Liquid Penetrant Testing 100%; Radiography 100% of casting or forging; PMI 10% of Valves (for CRA Components).
- Quality Documentation (Traceability/Serialization Records, Material Test Reports, Weld/PWHT Reports, Inspection/NDT/Test Records, Positive Materials Identification for SS and alloys).

Anticipated project schedule: Contract Award Q2 2020; Delivery Q2 2021.

Project Registration

ConocoPhillips is committed to ensuring Australian Industry full, fair and reasonable opportunity to participate in the Barossa Offshore Project. Expressions of Interest are invited from contractors and suppliers with the relevant capability and capacity to undertake the scope of work.

This is a request for specific expressions of interest. Contractors and suppliers will be considered for prequalification and tender if suitably qualified against this package.

Note that an important part of the project registration process is to register an Expression of Interest at the correct Scope level.

Scope level definition:

Full scope: Able to produce / supply the entire package.

Partial scope: Able to produce / supply one or more of the sub-packages.

All registrations are to be completed via ICN Gateway <u>BarossaOffshore.icn.org.au</u>. Please contact the ICNNT if registration assistance is required. Contact details: (08) 8922 9422 or <u>admin@icnnt.org.au</u>.

Project

Website ConocoPhillips Australia