

CORRIGENDUM-1

E-Tender No : AGL/Head Office/Contract and Purchase/20/25-26/ET/20 [CNG EMD COMPRESSORS] dated 21.01.2026

Sl. No.	Sec. No.	Page No.	Clause No.	Query Description	Bidder's Query	AGL Reply
1	SECTION III	44 of 124	2	10 % of the total supply order price (per compressor package) will be paid within 30 days of successful completion of Installation, Testing, Commissioning and Field Performance test (4 hours) and Field trial run (72 hour) at site and acceptance thereof by Owner and submission of all technical documents as per tender requirement. However, if erection is not started within 120 days after supply due to nonavailability of site / gas, balance payment of 10% of the total supply part shall be processed for release to the successful bidder. In case of delay in receipt of material at site the invoice value shall be reduced to take care of stipulation of PRS clause of the contract.	Please note that if Erection & Commissioning has started but not completed due to reasons attributable to the owner, this payment will be put on hold. Hence we request you to accept the following amendment in the backstop of this payment milestone: However, if erection has started but not completed within 90 days after supply due to reasons not attributable to supplier, the payment against Erection & Commissioning shall be released against Corporate guarantee of the said amount which shall be valid for a period of 1 year from the date of supply.	Tender Condition Prevails
2	SECTION III	44 of 124	3	5% of the total supply order price will be retained till Work Completion in all respect (Successful Installation, Commissioning and Field Performance Test of each Compressor Package).	Please note that if Erection & Commissioning has started but not completed due to reasons attributable to the owner, this payment will be put on hold. Hence we request you to accept the following amendment in the backstop of this payment milestone: However, if erection has started but not completed within 90 days after supply due to reasons not attributable to supplier, the payment against Erection & Commissioning shall be released against Corporate guarantee of the said amount which shall be valid for a period of 1 year from the date of supply.	In the event that the Performance Acceptance Test (PAT) of the package is delayed by more than six (6) months from the date of delivery of the compressor, and such delay is solely attributable to AGL, then five percent (5%) of the hold amount shall be released against submission of additional equivalent amount of Bank Guarantee (BG), provided the BG remains valid and enforceable until completion of PAT.
3			20	GUARANTEE/ WARRANTY/ DEFECT LIABILITY PERIOD: If any trouble or defect, originating with the design, material, workmanship or operating characteristics of any materials, arises at any time prior to twelve (12) months from the date of the first commercial operation of the Plant for which the materials supplied under the Contract form a part thereof, or twenty four (24) months from the date of last shipment whichever period shall first expire, and the SELLER is notified thereof, SELLER shall, at his own expense and as promptly as possible, make such alterations, repairs and replacements as may be necessary to permit the materials to function in accordance with the specifications and to fulfill the foregoing guarantees.	We request AGL to accept the warranty period for twelve (12) months from the date of commissioning of compressor package at site Or Eighteen (18) months from the date of delivery of each compressor at AGL store / site whichever is earlier.	Tender Condition Prevails
4	1	04 of 95	1.2	CODES AND STANDARDS The following National & International Codes & Standards of Latest editions shall be applicable. OISD 179, NFPA-52: 1995 or equivalent NFPA – 37 NFPA – 12- CO2 Flooding system IS: 325/ IEC or International standards. – Standards for electric Motor IS: 6382 Applicable ANSI, ASTM, NEC, NEMA code. API – 618 API – 11P 2nd edition API – 661 Specifications for Air cooled exchangers ASME Section – VIII Div – 1/2 Design codes for pressure vessels. Gas Cylinder Rules 2016 or latest. Standard Specifications of Bureau of Indian Standards (BIS). Specifications/Recommendations of IEC, Indian Electricity Rules, Indian Explosives Act. TEMA – C - Water cooled heat exchangers ASME / ANSI – B-31.3 Code for Process Piping	The compressor design is derived from API618/11P/equivalent industry standards. However, for other equipments it will design as per manufacturers standard.	Read the codes and standards carefully, which is already exist.
5	1	08 of 95	1.7.3	All exposed rotating parts shall be provided with adequate guards of non-sparking type.	Adequate protection as per manufacturer's standards shall be provided. Same accepted in last tender.	Tender Condition Prevails
6	3	11 of 95	3.1.3	Suction line pressure varies from 16 to 19 kg/cm2. Bidder to note suction pressure regulator is required. Suction pressure transmitters shall be provided to protect the compressor from very high and low pressure.	We shall consider 16 Kg/cm2G pressure at compressor suction flange for compressor sizing. AGL will have to maintain continuous gas supply with rated pressure.	Tender Condition Prevails
7	3	11 of 95	3.1.5	Note that the pressures given on the data sheet are at the compressor package battery limits. Bidder shall consider all pressure losses at suction, inter-stage and discharge at the specified capacity (with no negative tolerance) for compressor and indicate the same on the data sheets.		Tender Condition Prevails
8	3	13 of 95	3.3.1	The surface hardness of Rockwell C 50 minimum is required on piston rods in the areas that pass through the packing. Rolled threads shall be provided on the rods with thread relief area as polished.	Piston rod will be as per Manufacturer proprietary Design & it will be nitrided in the areas that pass through the packing and surface hardness of 50 / 55 HRC. Same accepted in last tender.	Accepted
9	3	13 of 95	3.3.2	Crosshead shall be manufacturer standard material and designs. Adequate openings for removal of the crossheads shall be provided	Will be as per manufacturer's standard. Same accepted in last tender.	Accepted but clause 3.3.2 description to be fulfilled
10	3	13 of 95	3.4.1	All oil wiper intermediate gas cylinder pressure packing shall be a segmental ring with stainless steel garter springs. 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.	Will be as per manufacturer's standard. Same accepted in last tender.	Accepted but clause 3.4.1 description to be fulfilled
11	3	13 of 95	3.4.2	ERW / seamless steel tubing conforming to ASTM A-192 or series 300 SS tubing conforming to ASTM A- 269 with minimum thickness as specified in Cl. 7.11 of API-11P shall be used for vent piping.	Will be as per manufacturer's standard. Same accepted in last tender.	Equivalent or higher ASTM standards accepted
12	3	13 of 95	3.5.3	All lube oil piping after oil filter shall be 300 series stainless steel conforming to ASTM A269.	After oil filter inbuilt oil galleries are provided, & standard Brass NRV provided at forced lubrication point	Tender Condition Prevails
13	3	13 of 95	3.6	Distance Pieces: Distance piece as per API-11P with cylinder side compartment vented to safe location is specified. Distance pieces shall be provided with gasket, solid covers and shall be suitable for a minimum differential compartment pressure of 1.75 kg/cm ² g.	Will be as per manufacturer's standard. Same accepted in last tender.	Tender Condition Prevails
14	3	14 of 95	3.7.3	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 glass is also acceptable. Divider block lubrication system to compressor cylinders shall also be accepted.	Common indicator is provided & Manufacturer's standard check valves (Brass) will be provided at each forced lubricating point.	Tender Condition Prevails
15	3	14 of 95	3.7.4	Digital no flow timer shall be provided to stop the compressor in case of loss of cylinder lubrication.	Manufacturer's standard, 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 accepted in last tender.	Accepted
16	3	14 of 95	3.7.5	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. Same accepted in last tender.	Accepted, but minimum 100 hours and low level alarm should be covered.
