

Dated: 29.06.2018

**COMMERCIAL CORRIGENDUM#1**

**TO**

**BIDDING DOCUMENT**

BIDDING DOCUMENT NO. : MEC/23TS/01/51/D2/T05/SU/0004

SUBJECT OF BIDDING DOCUMENT : SUPPLY OF CNG RECIPROCATING COMPRESSORS (ANNUAL RATE CONTRACT FOR A PERIOD OF 2 YEARS)

The terms and conditions of the Bidding Document stands modified to the extent indicated below and all other terms and conditions of the Bidding Document remains unaltered:

<b>Sn. No.</b>	<b>PART of Bidding Document</b>	<b>Section</b>	<b>Page No.</b>	<b>Clause No.</b>	<b>Clause Description</b>	<b>Additions / Deletions / Modifications</b>
1.	I	ANNEXURE-IV BIDDING DATA SHEET (BDS)	81	Clause no. 26 of GCC	Price Reduction Schedule for Delayed delivery	PRICE REDUCTION SCHEDULE (PRS) will be as per clause no. 26 of SCC (PART-II)
2.	I	Annexure-VI POLICY TO PROVIDE PURCHASE PREFERENCE (LINKED WITH LOCAL CONTENT) (PP-LC)	92	3.0 (xiv)	Definition:	Target local content for the tendered item in percentage is mentioned below: <b>22%</b>

Note: This Corrigendum shall form an integral part of the bidding document and shall be signed/stamped and submitted along with the bid.

\_\_\_\_\_  
(STAMP & SIGNATURE OF BIDDER)

Dated: 29.06.2018

**REPLY TO PRE-BID QUERIES**

BIDDING DOCUMENT NO. : MEC/23TS/01/51/D2/T05/SU/0004  
 SUBJECT OF BIDDING DOCUMENT : SUPPLY OF CNG RECIPROCATING COMPRESSORS (ANNUAL RATE CONTRACT FOR A PERIOD OF 2 YEARS)

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
1)	Vol II(A) of II, Clause no. 4.8.2	Page 331 of 531	COOLING SYSTEM: Air-cooled inter-stage and final stage.... Cooler design shall be on the basis of 20% excess capacity than required corresponding to suction pr. of 19 kg/cm2. Gas sections of coolers shall be designed as per API-661..... cooling of the Heat Exchangers a cooling fan shall be provided inside the enclosure(s).... cooler sizing calculation for review.	Please note, the air exchanger will be designed to 20% extra safety on flow at design suction pressure i.e 16 kg/cm2G and same is checked for thermal duty on higher suction pressure case i.e. 19 kg/cm2G. Gas sections shall be generally compliant to API-661 with manufacturer standard deviations. The gas and water sections shall not be "U" Code stamped.	Cooler design shall be on the basis of 20% excess capacity than required corresponding to suction pr. of 19 kg/cm <sup>2</sup> as per the tender. Cooler Gas sections shall be generally compliant to API 661 requirements with TPI(appointed by the supplier) inspection.
2)	Vol II(A) of II, Clause no.4.9.3	Page 331 of 531	SEPARATORS & OIL REMOVAL SYSTEM: All vessels including pulsation dampers shall be fully (100 %) radiographed as per ASME VIII UW (a) or equivalent	All vessels will be fully (100%) radiographed as per ASME VIII. However U stamping is not possible to provide.	Accepted.
3)	Vol II(A) of II, Clause 4.11	Page 332 of 531	GAS ENGINE: Gas Engine	Please let us know preferred make of gas engine.	Tender condition prevails

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
4)	Vol II(A) of II, Clause 6.3	Page 351 of 531	MECHANICAL STRING TEST: Air/N <sub>2</sub> can be used for string test purpose if natural gas is not available in the shop.	We understand that only Natural Gas should be used for string test.	Air/N <sub>2</sub> also can be used for string test purpose if natural gas is not available in the shop.
5)	Vol II(A) of II, Clause 6.4	Page 351 of 531	The PT shall be conducted only after 30 days' running of the machine after successful..... non-availability of CNG vehicles for conducting PT).	Warranty and defect liability period must start from date of commercial use and not from date of completion of PT.	Tender condition prevails.
6)	Vol II(A) of II ,Clause 21 (2)	Page 396 of 531	Experience Record Programme Of Gas Engine Driven Compressor (1200 SCMH): Comp Manufacturing code preferably API-618	Please note Comp manufacturing code shall be API-11P	Accepted.
7)	Vol II(A) of II ,Clause 4.8.2	Page 437 of 531	COOLING SYSTEM: Air-cooled inter-stage and final stage.... Cooler design shall be on the basis of 20% excess capacity than required corresponding to suction pr of 19 kg/cm <sup>2</sup> . Gas sections of coolers shall be designed as per API-661..... cooling of the Heat Exchangers a cooling fan shall be provided inside the enclosure(s).... cooler sizing calculation for review.	Please note, the air exchanger will be designed to 20% extra safety on flow at design suction pressure i.e 16 kg/cm <sup>2</sup> g and same is checked for thermal duty on higher suction pressure case i.e. 19 kg/cm <sup>2</sup> G. Gas sections shall be generally compliant to API-661 with manufacturer standard deviations. The gas and water sections shall not be "U" Code stamped.	Refer reply at sl.no.6.
8)	Vol II(B) of II, Clause 4.9.3	Page 438 of 531	SEPARATORS & OIL REMOVAL SYSTEM: All vessels including pulsation dampers shall be fully (100 %) radiographed as per ASME VIII UW (a) or equivalent	All vessels will be fully (100%) radiographed as per ASME VIII. However U stamping is not possible to be provided.	Accepted.
9)	Vol II(B) of II ,Clause 10.3.1	Page 460 of 531	MECHANICAL STRING TEST: Air/N <sub>2</sub> can be used for string test purpose if natural gas is not available	We understand that only Natural Gas should be used for string test.	Refer reply at sl.no.9.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			in the shop.		
10)	Vol II(B) of II ,Clause 10.4.1	Page 460 of 531	PACKAGE PERFORMANCE TEST (PT): The PT shall be conducted only after 30 days' running of the machine after successful..... non-availability of CNG vehicles for conducting PT).	Warranty and defect liability period must start from date of commercial use and not from date of completion of PT.	Tender condition prevails.
11)	PART I / ITB/ Clause no. 11.1.1	Page 31 of 531	PREPARATION OF BID - DOCUMENTS COMPRISING THE BID	We understand that we need not submit any copies of bid along with original bid document, as it is not mentioned in the tender	Only One Original Copy is required to be submitted in hard copy.
12)	PART I / GCC/Clause no. 26	23	Price Reduction Schedule for Delayed delivery	In a supply contract, the portion of supply completed in all respect which can be used for commercial operation shall not be considered for applying PRS, if delivered within contractual delivery period. The remaining supplies which are completed beyond the contractual delivery shall attract price reduction schedule @½ % of the delayed delivery value maximum upto 5% of basic order value of undelivered package and not total contract price.	No change to the Price Reduction Schedule (PRS) clause. Tender conditions prevail. For PRS refer clause no. 26 of SCC (PART-II)
13)	PART I / ITB/Annexure-VI	91	FORM-3 - CERTIFICATE BY STATUTORY AUDITOR OF BIDDER TOWARDS MANDATORY MINIMUM LC	Please let us know the minimum % of local content requirement.	Refer Corrigendum#1
14)	PART I / ITB/cl. no.38	50	CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT	Please note as per GCC the clause states " Within 15 days after the SELLER's receipt of notification of award of the CONTRACT, the SELLER shall furnish Performance Guarantee in the form of Bank Guarantee/irrevocable Letter of Credit to the PURCHASER, in the form provided in the Bidding Documents, for an amount equivalent to 10% of the total value of the	Refer ANNEXURE-IV BIDDING DATA SHEET (BDS) (Page no.80 of ITB)

