

CLARIFICATION NO. 04

TENDER NO. PROC-FC/CB/PE&FD/MR-4591/2019

(GAS ENGINEER DRIVEN RECIPROCATING COMPRESSOR PACKAGE FOR MARU RETI FIELD)

| No | Document | Description | Packager's Pre-Bid Query | OGDCL's Response |
|-----------|--------------------|--|--|---|
| 1 | 0504196-PRO-SP-001 | 2: Supplier shall also be responsible to supply foot-print anchor bolts templates of major equipment skids for an early error free construction of foundation at site. | <p>Based on our experience, we highly recommend to adopt the method of reserved anchor bolt pockets to ensure the room for Compressor skid leveling, alignment and construction of foundation before arrival of equipment at site as per foundation drawings.</p> <p>To ensure bonding strength of anchor bolt, rough face pocket and non-shrinkable epoxy shall be used as grouting material. Same scheme is being adopted for other OGDCL Compression Projects. Please confirm acceptance.</p> <p>With respect to fixed anchor bolts, deformation, press or impact of templates can easily happen during loading, unloading & transportation and such unforeseen can cause mismatch between Anchor Bolt & Skid and lead to delay the</p> | <p>Generally bigger pockets size are proposed by packager which consume more epoxy grout volume along with surface grouts which contribute drastically in construction cost.</p> <p>As packager is responsible for complete Civil foundation design of package therefore maximum accuracy can be ensure in package GA drawings while slight margin can be attain to account for construction imperfection by conducting hole on skid at site.</p> |

| | | | | |
|---|--------------------|---|--|--|
| | | | installation and other installation difficulties at site. | |
| 2 | 0504196-PRO-SP-001 | 3: No Power source will be provided, so package shall drive power from alternator supplied with compressor package. | <p>As optimum solution, we propose to provide a Separate Genset of approximate 20 KW (Diesel fuel based) to supply Power for Engine & Compressor Oil Heater etc for start-up of Package in case of below 10°C ambient temperature.</p> <p>In case of start-up at above 10°C ambient temperature, power for heaters shall not be required. Please confirm acceptance.</p> | For Heaters Power, Generator is Acceptable of adequate rating to cater auxiliary loads only for smooth start up during low ambient conditions. Whereas start up at normal ambient condition should be independent of external power source. Compressor Control Panel, power source to be engine mounted alternator/Generator along with battery charging systems and Battery pack. |
| 3 | 0504196-PRO-SP-001 | 4.3-x): Separate lube oil day tank with stand for engine | As optimum solution, common tank will supply lube for Engine as well as Compressor Frame. Therefore, Separate Lube Oil Day Tank for Engine is not necessary. Please confirm acceptance. | Single tank can be utilized for the lube oil make-up for compressor engine and frame. Please ensure that the capacity specified in the Compressor Datasheet (0504196-01-DS-001) for each lube oil recipient shall be met with the combined storage. |
| 4 | 0504196-PRO-SP-001 | 4.10: Automatic actuated shutdown valves together with manual isolation valves shall be required | Only manual isolation valves for gas inlet ESDV are indicated in the P&ID, please reconfirm if double manual isolation valves required for outlet ESDV. | Double Block & Bleed valves shall be installed at the inlet and outlet of by-pass of ESDV by following the Order of Preference 10.7.1 |

| | | | | |
|---|--------------------|--|--|--|
| | | at the process gas inlet and outlet of the package. | | |
| 5 | 0504196-PRO-SP-001 | 4.10: Valves loading/unloading device and capacity control arrangement such as automatic kickback... | <p>As per 0504196-01-DS-001-3.2.4.3, automatic valve unloading is not acceptable while it is required as per 0504196-PRO-SP-001-4.10. Please confirm the preference.</p> <p>As optimum solution, we suggest to use valve unloading device or removing of HE valves to make the package smaller and economical at high suction pressure.</p> <p>Otherwise a bigger engine and cooler will be needed. Please confirm the acceptance of valve unloading device or removing HE valves.</p> | Automatic Valve unloaders are not required, capacity control is via inlet PCV to be provided with package please follow the Datasheet 0504196-01-DS-001-3.2.4.3 by following the Order of Preference 10.7.1 |
| 6 | 0504196-PRO-SP-001 | 4.13: Maximum noise level shall be less than 85dBa. | <p>As per OEM design Noise level of compressor package will be approximately 125 dBA@1m and noise level of engine will be approximately 115dBA@1m, please confirm acceptance.</p> <p>Otherwise to maintain 85dBa, additional Canopy would be required which will increase the cost of Package.</p> | Canopy is not required, bidder to confirm noise level of 120dBA@1 m of both compressor and engine. |