17	3	14 of 95	3.8.2	Inter / After Gas Coolers Air-cooled inter-stage and final stage discharge coolers shall be provided which shall limit the gas temperature after the cooler to 50 degree C (Or the discharge temperature after aftercooler = Ambient + 10oC). For calculating the surface area of the air cooler, the ambient air temperature of 42oC and 80% RH shall be considered. Cooler design shall be on the basis of 20% excess capacity than required corresponding to suction PR of 16 kg/cm2 Gas sections of coolers shall be designed as per API-661 requirements; however, gas section shall be inspected by approved third party inspection agency and may not be "U" code stamped. 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). The discharge temperature after the cooler is 42oC + 10oC = maximum 52 C. Cooling system shall be preferably installed on the same skid as the compressor due to space constraints. Bidder shall submit cooler sizing calculation for review.	The approach would be above ambient temperature 10°C. (max. ambient temp. 42°C + 10°C= 52°C).The Gas cooler design shall be such that suitable to the application as per manufacturers design. Gas coolers of the design shall be designed as per ASME-SEC-VIII, as per manufactures standard design approach same is proven for earlier supplied packages at various CGD - The required inputs would be given in the HeatExchanger datasheet. Cooler sizing is proprietary design it wont be feasible to submit sizing related calculations. Same accepted in last tender.	Accepted, however technical requirement to be fulfilled
18	5	38 of 95	5.2	Mechanical running test (MRT) 5.2.1 The MRT for each compressors 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. • 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 & following shall be examined as minimum: Strip test is limited to open Crank Case cover, X-Hd guide & Dist. pc. Cover and opening of bore & 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. All the interlocking and performance of the instrumentation system will be verified during the MRT.	MRT will be carried out as per Manufacturer's std. following shall not be feasible during FAT - Bearing temperature- Not applicable for Flp.motors - Sound level- Not feasible to unavailability of free field. Strip test-As it is not possible to disassemble any part of the compressor Package after assembly & Testing	Accepted
19	5	39 of 95	5.4	Mechanical String Test Mechanical String Test of complete package for 4 hrs shall be performed at packager's shop before dispatch in presence of Purchaser/Consultant. This test can be clubbed up with the Mechanical Run Test of compressor as specified above, provided the job driver, lube Oil system is used for the test. All parameters including discharge pressure shall be demonstrated. String test at unload condition is not acceptable.	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. It will be carried out at guaranteed parameter 1200 SCMH at 16 Kg/cm2. Same accepted in last tender	Accepted
20	1	06 of 95	1.6	Common structural steel skid for the compressor- Motor combination and for all auxiliary systems	All auxiliaries like CO2, Air compressor, etc will be supplied loose & to be mounted away from package. Same accepted in last tender	Accepted
21	1	07 of 95	1.6	Separate junction boxes for different type of signals like intrinsically safe signals, alarm, shutdowns, thermocouples, RTDs etc. for interfacing to local panel.	LCP (With PLC) is mounted on package itself hence separate JB's are not required. Same is not considered in offer.	Tender Condition Prevails
22	1	07 of 95	1.6	NRV at gas suction, inter stage, final discharge point, LCV filling line and priority panel as required.	NRV at LCV will be in AGL scope.	Accepted
23	1	07 of 95	1.6	One no. relief valve at each stage discharge, first (1st) stage suction and Blow Down Vessel.	Relief valve at first stage suction is not required in addition to one on blow down vessel as suction line and blow down vessel are connected	Tender Condition Prevails
24	1	07 of 95	1.6	Y- type/conical type strainers, valves, sight flow indicators, check valves, manual drain/ traps etc. as required for various auxiliary systems i.e. frame lube oil, cylinder lubrication system, cooling water systems, conditioning system etc.	Please note that as per Manufacturer's standard practice the lubricator will be divider block type. Y type strainers, Sight flow indicators for each lubricator point and a double ball check valve are applicable for Single Plunger per point lubricator, thus not offered. Same accepted in last tender.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
25	1	07 of 95	1.6	Separate acoustic enclosure, separated with a partition wall of minimum 3 mm thickness and fabricated in such fashion that it is completely sealed so that gas or fire should not travel from one enclosure to another, for both Compressor and motor as specified, with two number L.E.L detector and two UV detectors in each enclosure.	Being a motor driven machine separate compartment is not required, we offer single enclosure with two number GD & FD. Same accepted in last tender.	OEM Proprietary Design pertaining to established single acoustic enclosure is acceptable confirming to Industrial Norms and PESO Approval.