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
				<p>CONTRACT".</p> <p>We request you to modify as per below; "Within 30 days after the SELLER's receipt of notification of award of the CONTRACT, the SELLER shall furnish Performance Guarantee in the form of Bank Guarantee/irrevocable Letter of Credit to the PURCHASER, in the form provided in the Bidding Documents, for an amount equivalent to 8% of the award of each Individual release order."</p> <p>this is inline with the bid no. MEC/23RT/01/51/D2/T33/SU/0023 (E-Tender no. 600001066) issued by GAIL Gas - MECON, Bangalore.</p>	
15)	PART II / SCC/cl. no.26	289 of 531	PRICE REDUCTION SCHEDULE (PRS)	The Maximum value of PRS shall be limited to 5% of basic order value of undelivered package and not on total contract price.	No change to the Price Reduction Schedule (PRS) clause. Tender conditions prevail.
16)	Vol II(A) of II ,Clause no.1.3 & 1.4	Page no.9&10 of 105 (318& 319 of 531)	Codes& Standards, Precedence	The compressor design is derived from API618/11P/equivalent industry standards. However, the design is enhanced to meet specific CNG application such as pressurized crankcase to avoid gas vent loss etc.	Accepted. However all other technical requirements are to be fulfilled as per the tender.
17)	Vol II(A) of II ,Clause no.1.9.4	Page no.15 of 105 (324 of 531)	Drive belt if used shall be of fire retardant and anti-static type.	Not Applicable since compressor & prime mover are directly coupled.	If the belt drive is used, it shall be applicable.
18)	Vol II(A) of II , Clause no.2.1.4	Page no.18 of 105 (327 of 531)	Cooling water is not available as utility and the package shall be provided with self-sufficient cooling	Not Applicable as Compressor with Air cooled heat exchanger will be provided.	Accepted.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			water system for Compressor, as required, with make-up tank. However cooling water for makeup tank is available.		
19)	Vol II(A) of II , Clause no.4.1.1	Page no.19 of 105 (328 of 531)	iii. Code and specification as indicated in clause no.1.2	The compressor design is derived from API618/11P/equivalent industry standards. However, the design is enhanced to meet specific CNG application such as pressurized crankcase to avoid gas vent loss etc.	Accepted. However all other technical requirements are to be fulfilled as per the tender.
20)	Vol II(A) of II , Clause no.4.2.3	Page no.20 of 105 (329 of 531)	Compressor maximum vibrations at cylinders and at frame shall not exceed 10 mm /sec and 5 mm/s respectively at unfiltered peak velocity. The Bidder shall provide structural support for all the parts within the package so that these levels can be achieved.	Vibration levels shall be as per manufacturer's design standards and shall be maintained at specific levels as per industry standards.	Tender condition prevails.
21)	Vol II(A) of II , Clause no.4.3.1	Page no.20 of 105 (329 of 531)	The surface hardness of Rockwell C50 minimum is required on piston rods in the areas that pass through the packing.	Piston rod will be nitrided in the areas that pass through the packing and surface hardness of 50 / 55 HRC.	Only minimum hardness of HRC 50 is indicated in the tender.
22)	Vol II(A) of II , Clause no.4.3.2	Page no.20 of 105 (329 of 531)	Crosshead shall be manufacturer standard material and designs. Adequate openings for removal of the crossheads shall be provided	These components shall be as per manufacturer's standard design parameters.	Same is indicated in the tender.
23)	Vol II(A) of II , Clause no.4.3.3	Page no.20 of 105 (329 of 531)	Piston rod and cross head pin loading at any specified operating condition including the relief valve set condition shall not exceed 80% of the maximum design rod load of the offered compressor. Rod loads shall	Will ensure the rod loads below 80% and sufficient rod reversals. However, these components shall be as per manufacturer's standard design parameters.	Same is indicated in the tender.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			have sufficient reversals in direction for all specified operating conditions including RV Settings and part load operation if applicable.		
24)	Vol II(A) of II , Clause no.4.4.1	Page no.21 of 105 (330 of 531)	The pressure packing case shall be provided with a common vent and drain below the piston rod piped to the outside of the distance piece. However if pressurized crankcase type design is used, packing vent and drain shall not be provided.	The crankcase design is pressurized type. There is no gas vent loss in the compressor. Hence packing vent piping is not applicable & not provided.	Same is indicated in the tender.
25)	Vol II(A) of II , Clause no.4.4.2	Page no.21 of 105 (330 of 531)	Packing vent piping inside of the distance piece shall be designed for the maximum allowable working pressure of the cylinder.	The crankcase design is pressurized type. There is no gas vent loss in the compressor. Hence packing vent piping is not applicable & not provided.	Same has already been indicated in the tender.
26)	Vol II(A) of II , Clause no.4.5.3	Page no.21 of 105 (330 of 531)	Heating shall be provided for reservoir if applicable for the bidder's design of compressor when the minimum ambient temperature is less than the Bidder's required minimum start up temperature.	Not applicable	If it is applicable, it shall be provided. Same is indicated in the tender.
27)	Vol II(A) of II , Clause no.4.5.4	Page no.21 of 105 (330 of 531)	Heater besides meeting the area classification requirements specified in the Tender shall be star connected if designed for operation on 3-phase (4 wire), 440V, 50 Hz supply.	Not applicable	If it is applicable, it shall be provided. Same is indicated in the tender.
28)	Vol II(A) of II , Clause no.4.6	Page no.21 of 105 (330 of 531)	<b>Distance Pieces:</b> Distance piece as per ISO 13631-2002 with cylinder side compartment vented to safe location is specified. Distance piece as per manufacturer's standard design which is used in the	As per manufacturer's standard design to be provided.	Same has already been indicated in the tender and the design should have been used in the earlier supplied successfully running

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			earlier supplied successfully running packages is also accepted. 4.6.2 Distance pieces shall be provided with gasketed, solid covers and shall be suitable for a minimum differential compartment pressure of 1.75 kg/cm <sup>2</sup> g.		packages.
29)	Vol II(A) of II , Clause no.4.7.1	Page no.21 of 105 (330 of 531)	Divider block type lubrication system/Single plunger per point force feed mechanical lubricator shall be provided for lubrication to compressor cylinders. Block-distribution lubrication systems shall be complete with no-flow shutdown, rupture relief discs, check valves, filter, common sight glass and carbon steel or austenitic stainless steel tubing. For pump-to-point lubrication systems, a sight indicator for each point, check valves and carbon steel or austenitic stainless steel tubing shall be furnished.	Divider block type with Common indicator will be provided & Brass NRV provided.	Accepted. However Brass material of NRV shall be compatible with lube oil.
30)	Vol II(A) of II , Clause no.4.7.3	Page no.22 of 105 (331 of 531)	For pump-to-point lubrication systems, Lubricators shall have a sight flow indicator for each lubricator point and a stainless steel double ball check valve shall be provided at each lubrication point. Common sight flow indicator for Divider Block are also acceptable	Common indicator will be provided & Brass NRV provided, provided as per inherent design of compressor block	Same has already been indicated in the tender.
31)	Vol II(A) of II , Clause	Page no.22 of 105 (331 of 531)	Digital no flow timer shall be provided to stop the compressor in case of loss of cylinder lubrication.	Common Digital No Flow Switch (time based) will be provided.	Same has already been indicated in the tender.



Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
	no.4.7.4			- When there is no – pulse ( from cylinder lubrication - divider block) for certain time interval, the switch toggles & the compressor is tripped on lubrication fault.	
32)	Vol II(A) of II , Clause no.4.7.5	Page no.22 of 105 (331 of 531)	Lubricator reservoir capacity shall be adequate for 100 Hrs of normal flow, and shall be equipped with low level alarm	Lubricator reservoir capacity is 36 litre for 150hrs of normal operation.	Accepted.
33)	Vol II(A) of II , Clause no.4.8.2	Page no.22 of 105 (331 of 531)	<p><b>Inter / After Gas Coolers:</b>  Air-cooled inter-stage and final stage discharge coolers shall be provided which shall limit the gas temperature after the after cooler to 52°C. For calculating the surface area of the air cooler, the ambient air temperature of 42°C and 80% RH shall be considered. Cooler design shall be on the basis of 10% excess capacity than required corresponding to suction pr. of 19 kg/cm<sup>2</sup>(g). Gas sections of coolers shall be designed as per API-661 requirements. Vibration switch shall be provided on the heat exchanger to trip the compressor on high vibration limit. Bidder shall indicate vibration level in the offer. For cooling of the Heat Exchangers a cooling fan to be provided inside the enclosure(s). Cooling system shall be preferably installed on the same skid as the compressor due to space constraints. Bidder shall submit</p>	<p>'- The approach above ambient would be 10°C. (max. discharge temp. 42°C + 10°C = 52°C).  - The required inputs would be given in the Heat Exchanger datasheet.</p>	Tender condition prevails.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			cooler sizing calculation for review.		
34)	Vol II(A) of II , Clause no.4.13.8	Page no.26 of 105 (335 of 531)	Pressurized lubricating oil lines downstream of the filter (with the exception of cast-in-frame lines or passages) shall be made of austenitic stainless steel. For either tubing or piping, bends shall be used to minimize the number of fittings wherever possible. Steel fittings shall be furnished with stainless steel tubing. Pressure piping downstream of oil filters shall be free of internal obstructions or pockets (such as those created by socket weld fittings) that could accumulate dirt at pipe joints. Non-consumable back-up rings and sleeve-type joints shall not be used. Other piping fittings shall be of the socket-weld or butt-weld type. When butt welds are necessary, such precautions as internal grinding of joints and use of gas tungsten-arc welding for the first weld pass shall be taken to prevent weld splatter inside the lines. After fabrication, oil lines shall be thoroughly cleaned and preserved. In addition, carbon steel piping shall be pickled and passivated.	After oil filter, inbuilt oil galleries are provided & NRV provided at forced lubrication point as per manufacturer's design standards.	Tender condition prevails.
35)	Vol II(A) of II , Clause no.1.7 - ix	Page no.12 of 105 (321 of 531)	Common structural steel skid for the compressor- electric motor and for all auxiliary systems.	All auxiliaries like CO <sub>2</sub> , Air compressor, etc will be supplied loose & to mounted apart from package.	Accepted.