| | | | | |
|---|--------------------|--|--|---|
| 7 | 0504196-PRO-SP-001 | <p>5.4 : The Supplier shall perform the Factory Test as per API-618“Mechanical Running Test” requirements. The unit including integral auxiliary system packages shall receive a 4 hours mechanical running test before shipment. Further, Auxiliary equipment not integral with the unit such as oil pumps, oil coolers, filters, inter-coolers and after-coolers shall receive both an operational test and a 4-hours mechanical running test before shipment.</p> | <p>Reciprocating Compressor shall be designed as per API-11P and FAT shall be conducted in line with API-11P and OEM recommendations.</p> <p>As per standard and OEM recommendation, Mechanical No-load Test (FAT) of Main Package including auxiliaries and control system at Packager Facility must be less than 30 minutes to avoid carbon distribution.</p> <p>However, OEM of Compressor will finish 4 hours mechanical running test of bare compressor before delivery to Packager.</p> <p>Please confirm acceptance</p> | <p>Agreed, Bidder to share OEM recommendation with Technical Bid.</p> |
| 8 | 0504196-PRO-SP-001 | <p>5.4: The Supplier shall perform the full load test of Compressor Unit at Manufacturer’s Facility.</p> | <p>As per API 11P-13.4.2 and API 618-8.3.3.3, Mechanical No-load Test (FAT) of Main Package including auxiliaries and control system at Packager Facility shall be performed as Full Load Test at Packager Facility is not in line with standard as well as not possible to</p> | <p>Please see response against point#7</p> |

| | | | | |
|----|--------------------|--|--|---|
| | | | <p>arrange same gas supply situation like site.</p> <p>However, Full Load Test shall be performed during SAT (Site Acceptance Test).</p> <p>Please confirm acceptance.</p> | |
| 9 | 0504196-01-DS-001 | 5.3.1.2 FURNISH TEMPERATURE INDICATORS IN THE COMPRESSOR CYLINDER JACKET WATER SYSTEM | As per Compressor OEM, Cylinder will be air cooled without jacket. Please confirm acceptance. | Bidder can propose air cooled cylinder however design should in line with site ambient condition and available air draft. Bidder shall submit cylinder cool down calculation along with technical bid . |
| 10 | 0504196-01-DS-001 | 7.24 ALL PRESSURE INSTRUMENTS MOUNTED ON PROCESS AND UTILITY STREAMS SHALL BE EQUIPPED WITH INTEGRAL DOUBLE BLOCK AND BLEED ASSEMBLY | <p>As per ITB P&ID, All pressure instrument on process and utility streams shall be single block and bleed but as per 0504196-01-DS-001 it should be double block.</p> <p>Please confirm acceptance of single block and bleed as per P&ID.</p> | Double Block and Bleed Assembly shall be Required. |
| 11 | 0504196-PRO-SP-001 | 4.5 Process gas shall be used as starting medium of the package | Pressure of 50 Psig (without considering pressure lose from process gas head to starter) is too low to start the engine, | Process Connection of Start Gas shall be at Upstream of Pressure Control Valve at 100 psig shall be |

| | | | | |
|----|-------------------|--|--|---|
| | | | <p>therefore, electrical starter meeting Class I, Division 2, C & D hazardous is suggested.</p> <p>Please confirm acceptance.</p> | <p>available. Packager shall design starting System accordingly.</p> <p>Starting system should be pneumatic with battery charging systems and Batter power pack. Compressor Control Panel, power source to be engine mounted alternator/Generator along</p> |
| 12 | 0504196-01-DS-001 | <p>4.11 Compressor</p> <p>iv) Oil pressure indicating transmitter (in and out of oil filter)</p> <p>v) Oil temperature indicating transmitter (in and out of oil cooler)</p> <p>Gas Engine</p> <p>iv) jacket water cooler temperature indicating transmitter (in and out of cooler)</p> <p>v) Auxiliary water cooler temperature transmitter (in and out of the cooler)</p> <p>viii) Oil cooler temperature indicating transmitter (in and out of the cooler) etc.</p> | <p>We understand that functions of required indicating transmitters shall be site indication.</p> <p>As optimum solution we propose use of pressure/temperature gauges for site indication</p> | <p>Transmitters are required along with Digital Local indication that will be connected to Compressor Control Panel. Gauges are not Acceptable.</p> |