26	1	08 of 95	1.6	Separator/ Knockout drums/volume drums with solenoid valve operated auto & manual drains as required. Moisture separator cum regulator in the system shall also be accepted. Bypass valves for automatic drain system shall be as per manufacturer's recommendation.	Automatics drain system will be provided as per manufacturer standard design. For safety reasons, bypass system & manual isolation valve are not provided. Suction and discharge volume bottles will be as per manufacturer standard. Considering safety hazards manual drains for suction and discharge volume bottles not considered, manual drains considered only for Oil Removal Vessel. Automatic drain valves are provided in each stages, however providing Manual drain valve in pressurised gas system is safety hazard & can cause operational issues. Manual drain valve is provided for draining oil in depressurised circuit for draining oil when compressor is in stop condition. Same accepted in last tender.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.

27	1	10 of 95	2.1.2	Bidder shall make his own provision for Instrument air if required with an electric motor driven air compressor with a suitably sized receiver & Refrigerant type air drier system. Air Compressor motor should be 415 V squirrel cage motor DOL / star delta starter having overload protection, single phase preventer. A Rain guard of MOC carbon steel minimum thickness of 2 mm should be provided over the air compressor.	We have considered air compressor suitable for 10.5 kg/cm2g discharge pressure & coupled to 1.5 kW electric motor with integral dryer & 500 litres receiver tank as loose supply. Air Compressor shall be kept away from hazardous location & shall be non FLP type.	Tender Condition Prevails
28	2	10 of 95	2.1.3	Drain should be through a common header and discharge to be allowed in pot outside the package (capacity not more than 2.5 litres) to avoid spillage around the compressor package.	We shall provide oil recovery vessel (oil drain pot) of 20 liters to ensure uninterrupted operation of machine. ORV shall be mounted inside the package. Same accepted in last tender.	Tender Condition Prevails
29	2	11 of 95	2.2.2	As and where specified on the data sheets all vents (i.e. Relief valve, distance piece and packing) shall be manifold and terminated at skid edge outside the enclosure and vented to safe height of 3.0 m at package roof.	Distance piece will be as per Manufacturer's standard. Same accepted in last tender.	Tender Condition Prevails
30	2	11 of 95	2.2.3	All drains from different process equipment, distance piece and packing shall be manifold and terminated at single point for customer interface duly flanged with isolation valve. Drains should be through a common header and discharge to be allowed in a pit to avoid spillage around compressor package.	We shall provide oil recovery vessel (oil drain pot) of 20 liters to ensure uninterrupted operation of machine. ORV shall be mounted inside the package. Same accepted in last tender.	Tender Condition Prevails
31	3	14 of 95	3.9.3	Scrubber service class - B shall be used for Inter-stage / discharge scrubbers. Service Class - C shall be used for suction scrubber. (Refer API -11P) All vessels including pulsation dampeners shall be fully (100 %) radiographed as per ASME VIII UW (a) or equivalent.	The proposed CNG package has suction volume bottle at each stage and discharge volume bottle at final stage discharge only. The volume bottles at suction are connected to the condensate drain system through auto-drain valves. These volume bottles shall act as scrubbers/ condensate removal systems. No separate KODs shall be supplied. Isolation valve is mounted upstream of the auto drain valve. Same accepted in last tender. Suction KOD as per Manufacturer standard design will be provided. All vessels will be fully (100%) radio-graphed as per ASME VIII, however U stamping not considered. Same accepted in last tender.	Tender Condition Prevails
32	3	14 of 95	3.9.5	All separators / KOD's shall be provided with 3 mm corrosion allowance.	All separators / KOD's sizing shall be as per ASME VIII Same accepted in last tender.	Accepted, however technical requirement to be fulfilled
33	3	14 of 95	3.9.6	Oil from all drains shall be collected into the oil recovery pot. Oil recovery pot shall be provided	We shall provide oil recovery vessel (oil drain pot) of 20 liters to ensure uninterrupted operation of machine. Same accepted in last tender.	Tender Condition Prevails
34	3	15 of 95	3.9.6	Coalescent super fine filters (preferably two stages) with CE mark/ third party inspected for removal of liquid (e.g. water & oil) and solid particles down to 0.1 microns out of compressed natural gas shall be provided. Residual Oil Contents shall be less than 1 PPM. Manual drains with isolation valves with oil collecting pot shall be provided. The filter should be sized to flow for 200% of flow corresponding to flow at suction pressure of 19 kg/cm2g. However mechanical design shall be based on safety set pressure.	Kindly approve manufacturer's standard (Manufacturer's Make) filter with parker make filter cartridge(Borosilicate Microfibre Fabric). Our standard filter is proven is CNG application. Timer base automatic oil drain as per standard design will provided. Same accepted in last tender.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
35	3	15 of 95	3.9.8	Pulsation, Vibration Control and Analog Study	This information cannot be disclosed due to proprietary design constraints. Same accepted in last tender	Refer Tender clause no. 3.9.8 in sec. no. 3, page 15 of 95 volume II of II
36	3	17 of 95	3.10.3	All cables from Electrical room to compressor package shall be in bidder's scope	Please specify the distance of PDB from the location where the compressor package is going to be installed so that the cost of necessary power cable can be considered. ESD Locations and its distance from Package Air compressor to electrical room CO2 Flooding system to compressor package	75 Meter per site for each cable
37	3	26 of 95	3.16.2	The compressor package shall consist of separate enclosures for Compressor and electric motor. The equipment shall be mounted on one common skid. The Enclosure to restrict maximum noise level to 72 dB (A) ± 3 dB (A) at 1 meter from the enclosure.	Maximum noise level to 75 dB (A) +/- 3dB(A) at 1 meter from the enclosure in free field condition.	Accepted