<b>Sr. No.</b>	<b>PART / Section / Clause No.</b>	<b>Page No.</b>	<b>Clause Description</b>	<b>Bidder's Query</b>	<b>Reply to Bidder's Query</b>
36)	Vol II(A) of II , Clause no.1.7- vii	Page no.11 of 105 (320 of 531)	Separate flameproof junction boxes for different type of signals like analog, digital signals, alarm, shutdowns, and thermocouples, RTDs etc. for interfacing to FLP local panel. Same is not applicable for direct run cable up to PLC panel	LCP (With PLC) is mounted on package itself hence separate JB's are not required. LCP (With PLC) is mounted on package itself & also separate gauge box will be used for intrinsically safe signals.	Same has already been indicated in the tender.
37)	Vol II(A) of II , Clause no.1.5 & 1.6 & 2.2	Page no.10,11 & 18 of 105 (319,320 & 327 of 531)	Battery Limit/ Scope of supply	Following scope excluded from bidder's scope- 1) Piping between Inlet Filter to PRV & up to CNG Package 2) Piping between Priority Panel to Cascades/ dispensers 3) Cabling outside the package 4) Interconnecting piping between CO <sub>2</sub> system to CNG Package 5) Piping between Air Compressor outlet to CNG package 6) LCV Filling panel	Tender condition prevails.
38)	Vol II(A) of II , Clause no.1.7 xxvi	Page no. 12 of 105 (321 of 531)	Each stage outlet Temp. before cooler & after cooler to be displayed on PLC.	Each stage temp before cooler displayed on PLC.	Tender condition prevails.
39)	Vol II(A) of II , Clause no.1.7 xxix	Page no. 12 of 105 (321 of 531)	Gas flow directions to be marked "Gas In/ Gas out "with cylinder stage No. on all the inlet outlet tubes inside compressor package	Arrow mark will be provided for flow directions.	Tender condition prevails.
40)	Vol II(A) of II , Clause no.1.7 xxxix	Page no. 13 of 105 (322 of 531)	a) Cables from PDB to compressor skid (Length shall be considered as 75 meter). b) Cables from compressor to hooter and upto ESD push button in control room(Length shall be considered as 75 meter).	Request to exclude cabling from bidder's scope of supply.	Tender condition prevails.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			c) Cables from compressor to ESD push button near dispenser (Length shall be considered as 200 meter). d) Cables from compressor to ESD push button in field (Length shall be considered as 150 meter). e) Cables from PDB to Air compressor (Length shall be considered as 50 meter). f) Cables from LDB to Air Dryer (Length shall be considered as 50 meter). h) Cables from ACDB to compressor skid for PLC based control panel (Length shall be considered as 100 meter).		
41)	Vol II(A) of II , Clause no. 1.7 xxxix	Page no. 14 of 105 (323 of 531)	i) Cables from manual switch/call point of CO2 flooding system (located in control room) to compressor skid. (Length shall be considered as 75 meter)	Request to exclude cabling from bidder's scope of supply.	Tender condition prevails.
42)	Vol II(A) of II , Clause no.2.2.2	Page no. 18 of 105 (327 of 531)	As and where specified on the data sheets all vents (i.e. Relief valve, distance piece and packing) shall be manifolded and terminated at skid edge outside the enclosure and vented to safe height of 3.0 m at package roof	Vent shall be terminated at 3 mtrs from roof top. Pl confirm.	Same has already ben indicated in the tender.
43)	Vol II(A) of II , MR 1.1 Cl No 2.1.2	Page no. 4 & 18 of 105 (313 & 327 of 531)	Air compressor of capacity 7.5 KW, preferably of IR/KPCL/Elgi/CP make of discharge pressure approx 16 kg/cm2g with 1000 water litre capacity air receiver with PRV, air	We have considered air compressor suitable for 10.5 kg/cm <sup>2</sup> g discharge pressure & coupled to 5hp electric motor with integral dryer & tank , along with 1000 WL capacity receiver along with	Tender condition prevails. The air compressor and dryer will be installed in the fenced area of main compressor.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			<p>dryer along with all accessories and auxiliaries shall be supplied for each CNG compressor package for gas engine starting and instrument air purpose. Air dryer suitable for automatic operation shall also be supplied along with all accessories. The air compressor motor &amp; air dryer shall be flameproof and will be kept in CNG area. Piping, electrical &amp; instrumentation cabling shall be in bidder's scope as per cl. No. 1.7. Tapping in the 1000WL air receiver vessel shall be provided with NRV, PRV (set at 7 kg/cm2(g)) and isolation valve for CNG dispenser instrumentation line. Air receiver shall be provided with SRV (safety relief valve), pressure gauge and drains. Manual drains and automatic moisture traps/ moisture separator cum regulator shall be provided in the system</p>	<p>500 WL additional receiver as loose supply. Since Air Compressor is kept away from hazardous location, request to accept non flameproof motor and electricals for the same.</p>	
44)	Vol II(A) of II , Clause no.4.9.3	Page no. 22 of 105 (331 of 531)	All vessels including pulsation dampers shall be fully (100%) radio-graphed as per ASME VIII UW (a) or equivalent.	All vessels will be fully (100%) radio-graphed as per ASME VIII, however U stamping not considered.	Refer reply at sl.no.7
45)	Vol II(A) of II , Clause no.4.9.6	Page no. 23 of 105 (332 of 531)	Gas recovery system	<p>Gas recovery system &amp; vessels are as per proprietary design of manufacturer.,</p> <p>As suction damper and gas recovery vessel are combined, pressure</p>	Tender condition prevails.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
				regulator after gas recovery vessel not considered	
46)	Vol II(A) of II , Clause no.4.10.1	Page no. 23 of 105 (332 of 531)	Suitable arrangement for inter-stage pulsation damping shall be provided in confirmation to ISO 13631-2002.	Inherent design Point.  Inter-stage pulsation dampeners as per manufacturer standard design.	Tender condition prevails.
47)	Vol II(A) of II , Clause no.4.12.1	Page no. 24 of 105 (333 of 531)	The maximum allowed temperature within the enclosure shall be 5°C above ambient temperature. Adequate ventilation fans/ suitable arrangement shall be provided to meet the above and also to account for heat dissipation of the coolers.	Ventilation fan shall be provided , however maximum temperature inside enclosure shall be ambient +8 deg.	Tender condition prevails.
48)	Vol II(A) of II , Clause no.4.12.2	Page no. 25 of 105 (334 of 531)	The compressor package shall consist of single enclosure for Compressor and gas engine. The equipment shall be mounted on one common skid. The Enclosure to restrict maximum noise level to 70 dB (A) at 1 meter from the enclosure.	Maximum noise level to be 75 dB (A) +/- 3dBA at 1 meter from the enclosure in free field condition.	Tender condition prevails.
49)	Vol II(A) of II , Clause no.4.12.7	Page no. 25 of 105 (334 of 531)	v. Items which must be operated & monitored during operation shall be readily accessible without opening the door.	Control panel shall be mounted inside the canopy and is provided with separate doors.	Accepted.
50)	Vol II(A) of II, Clause no.4.13	Page no. 25 of 105 (334 of 531)	Specification for tubing & Piping	Gas piping/ tubing at 3rd stage discharge will only be in SS-316, with SS fittings,  Rest all piping /tubing will be Combination of Flanged & screwed connections with CS material (pipes, Fittings & Flanges ) as per application requirement & standard design.  This is as per manufacturing standard design.	Tender condition prevails.

