

Tender No: 110304/WGI/GAIL GAS/02-R0

Dated – 15.02.2010

Sr. No.	Section / Clause No.	Tender Doc. Page No.	Clause Description	Bidder's Query	Reply / Clarifications
1.	Vol. II of II Clause no. 1.2 Technical Specification	Page 4 of 102	The following codes and standards : API-11P, Second edition , API 618	Please note that API-618 is a guideline for Reciprocating Compressor in Petroleum, Chemical & Gas Industry services. API-618 is typically used for Reciprocating compressor in refinery application. Thus, same is not applicable. Please let us know your acceptance	Tender Condition Prevails
2.	Vol. II of II Clause no. 3.12.3 Technical Specification	Page 12 of 102	3.12.3. The design of pulsation suppressing devices shall be based on the acoustic and mechanical evaluation carried out as per API 618-design approach 3. The minimum acceptable volume of pulsation suppression device shall be 10 times the cylinder swept volume	These requirements for pressure vessel design are applicable for API-618 compressor packages. For CNG application the size / design of pressure vessel is based on Approach-2. We have supplied all our CNG packages till date with Approach-2 sizing. Please confirm	Tender Condition Prevails
3.	Vol. II of II Clause no. 3.13.8 Technical Specification	Page 13 of 102	The engine silencer shall be residential type mounted on the roof of the engine enclosure. Suitable enclosure to be provided above the silencer to avoid direct contact with the body of the silencer. Thermal	As the silencer shall be mounted on top of the enclosure, it is not accessible to any operator. Thus, we do not envisage the need of enclosure on silencer. However, we shall provide insulation on exhaust line inside the package. Kindly	Acceptable

			insulation to be provided upto the Silencer	confirm if this scheme is acceptable	
4.	Vol. II of II Clause no. 3.13.10 Technical Specification	Page 13 of 102	Bidder shall provide suitable provision in the exhaust so that the exhaust gas meets the emission norms of CPCB. NOx emission (v/v) at 15% excess oxygen shall be limited to 100 ppm.	As, the CPCB norms for Industrial Gas Engines are not present, we request you to review the emission levels specified by you.	Tender Condition Prevails
5.	Vol. II of II Clause no. 3.16.2 Technical Specification	Page 19 of 102	The maximum temperature within the enclosure shall be limited to 58°C based on the ambient temperature of 48°C. Adequate ventilation fans shall be provided to meet the above and also to account for heat dissipation of the coolers as well as maintaining the positive pressure inside enclosure, Suitable interlocks shall be built in for clearing the entrapped gases (if any) within the enclosure before the start up of the compressor package. The purchaser shall review the vent requirements to meet the above and	In our package the maximum temperature within the enclosure will not exceed 58 C so there is no need of ventilation fans. Our enclosure design is such that there will be no gas entrapped inside & in addition to this we have gas detectors inside enclosure which will sense the gas leakage if any.	Tender Condition Prevails

			interlocks during detailed engineering.		
6.	Vol. II of II Clause no. 4.1 Technical Specification	Page 20 of 102	PLC should be integral with the package with necessary Hazardous Area Certificate (HAC) compliance,	Please note that the PLC panel will be suitable for Hazardous area and Panel will be supplied with the necessary certificate. The PLC will be mounted in the panel and it will not have the hazardous area certificate.	Total package should be with necessary Hazardous Area Certificate (HAC) compliance,
7.				We request you to include CGL as Approved Vendor for electric motor.	Acceptable
8.				Please specify the locations where the packages shall be installed.	In & around Vadodara city
9.	Schedule of Rates		Design, Engineering, manufacturing, Assembly, Inspection for both Engine and electric motor driven package is to be quoted.	As per the Schedule of Rates, Price for supply, Design, Engineering, manufacturing, Assembly, Inspection for both Engine and electric motor driven package is to be quoted, whereas as per tender Third Party Inspection is in Client's scope. Kindly confirm what the word Inspection means in SOR.	Inspection stands for internal inspection by vendor.
10.	Schedule of Rates		Schedule of Rates for Site Works, Clause C3, Lump sum Operational charges per compressor package as defined in tender document during the period of 24 months from the date of commissioning is	We request you to keep the Operation and Maintenance of Packages with same party.	Refer Corrigendum-I