38	3	26 of 95	3.16.5	All the pressure, temperature, lube oil pressure, coolant temperature, coolant level indicators shall be visible from outside of enclosures.	All the indicators for pressure, temperature of gas shall be visible from outside of enclosures. For rest of the parameters same can be viewed from PLC/locally. Same accepted in last tender	Tender Condition Prevails
39	3	26 of 95	3.16.7	For handling of all heavy parts for maintenance purpose lifting arrangement i.e. beam fitted with chain hoist shall be provided in enclosure.	The beam fitted with a chain hoist is not considered part of the standard supply. Adequate space is available to remove the motor from the package using a hydra.	Tender Condition Prevails
40	3	27 of 95	3.17.5	The instrument air tubing material shall be SS316 as per ASTM A269.	The instrument air tubing material shall be SS316 or SS316L as per ASTM A269.	Accepted
41	3	27 of 95	3.17.7	Bidder shall furnish a temporary start up conical strainer fitted with adequate size mesh.	We shall provide Y strainer considering ease of maintenance. Same accepted in last tender	Tender Condition Prevails
42	3	27 of 95	3.17.8	All lube oil piping down stream of filter shall be series 300 Stainless Steel. 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.	For circulation of oil after the oil filter, oil galleries provided hence, not applicable	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
43	3	27 of 95	3.17.9	External drain & vent piping shall be Carbon Steel and not less than 1" nominal size. However, all the internal drains shall be SS 316 tube as per ASTM A269. However, all the internal drains shall be SS 300 series material.	Package oil drain shall be of 1/2" as per manufacturer standard	Tender Condition Prevails
44	4	35 of 95	4.7.6	Separate junction boxes shall be provided for each type of signal i.e., analog, digital, solenoids, RTD thermocouple and power supply.	Please note that we will not be providing separate junction boxes for different signals. As per our standard practice all cables run directly up to the PLC panel. Same accepted in last tender	Tender Condition Prevails
45	4	35 of 95	4.7.13	Two nos. Of RS 485/RS232 Serial Communication or TCP/IP Ports shall be provided for Hooking Up the PLC to SCADA & Laptop PC at PLC end in Future. Necessary adopter if required shall be under scope of vendor. Also, Vendor shall include one set of all licensed relevant Software (Windows XP/ Windows 2000 or latest based system configuration software and application program) for accessing the PLC, HMI and mass flow meter through owner supplied Laptop PC or laptop supplied by the bidder. All the parameters, Alarms, set-points, control R/W commands rights available on the PLC through SCADA system are required. The detail requirement of SCADA will be communicated to successful vendor during detailed engineering. For selection of equipment, compatibility of SCADA system vendor shall consider the Modbus RTU protocol, FCC-68 RJ 45 or separate TB connection, type RS 232 communication standard, Baud rate upto 19.2 K with configurable software.	Please note that we shall include one set of license software for accessing PLC, HMI and Mass flowmeter common for 3 nos of compressor packages. Ethernet switch with eight port will be provided. Laptop PC or laptop are not in the scope of bidder	Laptop will be in purchaser scope, for rest Tender Condition Prevails
46	4	35 of 95	4.7.14	Offered mass flow meter shall be necessary for Custody Transfer application but not exceeding 0.5% of span. Type of approval certificate from W&M India is required.	The clause is applicable for Flow meter mounted on dispenser, hence not considered.	Tender Condition Prevails
47	4	35 of 95	4.7.15	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/system s, by the Indian authority-Chief Controller of Explosive (CCOE), Nagpur, India.	CCOE or its equivalent certificate (FM, CSA , ATEX, UL, CMR) whichever applicable & available will be provided. All Test certificates will be as per QAP submitted with Technical offer. Same accepted in last tender	Tender Condition Prevails
48	5	37 of 95		INSPECTION AND TESTING	Inspection & Testing will be as per Approved QAP by AGL. Same accepted in last tender	Noted
49	6	42 of 95	6.2.3	PENALTY during Operation & Maintenance period b)For Package Gas Loss:	While taking measurements from the mass flow meters for gas loss calculations, the OEM-specified accuracy rate also needs to be considered. In this regard, the OEM of the mass flow meter, M/s. Emerson Process Management (India) Pvt. Ltd., has shared a confirmation letter confirming the same. The letter is attached herewith for your reference.	Tender Condition Prevails
50	7	43 of 95	7	Packing shall be sufficiently robust to withstand rough handling during ocean shipment & inland journey. Sling points shall be clearly indicated on crates.	The canopy is weather proof so no separate packing considered. Package shall be covered in tarpaulin during road shipment.	Please refer Section 7 for Packing, Marking and Shipping
51	7	43 of 95	7.2	PAINTING (PRIMER & FINISH COAT)	Paint shall be applied as per manufacturer's standard paint specification ensuring durability of the paint in all weather conditions	Please refer Section 7 for Packing, Marking and Shipping
52	7	43 of 95	7.4	The headers of air-cooled exchanger shall be zinc sprayed.	The headers of air cooled exchangers shall be heat resistant epoxy painted	Please refer Section 7 for Packing, Marking and Shipping
53	14			GAS COMPOSITION: The gas composition at Indore is as shown below: Component Range mole % Methane 84.5- 98.77 Ethane 0.69- 9.00 Propane 0.03- 4.00 Butane 0.00- 2.00 Pentane 0.00- 0.35 Hexane 0.00- 0.15 Heptane 0.00 - CO 2 0.00- 4.50 Nitrogen 0.05- 1.25 Total 100 -100	We request AGL to define Design Case Mole % as stated in past Tender No. AGL/222/GED CNG COMPRESSOR/01-17 dated 25.02.2017 at Page 226 of 268.This will enable us to select the suitable compressor block	Please refer below design case mole % Design Case mole % Methane 89.00 Ethane 5.00 Propane 1.50 Butane 0.50 Pentane 0.35 Hexane 0.15 Heptane 0.00 CO 2 3.00 Nitrogen 0.50 Total 100 However, range mentioned in the tender shall prevail