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				Instrument Gas Tubing will be in SS-304.	
51)	Vol II(A) of II , Clause no.5.11.10	Page no. 37 of 105 (346 of 531)	Pressure transmitters shall be fixed range type with 2 wire 4 to 20 mA transmitter of piezoresistive suitable for CNG applications except at suction and discharge which is 2 wire smart type 4 to 20 mA transmitter with integral display and IP 67 certified & ex-proof.	All Pressure transmitters are piezoresistive & none of the PT will be smart type.	Tender condition prevails.
52)	Vol II(A) of II , Clause no.5.11.14	Page no. 38 of 105 (347 of 531)	For online Calibration of MFM; Vendor to provide suitable arrangement to\ connect Master Mass flow meter (Prover) with Compressor Suction & Compressor Discharge flow meter for calibration purpose. Indicate and provide the details in P&ID.	MFM calibration can be done on already available provision near priority panel. Extra arrangement not required, hence not considered.	Tender condition prevails.
53)	Vol II(A) of II , Clause no.5.11.15	Page no. 39 of 105 (348 of 531)	Bidder shall provide certificates (from BASEEFA FM, UL, PTB, LCIE etc.) from country of origin for all intrinsically safe/flameproof protected by other methods equipment/instrument/systems, which are manufactured outside India. If required, bidder shall provide necessary certification /approvals /authentication, for all such intrinsically safe /flame proof equipment /instrument/ systems ,by the Indian authority-Chief Controller of Explosive (CCoE)/PESO, Nagpur, India.	CCOE or its equivalent certificate (FM, CSA , ATEX, UL, CMRI) whichever applicable & available will be provided.	Tender condition prevails.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
54)	Vol II(A) of II , Clause no.6.0	Page no. 40 of 105 (349 of 531)	INSPECTION AND TESTING	Inspection & Testing will be as per Approved QAP by Mecon	Bidder's understanding is correct.
55)	Vol II(A) of II , Clause no.6.2.1	Page no. 41 of 105 (350 of 531)	<p>The MRT for the each compressor shall be carried out by tenderer with job or shop driver including complete job driving system i.e., job driven V-belt, job pulleys etc., for 4 hours continuously at shop of compressor manufacturer. The compressor need not be pressure loaded for MRT test. During this test following shall be recorded at agreed intervals.</p> <p>a. Vibration levels measured on cylinders and frame.  b. Bearing temperature.  c. Oil cooler inlet and outlet temp.  d. Sound level</p> <p>Subsequent to satisfactory run, the compressor shall be examined as per standard procedure &amp; following shall be examined as minimum: Internal Inspection certificate for strip test after no-load run of compressor is to be submitted for review of client / consultant.</p> <p>Strip test is limited to open Crank Case cover, X-Hd guide &amp;Dist.pc. Cover and opening of bore &amp; other parts, piston, one valve per cylinder. Visual examination of position rod. If any of part found damaged, all</p>	<p>MRT will be carried out as per ACIL std. Following not feasible during FAT:  -Bearing temperature -Not applicable being engine driven  -Sound level -Not feasible to unavailability of free field. To be demonstrated at site.</p> <p>As it is not possible to disassemble any part of the compressor package after assembly &amp; testing, strip test is not feasible..</p>	Accepted. However Internal inspection report of strip test shall be submitted for review.



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			similar components shall be stripped for inspection. The MRT test shall be repeated after replacement of such parts. All the interlocking and performance of the instrumentation system will be verified during the MRT.		
56)	Vol II(A) of II , Clause no.6.3	Page no. 41 of 105 (350 of 531)	Mechanical String Test	Test will be limited to witness of Performance Parameters as per Factory Acceptance Test (FAT) at full load on CNG fuel, However The test will not comprise of disassembly of any of component of Package for witness.	Accepted. However Internal inspection report of strip test shall be submitted for review.
57)	Vol II(A) of II Clause no.8.4	Page no. 46 of 105 (355 of 531)	The headers of air-cooled exchanger shall be zinc sprayed.	Heat exchanger header will be painted as per manufacturer's standards.	Accepted.
58)	Vol II(A) of II , Clause no.24	Page no. 98 of 105 (407 of 531)	PREFERRED MAKES:	Plug/ball Valve for air/ water: LEGRIS INDIA PVT LTD. Pressure & Temp. Gauges :Waree (Baumer) / GIC.	Waree (Baumer) / GIC Make PG/TG are accepted. Legris India make Plug/ball Valve for air/ water are not accepted.
59)	Vol II(A) of II , Compressor Datasheet- Pt no-49	Page no. 66 of 105 (375 of 531)	Compressor cylinder liners.	Liner only for 3rd Stage will be provided  This is as per proprietary design of machine.	Accepted.
60)			Test Certificates	Certificates will be submitted as per QAP Approved by end client	Accepted.
61)			(Mandatory spares / Commissioning spares)	None of the Spares considered in bidder's Scope	Tender condition prevails.
<b>Chicago Pneumatic-Motor Driven Compressor</b>					
62)	Vol II(B) of	Page no. 10	Codes & Standards	The compressor design is derived from	Accepted. However all

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
	II, Clause no.1.2	of 109 (424 of 531)	<p>The design, construction, manufacture, supply, testing and other general requirements of the compressor package equipment shall be strictly in accordance with the data sheets, applicable API codes, and shall comply fully with relevant National/ International standards, Indian Electricity Act, Indian Electricity Rules, regulations of Insurance Association of India and Factories Act while carrying out work as per this specification.</p> <p>Any modification suggested by the statutory bodies either during drawing approval or during inspection, if any, shall be carried out by the Bidder without any additional cost and delivery implications.</p> <p>The following codes and standards (versions/ revisions valid on the date of order) are referenced to &amp; made part of specification:  API-11P, Second edition API 618  NFPA-37, OISD 179, NFPA-52: 2006, NFPA -496, NFPA -68, NFPA-70  ANSI, ASTM, NEC, NEMA  Indian Electricity Rules, Indian Explosives Act.  Precedence  iii) International standards/codes as applicable</p>	API618/11P/equivalent industry standards. However, the design is enhanced to meet specific CNG application such as pressurized crankcase to avoid gas vent loss etc.	other technical requirements are to be fulfilled as per the tender.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
			iv) Indian Standards / codes applicable		
63)	Vol II(B) of II, Clause no.1.7.4	Page no.17 of 109 (431 of 531)	Drive belt if used shall be of fire retardant and anti-static type.	Not Applicable since compressor & prime mover are directly coupled.	If the belt drive is used, it shall be applicable.
64)	Vol II(B) of II, Clause no.2.1.4	Page no.19 of 109 (433 of 531)	Cooling water is not available as utility and the package shall be provided with self sufficient cooling water system for Compressor, as required, with make up tank. However cooling water for make up tank is available.	Not Applicable as Compressor with Air cooled heat exchanger will be provided	Accepted.
65)	Vol II(B) of II, Clause no.4.1.1	Page no.20 of 109 (434 of 531)	iii. Code and specification as indicated in clause no.1.2	The compressor design is derived from API618/11P/equivalent industry standards. However, the design is enhanced to meet specific CNG application such as pressurized crankcase to avoid gas vent loss etc.	Accepted. However all other technical requirements are to be fulfilled as per the tender.
66)	Vol II(B) of II, Clause no.4.2.3	Page no.21 of 109 (435 of 531)	Compressor maximum vibrations at cylinders and at frame shall not exceed 10 mm /sec and 5 mm/s respectively at unfiltered peak velocity. The Bidder shall provide structural support for all the parts within the package so that these levels can be achieved.	Vibration levels shall be as per manufacturer's design standards and shall be maintained at specific levels as per industry standards.	Tender condition prevails.
67)	Vol II(B) of II, Clause no.4.3.1	Page no.21 of 109 (435 of 531)	The surface hardness of Rockwell C50 minimum is required on piston rods in the areas that pass through the packing.	Piston rod will be nitrided in the areas that pass through the packing and surfacr hardness of 50 / 55 HRC.	Only minimum hardness of HRC 50 is indicated in the tender.
68)	Vol II(B) of II, Clause	Page no.21 of 109 (435	Crosshead shall be manufacturer standard material and designs.	These components shall be as per manufacturer's standard design parameters.	Same is indicated in the tender.