			asked as Optional Item, whereas Lump sum Maintenance Charges are mandatory.		
11.	Vol. I of II General Condition of Contract		PURCHASER / CONSULTANT may, at his option, remove..... The SELLER shall similarly guarantee repaired or replaced materials for a period of not less than twelve (12) months from the date of replacement! repair.	We request you to keep the overall guarantee as 12/24 whichever is earlier, as mentioned in tender. And guarantee of 12 months for replaced! repaired components shall not be offered.	Tender Condition Prevails
12.	Vol. I of II General Condition of Contract		All bank charges incurred in connection with payments shall be to Seller's account in case of Indian bidders and to respective accounts in case of foreign bidder.	We request you to remove this clause	Tender Condition Prevails
13.	Vol. II of II Clause no. 1.4 Technical Specification	Page 5 of 102	Lubricated or Non-Lubricated reciprocating Compressors with suction / discharge volume bottles (dampers), mist separators at each stage and coalescent filters with timer based automatic drain system.	We have provided dampener cum separator at the discharge of each stage after the inter-cooler Designs of dampener cum separator will be as per Intermech design.	Bidders seeking deviation to this clause shall submit relevant documents / details for proving suitability of their design.
14.	Vol. II of II Clause no. 1.4	Page 5 of 102	Gas engine start up air compressor with wet & dry air receiver and	Suitable Air compressor as per CP make will be provided.	Acceptable

	Technical Specification		necessary controls complete with air drier dry at (-23) degree centigrade dew point.		
15.	Vol. II of II Clause no. 1.6.8 Technical Specification	Page 7 of 102	Relief Valves shall be provided at interstage /compressor discharge with setting as per Cl. 7.20.3 of API — 11P with R.V. venting as per Cl. 7.20.4 of API-11 P.	Safety valves as per Intermech, NZ design.	Tender Condition Prevails
16.	Vol. II of II Clause no. 1.6.9(2) Technical Specification	Page 7 of 102	Installation of flame detector (UV-IR type) with self check function and transmitter, alarm on detection of flame.	Flame detector - UV type will be provided.	Tender Condition Prevails
17.	Vol. II of II Clause no. 1.6.9(6) Technical Specification	Page 8 of 102	Alarm panel for C02 Flooding System shall be integral with the main compressor panel.	Separate panel for C02 flooding system will be provided.	Tender Condition Prevails
18.	Vol. II of II Clause no. 1.6.9(9) Technical Specification	Page 8 of 102	All installation shall be compatible for hazardous area Class 1, Division 1, Group-D for Methane Gas.	All installation shall be compatible for safe area as system will be installed 4.5m away from flameproof area.	Tender Condition Prevails
19.	Vol. II of II Clause no. 3.4.1 Technical Specification	Page 11 of 102	Packing Cases and Pressure Packing	Design of our Compressor is such that it is having "Zero Vent Loss" & for that vent & drain of pressure packing is connected to the crankcase.	Bidders seeking deviation to this clause shall submit relevant documents / details for proving suitability of vendor design.

20.	Vol. II of II Clause no. 3.9 Technical Specification	Page 12 of 102	Air-cooled Interstage and Final stage discharge coolers shall be provided which shall limit the gas temperature after the after cooler to 52 OC. & APPLICABLE SPECIFICATIONS API Standard 661	After cooler outlet temp. will be 10 Deg c above ambient temp. & Cooler design will be as Intermech, NZ standard	Tender Condition Prevails
21.	Vol. II of II Clause no. 3.12 Technical Specification	Page 12 of 102	Pulsation, Vibration Control and Analog Study	Pulsation vessel as per Intermech proprietary Design.	Bidders seeking deviation to this clause shall submit relevant documents / details for proving suitability of vendor design
22.	Vol. II of II Clause no. 3.13.10 Technical Specification	Page 13 of 102	Bidder shall provide suitable provision in the exhaust so that the exhaust gas meets the emission norms of CPCB.	Please give us applicable CPCB norms for Gas Engines.EMISSIONS LEVELS OF GAS ENGINES by approved make will be provided.	Tender Condition Prevails Refer Cl:3.13.10 Page 13 of 102
23.	Vol. II of II Clause no. 3.16.5 Technical Specification	Page 19 of 102	All the pressure, temperature, gas flow meter, oil level, lube oil pressure, coolant temperature, coolant level indicators shall be visible from outside of enclosures.	Oil level & gas flow meter will not visible from outside but proper accessibility provided.	Acceptable
24.	Vol. II of II Clause no. 3.16.7 Technical Specification	Page 19 of 102	For handling of all heavy parts for maintenance purpose lifting arrangement i.e. beams Fited with spark proof chain hoist shall be provided in the enclosure. Certificate of	Since Compr. Parts required for handling during maintenance are light weight, Chain hoist is not reqd. & hence not provided.	Tender Condition Prevails