54	18	82 of 95	18	LIST OF INSTRUMENTATION & CONTROL FOR COMPRESSOR	We shall provide instruments as per P&ID submitted and Instrument schedule for approval. Following not considered : 1. Frame Oil Sump/Reservoir Level : Switch not considered. 23. Coolant main pump disch. Pr.-NA as compressor is air cooled. 28. Coolant cooler Outlet Temp.-NA as compressor is air cooled. 29. Coolant reservoir Level-NA as compressor is air cooled. 42. Final Disch Pressure after coalescent filter *- Low alarm and trip not considered.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
55	19	85 of 95	19	QUALITY ASSURANCE PLAN	Inspection & Testing will be as per Approved QAP. Same accepted in last tender	Accepted
56				HYDROTEST OF - CYLINDER, PRESS. VESSELS, HEAT EXCHANGER	Hydrotest for 1st stage and 2nd stage cylinder only shall be considered	Tender Condition Prevails
57				HYDROTEST OF - CYLINDER HEADS	Hydrotest for cylinder head not considered.	Tender Condition Prevails
58				LEAK PROOF TEST OF CRANK CASE (4 Hours .with Kerosene)	Hydrotest TC for crankcase shall be submitted. Inspection by owner/TPI not considered	Tender Condition Prevails
59				BARRING OVER TO CHECK CYLINDER END CLEARANCE AND PISTON ROD RUNOUT	Not feasible to check piston rod runout	Tender Condition Prevails
60				No load mechanical run test as per manufacturer's standard (4 hours test at packager's end)	Shall be combined with Factory Acceptance Test (FAT) at full load on CNG fuel. Inspection by owner/TPI not considered	Tender Condition Prevails
61				STRIP CHECK AND INTERNAL INSPECTION AFTER "NLMRT" OF ALL REFER COMPRESSORS	As it is not possible to disassemble any part of the compressor Package after assembly & Testing same is not feasible. Inspection by owner/TPI not considered	Tender Condition Prevails
62				FUNCTIONAL / HV / CONTINUITY TEST FOR CONTROL PANEL(AT SUB VENDOR'S WORKS.)	Functional / hv / continuity check for control panel shall be done during Factory Acceptance Test (FAT) at full load on CNG fuel. HV test will not considered.	Tender Condition Prevails
63				PERFORMANCE ACCEPTANCE TEST (AT SITE) AT GUARANTEED PARAMETERS.	TPI inspection is not considered at site test. Same accepted in last Tender	Accepted

64			FIELD TRIAL RUN FOR 72 HRS.	TPI inspection is not considered at site test. Same accepted in last Tender	Accepted
65	Volume I of II Commercial_EMD_Compessor_Signed	19.0 BID EVALUATION CRITERIA - TECHNICAL:	The bidder should have engineered, manufactured/packaged, tested and supplied at least Two (02) Nos CNG compressor package having minimum discharge flow of 1200 SCMh and discharge pressure of 255 kg/cm2 in Single Order/Multiple Order under single Contract in the last Five (05) Years reckoned from the bid due date. At least One (01) similar type/capacity of supplied Compressor should have completed successful and satisfactory operation for at least One (01) Year period OR successfully completed 2.	We have engineered, manufactured/packaged, tested and supplied One (01) no of CNG Compressor Package having minimum discharge pressure flow of 1200 SCMh and discharge pressure of 255 kg/cm2 in single Contract to Aavantika Gas Limited. The supplied package has completed more than one (01) year of successful and satisfactory operation and continues to remain in running condition as of date. We kindly request you to accept this experience as part of our credentials for the BEC submission, kindly confirm.	Tender Condition Prevails
66	Volume I of II Commercial_EMD_Compessor_Signed	57 COMPLIANCES OF LAWS	Central or states wages	Request you to confirm Central or states wages to be followed?	Central Wage is applicable
67	VOL 1 (14 OF 124)	19	BID EVALUATION CRITERIA - TECHNICAL: The bidder should have engineered, manufactured/packaged, tested and supplied at least Two (02) Nos CNG compressor package having minimum discharge flow of 1200 SCMh and discharge pressure of 255 kg/cm2 in Single Order/Multiple Order under single Contract in the last Five (05) Years reckoned from the bid due date. At least One (01) similar type/capacity of supplied Compressor should have completed successful and satisfactory operation for at least One (01) Year period OR successfully completed 2000 running hours as on bid due date.	We are a leading supplier of Process Gas Compressors for Chemical, Petrochemicals, Oil & Gas Industries etc. Jyotech Engineering is a one of India's leading Gas Compressor company with a market presence since last 3 decades. Our enterprise takes pride in its diversified operations, encompassing a significant compressor portfolio. We have two fully equipped factories at Noida. We have supplied below mentioned CNG packages as on date. i)CNG booster compressors :- More than 450 Nos to various CGD companies across India. ii)Online 400 SCMh CNG compressors :- 10 # to HPCL West Bengal and UP iii)Composite online CNG compressors (CCDU) with inbuilt cascade and dispenser- 2# to Avantika Indore and Gwalior iv)Online 650 SCMh CNG compressor(Lease) :- 1# to Haryana City Gas In view of the above we request you to kindly relax BEC criteria so that you can get wider participation of capable vendors like us and encourage competitive bidding. Request you to amend the BEC as under :- 1. For supply criteria: The bidder should have regularly, for at least the last 5 years, supplied 2 nos. online electric motor driven Gas compressor having 400 SCMh or higher capacity. 2. For O&M criteria: At least 1 No. Electric Motor Driven Gas Compressor package having capacity 400 SCMh or higher should have completed successful and satisfactory operation for at least One (01) Year period OR successfully completed 2000 running hours as on bid due date.	Tender Condition Prevails
68	1.6 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE	7 of 95	One no. relief valve at each stage discharge, first (1st) stage suction and Blow Down Vessel.	We understand that SRV at suction and at BDV are same as BDV is in suction line, and there is a PRV between BDV and 1st stage suction of the compressor which will ensure constant suction pressure to compressor. Also SRV at after each stage discharge of compressor will be provided.	Tender Condition Prevails
69	1.6 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE	7 of 95	Double Isolation valves to be provided on the common vet and drain line	Single Isolation valve is sufficient for this operation. Kindly consider the same	Tender Condition Prevails