<b>Sr. No.</b>	<b>PART / Section / Clause No.</b>	<b>Page No.</b>	<b>Clause Description</b>	<b>Bidder's Query</b>	<b>Reply to Bidder's Query</b>
	no.4.3.2	of 531)	Adequate openings for removal of the crossheads shall be provided		
69)	Vol II(B) of II, Clause no.4.3.3	Page no.21 of 109 (435 of 531)	Piston rod and cross head pin loading at any specified operating condition including the relief valve set condition shall not exceed 80% of the maximum design rod load of the offered compressor. Rod loads shall have sufficient reversals in direction for all specified operating conditions including RV Settings and part load operation.	Will ensure the rod loads below 80% and sufficient rod reversals. However, these components shall be as per manufacturer's standard design parameters.	Same is indicated in the tender.
70)	Vol II(B) of II, Clause no. 4.4.1	Page no.22 of 109 (436 of 531)	The pressure packing case shall be provided with a common vent and drain below the piston rod tube to the outside of the package enclosure. In case pressurized crank case type design, the clauses of this tender which are not applicable due to inherent design will be acceptable. However, contractor has to furnish the published design data/document of the compressor	The crankcase design is pressurized type. There is no gas vent loss in the compressor. Hence packing vent piping is not applicable & not provided.	Same has already been indicated in the tender.
71)	Vol II(B) of II, Clause no.4.4.2	Page no.22 of 109 (436 of 531)	Packing vent piping inside of the distance piece shall be designed for the maximum allowable working pressure of the cylinder	The crankcase design is pressurized type. There is no gas vent loss in the compressor. Hence packing vent piping is not applicable & not provided..	Same has already been indicated in the tender.
72)	Vol II(B) of II, Clause no.4.5.3	Page no.22 of 109 (436 of 531)	Heating shall be provided for reservoir when the minimum ambient temperature is less than the Bidder's required minimum start up temperature.	Not applicable	If it is applicable, it shall be provided. Same is indicated in the tender.

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73)	Vol II(B) of II, Clause no.4.5.4	Page no.22 of 109 (436 of 531)	Heater besides meeting the area classification requirements specified in the Tender shall be star connected if designed for operation on 3-phase (4 wire), 440V, 50 Hz supply.	Not applicable	If it is applicable, it shall be provided. Same is indicated in the tender.
74)	Vol II(B) of II, Clause no.4.6	Page no.22 of 109 (436 of 531)	Distance Pieces 4.6.1 Distance piece as per API-11P with cylinder side compartment vented to safe location is specified. However for pressurized crank case/piston truck design applicability of distance pieces and venting will be as per manufacturer's standard 4.6.2 Distance pieces shall be provided with casketed, solid covers and shall be suitable for a minimum differential compartment pressure of 1.75 kg/cm <sup>2</sup> g.	As per manufacturer's standard design to be provided.	Same has already been indicated in the tender and the design should have been used in the earlier supplied successfully running packages.
75)	Vol II(B) of II, Clause no.4.7.1	Page no.22 of 109 (436 of 531)	Divider block type lubrication system / Single plunger per point force feed mechanical lubricator shall provide lubrication to compressor cylinders. Block distribution lubrication systems shall be complete with no-flow shutdown, rupture relief discs, check valves, filter ,common sight glass and carbon steel or austenitic stainless steel tubing. For pump-to-point lubrication systems, a sight indicator for each point, check valves and carbon steel or austenitic stainless steel tubing shall be furnished	Divider block type with Common indicator will be provided & Brass NRV provided.	Accepted. However Brass material of NRV shall be compatible with lube oil.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
76)	Vol II(B) of II, Clause no.4.7.3	Page no.23 of 109 (437 of 531)	For pump-to-point lubrication systems ,Lubricators shall have a sight flow indicator for each lubricator point and a stainless steel double ball check valve shall be provided at each lubrication point.	Divider block with Common indicator will be provided & Brass NRV provided.	Accepted. However Brass material of NRV shall be compatible with lube oil.
77)	Vol II(B) of II, Clause no.4.7.4	Page no.23 of 109 (437 of 531)	Digital no flow timer shall be provided to stop the compressor in case of loss of cylinder lubrication.	Common Digital No Flow Switch (time based) will be provided. - When there is no – pulse ( from cylinder lubrication - divider block) for certain time interval, the switch toggles & the compressor is tripped on lubrication fault.	Same has already been indicated in the tender.
78)	Vol II(B) of II, Clause no.4.7.5	Page no.23 of 109 (437 of 531)	Lubricator reservoir capacity shall be adequate for 100 Hrs of normal flow, and shall be equipped with low level alarm	Lubricator reservoir capacity is 36 litre for 150hrs of normal operation	Accepted.
79)	Vol II(B) of II, Clause no.4.8.2	Page no.23 of 109 (437 of 531)	Inter / After Gas Coolers Air-cooled inter-stage and final stage discharge coolers shall be provided which shall limit the gas temperature after the after cooler to 52°C. For calculating the surface area of the air cooler, the ambient air temperature of 42°C and 80% RH shall be considered. Cooler design shall be on the basis of 10% excess capacity than required corresponding to suction pr. of 22.0 kg/cm <sup>2</sup> (g). Gas sections of coolers shall be designed as per API-661 requirements. For cooling of the Heat Exchangers a cooling fans to be provided inside the enclosure.	'- The approach above ambient would be 10°C. (max. discharge temp. 42°C + 10°C = 52°C). - The required inputs would be given in the Heat Exchanger datasheet.	Tender condition prevails.

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			Cooling system shall be preferably installed on the same skid of compressor due to space constraints. Bidder shall submit cooler sizing calculation for review. Suitable access shall be provided and marked to cooler fan motor for carrying out maintenance and replacement work.		
80)	Vol II(B) of II, Clause no.1.5	Page no.12 of 109 (426 of 531)	iii. For this group-1 no. Hart Communicator of model 475 / 375 of Emerson Process Management make with related software like pro link, AMS and accessories cables etc.	Bidder's shall consider 1 set of HART communicator SOR item (i.e. 1 set for lot of 8 compressor package). Kindly confirm.	Same is only indicated in the tender.
81)	Vol II(B) of II, Clause no.1.5	Page no.12 of 109 (426 of 531)	viii. Common structural steel skid for the compressor- electric motor and for all auxiliary systems.	All auxiliaries like CO <sub>2</sub> , Air compressor, etc will be supplied loose & to mounted apart from package.	Accepted.
82)	Vol II(B) of II, Clause no.1.5	Page no.14 of 109 (428 of 531)	xxxvi. Gas flow directions to be marked "Gas In/ Gas out "with cylinder stage No. on all the inlet outlet tubes inside compressor package	Arrow mark will be provided for flow directions.	Tender condition prevails.
83)	Vol II(B) of II, Clause no.1.5	Page no.14 of 109 (428 of 531)	xxxiv. Each stage outlet Temp. before cooler & after cooler to be displayed on PLC.	Each stage temp before cooler displayed on PLC.	Tender condition prevails.
84)	Vol II(B) of II, Clause no.1.5 & 1.6 & 2.2	Page no.12,16 & 20 of 109 (426, 430&434 of 531)	Battery Limit/ Scope of supply	Following scope excluded from bidder's scope- 1) Piping between Inlet Filter to PRV & up to CNG Package 2) Piping between Priority Panel to to Cascades/ dispensers 3) Cabling outside the package 4) Interconnecting piping between Co2 system to CNG Package	Tender condition prevails.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
				5) Piping between Air Compressor outlet to CNG package 6) LCV Filling panel	
85)	Vol II(B) of II, Compressor Datasheet- Pt no-49	Page no.70 of 109 (484 of 531)	Compressor cylinder liners.	Liner only for 3rd Stage will be provided  This is as per proprietary design of machine.	Accepted.
86)	Vol II(B) of II, Clause no.2.1.2	Page no.19 of 109 (433 of 531)	Air compressor with discharge pressure of 7 kg/cm <sup>2</sup> (g) suitable for 1.5 KW electric motor rating or higher with dryer shall be supplied by bidder. Compressor to be supplied should be preferably of IR/KPCL/EIGI/CP make and air receiver of 500 water liter capacities shall be provided. Air dryer suitable for automatic operation shall also be supplied along with all accessories. The air compressor motor & air dryer shall be flameproof and will be kept in CNG area. Piping, electrical & instrumentation cabling shall be in bidder's scope. Necessary FR unit shall be provided as per requirement. Manual drains and automatic moisture traps//moisture separator cum regulator shall be provided in the system. Air receiver shall be provided with SRV, pressure gauge and drains with isolation valves. Air dryer shall be with bypass arrangement.	We have considered air compressor suitable for 10.5 kg/cm <sup>2</sup> g discharge pressure & coupled to 5hp electric motor with integral dryer & tank , along with 1000 WL capacity receiver along with 500 WL additional receiver as loose supply. Since Air Compressor is kept away from hazardous location, request to accept non flameproof motor and electricals for the same.	Tender condition prevails. The air compressor and dryer will be installed in the fenced area of main compressor.