			chain hoist is to be provided.		
25.	Vol. II of II Clause no. 4.1 Technical Specification	Page 20 of 102	Laptop is also included in Bidders scope. & PLC SCADA connectivity is required	SCADA software & PC - Please clarify scope of supply. Laptop??	Already mentioned in the tender documents and Laptop is not required.
26.	Vol. II of II Clause no. 4.3 Technical Specification	Page 21 of 102	In auto mode, compressor shall start automatically in case high bank storage pressure falls below 200 kg/cm ² and stop as soon as pressure of stationery cascade reaches 255 kg/cm ² .	As cascade is not in scope, stationary cascade pressure signal to be provided by Customer.	SS- tubing from stationary cascade to priority panel shall be provided by GAIL GAS and necessary further arrangement shall be made by the bidder in priority panel for signal generation.
27.	Vol. II of II Clause no. 4.6 Technical Specification	Page 21 of 102	Further the fault alarm and emergency stop PB shall be duplicated in the CNG station control room.	Fault alarm duplication available only in SCADA PC.	Tender Condition Prevails.
28.	Vol. II of II Clause no. 5.2 & 5.3 Technical Specification	Page 22 of 102	Barrier shall be provided for all analog as well as digital input & outputs. & All inputs (analog and digital) will be connected through Barrier to PLC.	Barriers shall be provided for all digital & analog inputs which are coming from compressor & relays are provided for all digital outputs.	Tender Condition Prevails.
29.	Vol. II of II Clause no. 5.11.9 Technical Specification	Page 23 of 102	Bidder shall submit the following test certificates and test reports for purchasers review: - (Mass Flow meter)	Only compliance certificate will be provided.	Tender Condition Prevails.

30.	Vol. II of II Clause no. 5.6 Technical Specification	Page 22 of 102	Separate junction boxes for different type of signals like intrinsically safe signals, alarm, shutdowns, thermocouples, RTD's etc. for interfacing to local panel.	LCP (With PLC) is mounted on package itself hence separate JB's are not required.	Acceptable
31.	Vol. II of II Clause no. 5.8 Technical Specification	Page 22 of 102	The temperature gauge shall be generally mercury in steel filled type.	Temperature gauges gas Flied & not liquid Flied.	Tender Condition Prevails
32.	Vol. II of II Clause no. 6.1.1 Technical Specification	Page 24 of 102	Cables for Power & Control inside as well as outside the enclosure shall be 2.5 Sq mm (Copper) and 1.0 Sq mm (Copper) respectively.	Cables for Power & Control inside as well as outside the enclosure shall be 2.5 Sq mm (Copper) and 1.0 or 0.5 Sq mm (Copper) respectively.	Tender Condition Prevails
33.	Vol. II of II Clause no. 7.3.1 Technical Specification	Page 25 of 102	Gas Engine Performance	Gas engine will be tested as per manufacturer's standard	Acceptable
34.	Vol. II of II Clause no. 9.3 Technical Specification	Page 28 of 102	The headers of air-cooled exchanger shall be zinc sprayed.	Header blocks of heat exchangers will be painted.	Acceptable
35.	Vol. II of II Clause no. 22 Compressor Data Sheet	Page 65 of 102	Data OIL COOLER: TEMA 'C'	Oil cooler not as per TEMA C Since the oil cooler is air cooled. Will be as per Intermech proprietary design.	Air Cooled oil coolers shall be Designed as per API 661.

36.	Vol. II of II Annexure-II	Page 41 of 102	Vendor List	Vendor list proposed for addition For 1) SOV- Parker, 2) Flame Detector -Krome Shcroder, 3) Filter - Intermech / Parker, 4) Self-Actuated valves - VIRGO, 5) Motor - Crompton Greaves Ltd, Laxmi Hydraulics, 6) THIRD PARTY INSPEC TION AGENCY- TUV, LLOYDS, 7) PLC - Siemens, Telemachanique, 8) Soft Starter - Danfoss, 9) Catalytic Converter - Cummins Emission Solutions, 10) Cable - Hylite	Tender Condition Prevails
37.	Vol. I of II	Page 6 of 201	Cl. 3.1 & 3.2	In case a bidder has supplied 1200 SCMh Compressor, whether he will qualify for 650 SCMh also.	Yes, Bidder's understanding is correct.