70	1.6 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE	8 of 95	Separator/ Knockout drums/volume drums with solenoid valve operated auto & manual drains as required. Moisture separator cum regulator in the system shall also be accepted. Bypass valves for automatic drain system shall be as per manufacturer's recommendation.	*As the compressor is V type and non-lubricating cylinder type, and there will not be any oil-carry over into the gas hence, contamination gas with lube oil is totally eliminated. Hence there would not required separator/knockout drums and volume bottles.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
71	3. BASIC DESIGN	12 of 95	Noise level shall not exceed 72+3dBA at 1m from the compressor package enclosure.	Noise level shall be 75+3dVA at 1m from the compressor. This one is the standard noise level considered in all CGD companies. Kindly consider	Accepted
72	3.9 Separators & Oil Removal System	14 of 95	Carbon Steel separators/KOD at auto and manual drain system shall be provided for the capacity as required.	*As the compressor is non-lubricating cylinder type, and there will not be any oil-carry over into the gas hence, contamination gas with lube oil is totally eliminated. Hence there would not required separator/knockout drums.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
73	3.9 Separators & Oil Removal System	15 of 95	Capacity shall be suitable to prevent any venting. • Suction damper and gas recovery vessel shall preferably not be combined and one pressure regulator with isolation valve shall be provided to connect gas recovery vessel with compressor suction. • If suction damper and gas recovery vessel are combined, pressure regulator after gas recovery vessel will not be allowed due to high pressure drop during compressor operation.	* Damper is not applicable for our compressor, since our design is V type.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
74	7.0 UTILITIES & BATTERY LIMITS	10 of 95	Bidder shall make his own provision for Instrument air if required with an electric motor driven air compressor with a suitably sized receiver & Refrigerant type air drier system. Air Compressor motor should be 415 V squirrel cage motor DOL / star delta starter having overload protection, single phase preventer. A Rain guard of MOC carbon steel minimum thickness of 2 mm should be provided over the air compressor.	*We propose for Gas Actuated instruments for operation instead of Pneumatic air, which will eliminated Air compressor, dryer, receiver and associated tubing. Request you to accept the same.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
75	3.10 Prime mover (Electric Motor)	17 of 95	Oil Filter The ingress of oil into CNG adversely effects vehicle emission and storage system; hence in case of lubricated cylinders vendor shall supply oil separators after cooler at each stage with automatic and manual drain. The maximum permissible oil content in CNG is 5 PPM. Contractor to supply a proven, maintenance free oil removal system after after-cooler to remove oil from compressed gas. The offered oil mist removal system shall restrict the oil to less than 5PPM in discharge of compressor.	*Our design is non-lubricated type, which prevent oil-carryover into the gas. As a result, contamination of the CNG gas with lube-oil is totally eliminated. * Filter element replacement does not required frequently as in case of lubricated cylinder compressor required. Also, compressor does not required oil pumping accessories like; divider block and plunger pump arrangement for cylinder lubrication. * Hence there will not be any condensation of oil after cooling the compressed gas. As a result our design does not require any separator vessels after cooler to collect the condensed oil. Storage system remains clean & oil-free. * However we will provide oil filter (collision type) at discharge to eliminate any chance oil-carryover to ensure totally system healthiness.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
76	3.9 Separators & Oil Removal System	15 of 95	3.9.4 One vent line from gas recovery vessel with double isolation valves shall be provided	Gas recovery system not applicable.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
77	7.2 PAINTING (PRIMER & FINISH COAT)	43 of 95	Painting (Primer & Finish Coat)	Enclosure surface will be powder coated after surface treatment, kindly accept.	Tender Condition Prevails
78	19.0 BID EVALUATION CRITERIA - TECHNICAL: (Volume I of II)	14 of 124	The bidder should have engineered, manufactured/packaged, tested and supplied at least Two (02) Nos CNG compressor package having minimum discharge flow of 1200 SCMh and discharge pressure of 255 kg/cm2 in Single Order/Multiple Order under single Contract in the last Five (05) Years reckoned from the bid due date. At least One (01) similar type/capacity of supplied Compressor should have completed successful and satisfactory operation for at least One (01) Year period OR successfully completed 2000 running hours as on bid due date.	We have supplied 1 no. of 1200 SCMh CNG Online Compressor systems to one of our esteemed customer and CGD company in India. We have also supplied 750 SCMh online compressor to one of the CNG station. We have also commissioned 2 (two) numbers of online CNG compressors (with lower capacity) for one of the automobile company (CNG station for filling to CNG vehicles) and are in continuous operation for more than 18 months, performing satisfactorily in the field. We have a technology collaboration with world-renowned compressor OEM for CNG compressor blocks who has supplied more than 3000 compressors which are running across globe. We kindly request you to allow us to qualify for technical criteria for the bid based on credentials of our Foreign collaborator/manufacturer as their packager/supplier in India. Both of us (Our collaborator and myself) will take joint responsibility for the performance of machine for its lifecycle. This confirmation will help client in getting you more number bids and in turn will be cost competitive.	Tender Condition Prevails
79			1) 85 % of the total supply order price (per compressor package) will be paid within 30 days against receipt of ordered item(s) by Owner at site upon receipt and	We request you to please consider the payment terms as per below. Same payment terms are followed by all the CGD companies including Gail (India) Limited	Tender Condition Prevails, In the event that the