<b>Sr. No.</b>	<b>PART / Section / Clause No.</b>	<b>Page No.</b>	<b>Clause Description</b>	<b>Bidder's Query</b>	<b>Reply to Bidder's Query</b>
87)	Vol II(B) of II, Clause no.4.9.3	Page no.24 of 109 (438 of 531)	All vessels including pulsation dampers shall be fully (100%) radio-graphed as per ASME VIII UW (a) or equivalent.	All vessels will be fully (100%) radio-graphed as per ASME VIII, however U stamping not considered.	Refer reply at sl.no.7
88)	Vol II(B) of II, Clause no.4.9.6	Page no.24 of 109 (438 of 531)	Gas recovery system	Gas recovery system & vessels are as per proprietary design of manufacturer,  As suction damper and gas recovery vessel are combined, pressure regulator after gas recovery vessel not considered.	Tender condition prevails.
89)	Vol II(B) of II, Clause no.4.10.1	Page no.25 of 109 (439 of 531)	Suitable arrangement for inter-stage pulsation damping shall be provided in Confirmation to ISO 13631-2002.	Inherent design Point.  Inter-stage pulsation dampeners shall be as per manufacturer standard design.	Tender condition prevails.
90)	Vol II(B) of II, Clause no.4.12.1	Page no.25 of 109 (439 of 531)	The maximum allowed temperature within the enclosure shall be 5°C above ambient temperature. Adequate ventilation fans/suitable arrangement shall be provided to meet the above and also to account for heat dissipation of the coolers.	Temperature inside canopy = Ambient + 8 Deg	Tender condition prevails.
91)	Vol II(B) of II, Clause no.4.13	Page no.26 of 109 (440 of 531)	Specification for tubing & Piping	Gas piping/ tubing at 3rd stage discharge will only be in SS-316, with SS fittings,  Rest all piping /tubing will be Combination of Flanged & screwed connections with CS material (pipes, Fittings & Flanges) as per application requirement & standard design.  This is as per manufacturing standard design.	Tender condition prevails.

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				Instrument Gas Tubing will be in PU tubing of IMI Norgren Herion Make & not in SS	
92)	Vol II(B) of II, Clause no.5.1.2	Page no.28 of 109 (442 of 531)	Laptop	We will consider Laptop based SCADA system. Laptop will be placed in control room & SCADA software will act as MMI. All licensed softwares of PLC & HMI will be available in Laptop. Local 4 line 20 character (text based) HMI will be considered with PLC in local flameproof control panel. Laptop is not considered in bidder's scope.	Tender condition prevails.
93)	Vol II(B) of II, Point no-25	Page no.102 of 109 (516 of 531)	Preferred makes	Plug/ball Valve for air/ water: LEGRIS INDIA PVT LTD. Pressure & Temp. Gauges :Waree (Baumer) / GIC.	Waree (Baumer) / GIC Make PG/TG are accepted. Legris India make Plug/ball Valve for air/ water are not accepted.
94)	Vol II(B) of II, Clause no.8.15.12	Page no.43 of 109 (457 of 531)	Bidder shall provide certificates (from BASEEFA FM, UL, PTB, LCIE etc.) from country of origin for all intrinsically safe/flameproof protected by other methods equipment/instrument/systems, which are manufactured outside India. If required, bidder shall provide necessary certification/approvals/authentication, for all such intrinsically safe/flameproof equipment/instrument/systems, by the Indian authority–Chief Controller of Explosive (CCOE), Nagpur, India.	CCOE or its equivalent certificate (FM, CSA , ATEX, UL, CMRI) whichever applicable & available will be provided.	Tender condition prevails.
95)	Vol II(B) of II, Clause	Page no.44 of 109 (458	INSPECTION AND TESTING	Inspection & Testing will be as per Final Approved QAP by Mecon Limited.	Bidder's understanding is correct.

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	no.10.0	of 531)			
96)	Vol II(B) of II, Clause no.10.2.1	Page no.45 of 109 (459 of 531)	<p>The MRT for the each compressors shall be carried out in presence of PURCHASER/CONSULTANT with job or shop driver including complete job driving system i.e., job driven V-belt, job pulleys etc., for 4 hours continuously at shop of compressor manufacturer. The compressor need not be pressure loaded for MRT test. During this test following shall be recorded at agreed intervals.</p> <p>-Vibration levels measured on cylinders and frame          - Bearing temperature          - Oil cooler inlet and outlet temp          -Sound level Subsequent to satisfactory run the compressor shall be examined as per standard procedure &amp; following shall be examined as minimum:          Strip test is limited to open Crank Case cover, X-Hd guide &amp; Dist. pc. Cover and opening of bore &amp; other parts , piston, one valve per cylinder. Visual examination of position rod If any of part found damaged, all similar components shall be stripped for inspection. The MRT test shall be repeated after replacement of such parts</p>	<p>MRT will be carried out as per manufacturer's standard parameters.</p> <p>a. Vibration levels measured on cylinders.          b. Bearing temperature.- Not feasible.          c. Oil cooler inlet and outlet temp.- Inlet temp.          d. Sound level- can be checked at site due to non-availability of free field at factory premise.</p> <p>Strip test not considered as it is not feasible to open compressor block after assembly.</p>	Accepted. However Internal inspection report of strip test shall be submitted for review.
97)	Vol II(B) of	Page no.46	Pressure and temperature of gas shall	Pressure and temperature at compressor inlet	Tender condition prevails.

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	II, Clause no.10.4	of 109 (460 of 531)	be considered at purchaser's boundary limit (or before filter unit of package if provided) and as indicated in the Instrumentation schedule; if provision not available then supplier shall install necessary pressure and temp measuring devices.	flange will be considered for Factory Acceptance Test.	
98)			Test Certificates	Certificates will be submitted as per QAP Approved by end client	Accepted.
99)	Vol I of II, Section II	Pg 12 of 531	BID EVALUATION CRITERIA TECHNICAL	We request you to kindly accept/modify the BEC clauses as below which is accepted by most of the CGD firms in India.	There will be no change in the BEC criteria. Tender condition prevails.
100)	Vol I of II ,Section II,1.1.1 For Qualification in Group A	Pg 12 of 531	<p>A)The bidder shall be a regular manufacturer/ packager and supplier of gas engine driven reciprocating gas compressor package handling hydrocarbon gas.</p> <p>B) The bidder shall have the single point responsibility for supplying, installation, commissioning, operation and maintenance of gas engine driven CNG compressor package.</p>	<p>I)The Bidder (either Compressor Original Equipment Manufacturer (OEM) or OEM Authorized Service Partner (ASP)shall have the single point responsibility and accountability for execution of the entire tender scope (Including supplying Required Document: In Case of the bidder being the Original Equipment Manufacturer (OEM): Letter from the bidder taking single point responsibility the entire tender scope. In case of the bidder being the Authorized Service Partner (ASP):</p> <p>1. Copy of Agreement between OEM and ASP duly signed by the respective Authorized executives, covering, without limitation, the following:</p> <p>a) Full authorization from OEM to ASP for executing the entire tender scope. The</p>	There will be no change in the BEC criteria. Tender condition prevails.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
				<p>authorization to be valid for six (06) months beyond the contract tenure under this tender.</p> <p>b) Confirmation from OEM on responsibility and accountability for providing all the technical and other support to the ASP for executing the entire tender scope</p> <p>2. The Agreement between OEM and ASP should also be addressed to Gail Gas Limited, clearly stating the following:</p> <p>a. The agreement is applicable to this tender and shall be binding on OEM &amp; ASP for 06 months beyond the contract tenure including extension, if any.</p> <p>a) The OEM and ASP shall indemnify, defend and hold harmless Gail gas Limited in case of any dispute due to whatsoever reason between the OEM and ASP for matters pertaining to subject Tender/ contract.</p> <p>b. Confirmation and undertaking by the OEM to Gail Gas Limited regarding unconditional acceptance of full responsibility to fulfill all the obligations of the tender/contract terms for executing the entire tender scope, notwithstanding the agreement with the ASP.</p> <p>II) The bidder shall have full-fledged service support set-up in India. Required Document:</p> <p>1. Copy of Completion certificate with copy of Purchase Order for O&amp;M of CNG Compressors for minimum two (02) years.</p> <p>2. Letter containing the list of manpower that will be part of service set up for locations falling</p>	

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				<p>under Gail gas Limited for handling maintenance activities.</p> <p>3. Bidder's self-declaration on the letter head for deploying the required manpower for meeting Gail gas Limited requirements.</p> <p>Bidder should attach memorandum understanding/support letter from establish service provider for O&amp;M of CNG compressor with their service support PO and copy of completion certificate meeting the above requirement.1 Page 1 of 3</p>	
101)	Vol I of II ,Section II, 1.1.1 For Qualification in Group A	Pg 12 of 531	(D)The above compressor of 1200 SCMh or higher capacity, with minimum discharge pressure 250 kg/cm <sup>2</sup> and having suction pressure of maximum 19 kg/cm <sup>2</sup> (g)supplied by the bidder, should have completed minimum 8000 running hrs as on the bid due date.	<p>Certificate from the purchaser to OEM on completion of continuous trouble free operations of a minimum 8000 Hrs. as on the bid due date for atleast one of the identical or validly similar in terms of type of compressor (i.e. Reciprocating CNG compressor) , type of driver ( ie motor or Engine driven ), cooling system, control panel and auxiliaries supplied by the bidder</p> <p>Required Document:</p> <p>Documentary evidence (confirmation from the purchaser) regarding continuous trouble free operation of minimum 8000 hours.</p>	There will be no change in the BEC criteria. Tender condition prevails.
102)	Vol I of II ,Section II	BID EVALUATION CRITERIA TECHNICAL	Pg 12 of 531	We request you to kindly accept/modify the BEC clauses as below which is accepted by most of the CGD firms in India.	There will be no change in the BEC criteria. Tender condition prevails.
103)	Vol I of II ,Section II,	Pg 12 of 531	A)The bidder shall be a regular manufacturer/ packager and supplier	I)The Bidder (either Compressor Original Equipment Manufacturer (OEM) or OEM	There will be no change in the BEC criteria.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
	1.1.2 For Qualification in Group B		<p>of electric motor driven reciprocating gas compressor package handling hydrocarbon gas.</p> <p>B) The bidder shall have the single point responsibility for supplying, installation, commissioning, operation and maintainance ofelectric motor driven CNG compressor package.</p>	<p>Authorized Service Partner (ASP)shall have the single point responsibility and accountability for execution of the entire tender scope (Including supplying Required Document: In Case of the bidder being the Original Equipment Manufacturer (OEM): Letter from the bidder taking single point responsibility the entire tender scope. In case of the bidder being the Authorized Service Partner (ASP):</p> <ol style="list-style-type: none"> <li>1. Copy of Agreement between OEM and ASP duly signed by the respective Authorized executives, covering, without limitation, the following: <ol style="list-style-type: none"> <li>a) Full authorization from OEM to ASP for executing the entire tender scope. The authorization to be valid for six (06) months beyond the contract tenure under this tender.</li> <li>b) Confirmation from OEM on responsibility and accountability for providing all the technical and other support to the ASP for executing the entire tender scope</li> </ol> </li> <li>2. The Agreement between OEM and ASP should also be addressed to Gail Gas Limited, clearly stating the following: <ol style="list-style-type: none"> <li>a. The agreement is applicable to this tender and shall be binding on OEM &amp; ASP for 06 months beyond the contract tenure including extension, if any.</li> <li>a) The OEM and ASP shall indemnify, defend and hold harmless Gail gas Limited in case of any</li> </ol> </li> </ol>	Tender condition prevails.

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				<p>dispute due to whatsoever reason between the OEM and ASP for matters pertaining to subject Tender/ contract.</p> <p>b. Confirmation and undertaking by the OEM to Gail Gas Limited regarding unconditional acceptance of full responsibility to fulfill all the obligations of the tender/contract terms for executing the entire tender scope, notwithstanding the agreement with the ASP.</p> <p>II) The bidder shall have full-fledged service support set-up in India. Required Document:</p> <ol style="list-style-type: none"> <li>1. Copy of Completion certificate with copy of Purchase Order for O&amp;M of CNG Compressors for minimum two (02) years.</li> <li>2. Letter containing the list of manpower that will be part of service set up for locations falling under Gail gas Limited for handling maintenance activities.</li> <li>3. Bidder's self-declaration on the letter head for deploying the required manpower for meeting Gail gas Limited requirements.</li> </ol> <p>Bidder should attach memorandum understanding/support letter from establish service provider for O&amp;M of CNG compressor with their service support PO and copy of completion certificate meeting the above requirement.1 Page 1 of 3</p>	
104)	Vol I of II ,Section II, 1.1.2 For Qualification	Pg 12 of 531	C) The bidder, should have experience of having engineered, manufactured/ packaged, tested and executed in a single order of at least	A. OEM should have engineered, manufactured, tested and supplied at least 01 nos. of identical or similar CNG Compressor Packages in terms of	There will be no change in the BEC criteria. Tender condition prevails.



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	in Group B		1 nos. of CNG electric motor driven compressor package of 1200 SCMh or higher capacity, with discharge pressure of 255 kg/cm <sup>2</sup> and suction pressure of 19 kg/cm <sup>2</sup> g handling hydrocarbon gas in previous seven years reckoned from due date of submission of bid.	Compressor (i.e. reciprocating CNG Compressor) within last 07(seven) years reckoned from the due date of submission of bid. Required Document: 1. Copy of Purchase / Service Orders / Contracts / pertaining to the compressor packages supplied. 2. Completion Certificate / Confirmation mentioning the Nos. of compressor purchased from the corresponding Purchaser / Client (Natural Gas Distribution Company) on their letter head. B. Certificate from the purchaser to OEM on completion of continuous trouble free operations of a minimum 8000 Hrs. as on the bid due date for atleast one of the identical or validly similar in terms of type of compressor (i.e. Reciprocating CNG compressor) , type of driver ( ie motor or Engine driven ), cooling system, control panel and auxillaries supplied by the bidder Required Document: Documentary evidence (confirmation from the purchaser) regarding continuous trouble free operation of minimum 8000 hours.	
105)	Vol I of II ,Section II, 1.1.2 For Qualification in Group B	Pg 12 of 531	D) The above compressor of 1200 SCMh or higher capacity, with minimum discharge pressure 250 kg/cm <sup>2</sup> and having suction pressure of maximum 19 kg/cm <sup>2</sup> (g)supplied by the bidder, should have completed minimum 8000 running hrs as on the bid due date.	Certificate from the purchaser to OEM on completion of continuous trouble free operations of a minimum 8000 Hrs. as on the bid due date for atleast one of the identical or validly similar in terms of type of compressor (i.e. Reciprocating CNG compressor) , type of driver ( ie motor or Engine driven ), cooling system, control panel and auxillaries supplied by the bidder Required Document:	There will be no change in the BEC criteria. Tender condition prevails.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
				Documentary evidence (confirmation from the purchaser) regarding continuous trouble free operation of minimum 8000 hours.	
106)	Vol. I of II, A & B	Page no.12,13 & 14 of 531  Page no.27, 28 of 531	Bid Evaluation Criteria (BEC)  For Consortium / Joint Venture	<p><b>We Tulip Compression Private Limited (TCPL) are a Joint Venture Company between Tractors India Private Limited (TIPL) and Tulip Energy Private Limited (TEPL).</b></p> <p><b>TIPL is the Authorized Caterpillar Dealer whereas Tulip Energy currently operates and maintains one of the largest fleet of Natural Gas Engine powered CNG compressors in India.</b></p> <p><b>Tulip Compression (JV) bids in the capacity of "Packager of CNG Compressor "duly authorized by the Compressor Block Manufacturer / OEM i.e. Burckhardt Compression India Private Limited.</b></p> <p>In view of above we request that:</p> <ul style="list-style-type: none"> <li>• Technical BEC of our Principal M/S Burckhardt Compression India Private Limited be accepted as BEC of Tulip Compression Private Limited. We shall submit a confirmation towards the same from Burckhardt Compression India Private Limited.</li> <li>• In line with purchase policy of large PSU's such as GAIL, Indian Railways etc. the Financial BEC of the Lead Partner of Joint Venture i.e. Tractors India Private Limited be considered towards financial BEC for the subject tender.</li> </ul>	Bid from a Consortium/ Joint Venture are not applicable for this Tender. There will be no change in the BEC criteria. Tender conditions prevail.