80			Transit Risk	Transit Insurance will be applicable & terminate once goods are unloaded at Gail Gas Site / Stores. No other insurance is applicable for the bidder like for storage of equipment at site / stores., theft, fire, damage etc. Ward & Watch, Storage of equipment at site / stores is not part of scope of bidder. Bidder shall be relieved of the responsibility once equipment is unloaded at site / stores.	Please refer Section V GCC, point 16 Transit Risk Insurance, Page 58 of 124
81			Delivery Schedule	Delivery shall be minimum 20 weeks from date of receipt of approved Drawings and manufacturing clearances. Kindly accept.	Tender Condition Prevails
82			PRICE REDUCTION SCHEDULE (PRS)	33.0 PRICE REDUCTION SCHEDULE (PRS) 33.1 In supply contract, the portion of supply completed in all respects 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 the price reduction schedule @ 0.5% per week or part thereof of the individual invoice value maximum up to 5% of individual invoice value (Excluding Taxes and Duties) for the undelivered portion. The total value of Invoice considered for applying PRS shall be excluding of all Taxes and Duties.	Tender Condition Prevails
83			TRANSPORTATION	Re-transportation of goods from AGL Stores to Site to be excluded from scope of bidder. Insurance, storage etc of goods once delivered at stores / site shall be in scope of AGL. Material will be unloaded only one time at stores / site. Equipment will be transported to destination as advised by Purchaser in the despatch clearance. Unloading at site shall be one time activity in scope of bidder either at site or stores. Transportation of equipment between sites or from stores to site and related loading & unloading is not included in scope of bidder. This will be additionally charged in case HOGPL wants to get the job done from bidder. Or else kindly give option for quoting RE-TRANSPORTATION rates in the SOR. Transit Insurance will be applicable & terminate once goods are unloaded at Site / Stores. No other insurance is applicable for the bidder like for storage of equipment at site / stores., theft, fire, damage etc. Ward & Watch, Storage of equipment at HOGPL site / stores is not part of scope of bidder. Bidder shall be relieved of the responsibility once equipment is unloaded at site / stores. OR Kindly add option for quoting RETRANSPORTATION rates in the SOR in case m/c's are delivered at AGL Stores and are required to be re-transported to AGL site at a later date. Alternatively, re-transport of equipment, Loading/Unloading of equipment shall be removed from scope of bidder.	Tender Condition Prevails. However, Option to quote retransportation is already available in SOR. Kindly refer section IX of volume I of II, Page 124 of 124
84			Guarantee	If any trouble or defect, originating with the design, material, workmanship or operating characteristics of any materials, arises at any time during twelve(12) months from the date of Commissioning of individual equipment or Eighteen (18) months from the date of Invoice of individual equipment, whichever period shall first expire, and the Supplier is notified thereof, Supplier shall, at his own expense and as promptly as possible, make such alterations, repairs and replacements as may necessary to permit the materials to function in accordance with the specifications and to fulfil the foregoing guarantees. However, in no case, warranty of repaired/replaced part shall exceed 18 months from the date of commissioning of original equipment or 12 months from date of supply of individual equipment, whichever is earlier.	Tender Condition Prevails
85			Statutory Variation	All statutory variations, change in law or imposition of any new taxes/ duties/ levies by any Central Government/ State Government/ Civil Agencies shall be to AGL account. Bidder is not liable to bear the variations.	Tender Condition Prevails
86			Insurance	Equipment will be transported to destination as advised by Purchaser in the despatch clearance. Unloading at site shall be one time activity in scope of bidder either at site or stores. Transportation of equipment between sites or from stores to site and related loading & unloading is not included in scope of bidder. This will be additionally charged in case Purchaser wants to get the job done from bidder. Or else kindly give option for quoting RE-TRANSPORTATION rates in the SOR. Transit Insurance will be applicable & terminate once goods are unloaded at Site / Stores. No other insurance is applicable for the bidder like for storage of equipment at site / stores., theft, fire, damage etc. Ward & Watch, Storage of equipment at site / stores is not part of scope of bidder. Bidder shall be relieved of the responsibility once equipment is unloaded at site / stores.	Tender Condition Prevails. However, Option to quote retransportation is already available in SOR. Kindly refer section IX of volume I of II, Page 124 of 124
87			CONTRACT PERFORMANCE BANK GUARANTEE	Request to accept C-PBG separately for Supply & Services portion. For services portion, CPBG on yearly basis to be submitted after start of O&M.	Refer Tender clause no. 4 in SCC, page 46 of 124 volume I of II
88			Permits & Certificates	Bidder shall not hold any liability towards licenses, permits & certifications required at site. Same shall be responsibility of Purchaser.	Tender Condition Prevails
89			The provision for overhead mounting of 3000 water liter cascade shall be envisaged & same shall be of enough strength, having working space and ladder arrangement and all four-side platform for easy to maintenance. Mounting of cascade on structure shall be in the scope of bidder. However, cascade shall be provided by purchaser. Structure Stability Certificate of the unit where cascade will be mounted to be during detailed engineering and same shall have fire resistant for 4 Hours. Dimension of 3000 WLC is 5.5 meter x 2.5 meter and weight is approx. 7 Metric Ton.	Please confirm the cascade dimensions and provide a cascade drawing for feasibility assessment. The mounting of the cascade on the structure will be considered, but the customer must ensure that the cascade is available at the time of compressor erection.	Detail of the Cascade drawing shall be shared after awards of PO/DO.