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107)	PART I / SECTION-II/ (F-23)cl. no.6	160	PREFERENCE FOR DOMESTICALLY MANUFACTURED ELECTRONIC PRODUCTS (DMEP)	Only those manufacturer whose bids are within 20% of L1 bid would be allowed an opportunity to match L1 bid. Quoting price within the price band of L1 + 10%' shall also be allowed to supply a portion of requirement by bringing down their prices to L1	Preference for Domestically Manufactured Electronic Products (DMEP) is not applicable for this Tender. Refer page no. 158 of ITB
108)	PART I / Section IIID/ cl. no. 1.1.1 A)	305 of 531	Payment terms	As in the case of foreign bidders, Indian bidders may also be given option of 85% payment against receipt of materials through Irrevocable Inland Letter of Credit (L/C).	For Supplies it is 85% for Indian Bidders also. Refer TERMS OF PAYMENT of SCC SECTION – III D
109)	Vol. II(A) OF II, Clause no. 1.7 iii	Page no.11 of 105 (320 of 531)	Gas meter (3 nos.): Mass flow meter ----- ----- -----piping vibration.	We suggest an additional mass flow meter at package vent to measure vent loss. Kindly mandate a Vent meter i.e. <b>low flow thermal type mass flow meter</b> to avoid backpressure.	Tender condition prevails.
110)	Vol. II(A) OF II, Clause no.1.7 xxiii	Page no.12 of 105 (321 of 531)	Single Acoustic enclosure both for Compressor and Gas engine - ----- in enclosure	As a CNG Compressor Packager and Service Provider, we strongly recommend separate enclosures each for Compressor Block and Gas Engine. This ensures maximum safety in all the makes of CNG packages. CCOE had also issued a directive (Copy enclosed) that Gas Engine Driven CNG compressors should have separate chambers for Gas Engine and compressors respectively.	Tender condition prevails.

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				Also each section should have 2 nos. LEL Gas Detectors and 2 nos. UV/IR Flame Detectors each. We request that in view of public safety and the safety of the equipment, Separate enclosure as above be mandated.	
111)	Vol. II(A) OF II, Clause no.2.1.2	Page no. 18 of 105 (327 of 531)	Utilities & Battery Limit - Air Compressor of capacity 7.5 KW, preferably of IR/KPCL/Elgi/C P make ----- ----- instrument air purpose	Kindly approve Anest Iwata Motherson also in Air Compressor Make.	Tender condition prevails.
112)	Vol. II(A) OF II, Clause no. 4.8.2	Page no. 22 of 105 (331 of 531)	Air cooled inter-stage ----- ---- to 50°C	The Final Stage Discharge Gas Temperature after the after cooler shall be Ambient +10 Deg. C. Kindly approve.	Tender condition prevails.
113)	Vol. II(A) OF II, Clause no. 4.9.6	Page no. 23 of 105 (332 of 531)	Gas Recovery System : Location of Gas Recovery Vessel / Blow Down Vessel (BDV)	As per Gas Cylinder Rules 2016 / Static and Mobile Pressure Vessels Rules, the pressure vessels have to be retested periodically (Pl refer Page No. 61, Clause 13.14.3.14). In order to comply with the above, the BDV shall have to be positioned over / outside the package as BDV positioned at the base of the package can neither be taken out nor tested. Please mandate the location of Blow down vessel to facilitate	The vessels are part of a process equipment and are to be designed as per ASME Sec VIII. The process vessels have not been covered under Gas Cylinder Rules 2016 /

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
				fair comparison.	Static and Mobile Pressure Vessels Rules. The clauses indicated are not found in the Gazette notifications of Gas Cylinder Rules 2016 / Static and Mobile Pressure Vessels Rules. Hence vessels shall be kept as per bidder's design.
114)	Vol. II(A) OF II, Clause no. 4.11	Page no. 23 of 105 (332 of 531)	Gas Engine	Kindly specify the approved makes for Gas Engine to be used.	Tender condition prevails.
115)	Vol. II(A) OF II, Clause no. 4.12.1	Page 24 of 105 (333 of 531)	The maximum allowed temperature within the enclosure shall be 5°C above ambient temperature.	We request that the maximum allowed temperature within the enclosure shall be 8 to 10°C above ambient temperature. Kindly approve.	Tender condition prevails.
116)	Vol. II(A) OF II, Clause no. 4.12.2	Page 25 of 105 (333 of 531)	The enclosure restrict maximum noise level to 70 dBA at 1 meter from the enclosure	Maximum noise level to 75 dBA at 1 meter from the enclosure may please be allowed.	Tender condition prevails.
117)	Vol. II(A)	Page no.27	V-belt drive upto	Belt drive of all rating shall be allowed as all losses are	Tender condition

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
	OF II, Clause no. 4.14.1	of 105 (336 of 531)	150 KW gas engine rating is acceptable. Direct drive shall be offered by the bidder if power requirement is $\geq$ 150 KW	considered in penalty criteria. Limiting technology shall limit competition	prevails.
118)	Vol. II(A) OF II, Clause no. 7.2,7.3 & 7.4	Page no. 43,44 & 45 of 105 (352,353 & 354 of 531)	Loading & Compensation against Fuel Consumption & Package Loss	<p>All progressive city gas companies are imposing loading and penalty on these parameters by way of self-declarations (for loading) by the bidders and actual measurements during operation &amp; maintenance (for penalty).</p> <p>The parameters monitored during performance test govern only the acceptance of the package for use.</p> <p>We suggest the following:</p> <ol style="list-style-type: none"> <li>1. Removal of capping of fuel consumption of 46 to 48 SCMH and 10% of the evaluated price of the bidder. Loading shall be on account of excess fuel consumption for a fair comparison between energy efficient machines and machines with high fuel consumption.</li> <li>2. Loading &amp; penalties be calculated for lifecycle of 73000 hours / 15 years instead of 5 years given in the tender.</li> </ol>	Tender condition prevails.
119)	Vol. II(A) OF II, Clause no.24.0	Page no. 99 of 105	Preferred Makes – IR Gas Detectors	Kindly include M/s MSA as preferred make for Gas Detectors.	Accepted.
120)	Page 99 of	24.0.9	Preferred Makes	Kindly include M/s MSA as preferred make for Flame	Accepted.

Sr. No.	PART / Section / Clause No.	Page No.	Clause Description	Bidder's Query	Reply to Bidder's Query
	105, Vol. II		– UV Flame Detectors	Detectors	
121)	Page 99 of 105, Vol. II	24.0.12	Preferred Makes – Pressure Regulators	Kindly include M/s Vanaz Engineers Limited as preferred make for Pressure Regulators.	Already indicated in the tender.
122)	Page 99 of 105, Vol. II	24.0.14	Preferred Makes – Pressure gauges and temperature gauges	Kindly include M/s Baumer as preferred make for Pressure gauges and temperature gauges.	Accepted.
123)	Page 99 of 105, Vol. II	24.13	Preferred Makes – RTD	Kindly include M/s Baumer as preferred make for RTD.	Not Accepted
124)	Page 99 of 105, Vol. II	24.0.17	Preferred Makes – SS Fittings	Burckhardt Trunk Piston Design utilizes DIN standard fittings which are approved by OEM - Burckhardt Compression and sourced from VOSS, Germany. Some of these fittings are not available in Parker and Swagelok range and all Burckhardt packages over last two decades have been supplied with VOSS make fittings and have been in use at CGD companies sites for over 20 years now. Please approve VOSS make fittings also along with Swagelok/Parker//SSP etc. make fitting for our packages.	ACCEPTED if bidder establishes the same after award of the contract.
125)	Page 100 of 105, Vol. II	24.0.23	Preferred Makes – Air Exchanger	Kindly include M/s Chintamani Thermal as preferred make for Air Exchangers.	Tender condition prevails.

Note: This document shall form an integral part of the bidding document and shall be signed/stamped and submitted along with the bid.

(STAMP & SIGNATURE OF BIDDER)