90				All electrical work related to compressor package (PDB to compressor package & its accessories)	All field cables are not considered in bidder scope, kindly confirm the length.	75 Meter per site for each cable
91				3 nos. mass flow meters to measure the Natural Gas consumption at packages inlet, package discharge (both Coriolis type) and package loss / venting (thermal type) with online test arrangement. Mass flow meter (Model CNG 50 & F Series with integral local display) based on Coriolis principle of Micro motion, USA CNG 50 with 2700 transmitter at Compressor discharge, F-series with 1700 transmitter at compressor suction. Installation and manufacturing of mass flow meter shall be as per as per AGA-11. While installing special care shall be taken to isolate the mass flow meter from piping vibration. Mass flow meter shall be provided in package vent for measuring vent losses. The mass flow meter at the suction & discharge of compressor shall be W&M approved only. The flowmeters should be enabled with MODBUS/RS 485 communications.	- Suction and Discharge Mass Flow Meter will be of Emerson or E&H Make (both Coriolis type) as mentioned in the approved vendor list in clause 4.6 - Offered compressor package consist of pressurised cranchcase, so there will not be any gas loss like packing loss, seal loss etc. so same is not required hence not considered. Kindly Approve.	Tender Condition Prevails
92				Common structural steel skid for the compressor- electric motor and for all auxiliary systems.	All auxiliaries like CO2, Air compressor, etc will be supplied loose & to be mounted away from package.	Accepted
93				One no. relief valve at each stage discharge, first (1st) stage suction and Blow Down Vessel.	A relief valve is not necessary on the first stage suction in addition to the one on the blowdown vessel, as the suction line and blowdown vessel are connected.	Tender Condition Prevails
94				Separate acoustic enclosure, separated with a partition wall of minimum 3 mm thickness and fabricated in such fashion that it is completely sealed so that gas or fire should not travel from one enclosure to another, for both Compressor and motor as specified, with two number L.E.L detector and two UV detectors in each enclosure.	Being a motor driven machine separate compartment is not required, we offer single enclosure with two number GD & FD.	OEM Proprietary Design pertaining to established single acoustic enclosure is acceptable confirming to Industrial Norms and PESO Approval.
95				One blinking aviation lamp shall be provided at top of compressor canopy suitable for hazardous area for fire indication.	Flame detector is already considered inside canopy separate blinking aviation lamp not considered.	Tender Condition Prevails
96				The Compressor shall meet all the technical requirements as specified in: Data Sheets: As enclosed Technical Specification: Code and specification API-11P, API-618, OISD 179, NFPA, ANSI, ASTM, NEC, NEMA, Indian Electricity Rules, and Indian Explosives Act are referenced to & made part of specification. Compressor and its auxiliary's design shall be in conformity with API 11P, second edition, API 618.	Compressor and Auxiliaries design as per Manufacturer's Standards based on good engineering practices and field experience.	Tender Condition Prevails
97				The inter stage and final stage cooler tube material shall be carbon steel. Bidder to submit cooler sizing calculation for record purpose.	Cooler design calculations are part of Atlas Copco's Intellectual Property. We shall share the datasheet for reference purpose only during detailed engineering.	Accepted
98				Noise level shall not exceed 72+3dBA at 1m from the compressor package enclosure.	Maximum noise level to 75 dB (A) +/- 3dBA at 1 meter from the enclosure in free field condition.	Accepted
99				Compressor maximum vibrations at cylinders and at frame shall not exceed 10 mm /sec. And 5 mm/s respectively unfiltered peak velocity. The Bidder shall provide for all structural support within the package so that these levels can be achieved.	Maximum vibration levels at cylinders will be less than 10mm/sec; Maximum vibration levels at frame will be less than 20mm/sec. Package design is safe to withstand these vibration levels.	Tender Condition Prevails
100				Residual Oil Contents shall be less than 1 PPM.	Maximum oil carryover shall be <5ppm	Tender Condition Prevails
101				Main Motor Starter: Variable Frequency Drive (Heavy Duty) with input line and DC choke, along with other safeties.	Main Motor Starter considered as Soft Starter instead of VFD	VFD and Soft Starter both are acceptable, However star delta is not accepted
102				Piping	Gas piping/ tubing at 3rd stage discharge will only be in SS-316, with SS fittings, Lube Oil Piping (Tubing) will be of series 300 Stainless Steel. 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 manufacturer's standard design. Piping between PRV Skid/Suction filter to Inlet of Compressor Package will be in AGL scope, as site to site location is not fixed, hence request to considered same.	Tender Condition Prevails
103				Two nos. Of RS 485/RS232 Serial Communication or TCP/IP Ports shall be provided for Hooking Up the PLC to SCADA & Laptop PC at PLC end in Future. Necessary adopter if required shall be under scope of vendor. Also, Vendor shall include one set of all licensed relevant Software (Windows XP/ Windows 2000 or latest based system configuration software and application program) for accessing the PLC, HMI and mass flow meter through owner supplied Laptop PC or laptop supplied by the bidder. All the parameters, Alarms, set-points, control R/W commands rights available on the PLC through SCADA system are required. The detail requirement of SCADA will be communicated to successful vendor during detailed engineering. For selection of equipment, compatibility of SCADA system vendor shall consider the Modbus RTU protocol, FCC-68 RJ 45 or separate TB connection, type RS 232 communication standard, Baud rate upto 19.2 K with configurable software.	Ethernet switch with eight port will be provided	Tender Condition Prevails
104				Certification 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)/PESO, Nagpur, India.	CCOE or its equivalent certificate (FM, CSA , ATEX, UL, CMRI) whichever applicable & available will be provided. All Test certificates will be as per QAP submitted with Technical offer.	Tender Condition Prevails
105				Mechanical running test (MRT) The MRT for the each compressors shall be carried out by bidder 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. - 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 & following shall be examined as minimum. Strip test is limited to open Crank Case cover, X-Hd guide & Dist. pc. Cover and opening of bore & 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. All the interlocking and performance of the instrumentation system will be verified during the MRT.	MRT for Compressor block will be carried out as per manufacturer's standard procedures prior to package assembly. Relevant documents for the same shall be provided during final string test for review. Strip test-As it is not possible to disassemble any part pf the compressor Package after assembly & Testing	Accepted
106				Mechanical String Test The string test for this compressor shall be performed at suction pressure 16 to 19 kg/cm2 for 4 hrs continuously and the capacity shall be recorded. In case the capacity is found to be not meeting the requirement, the compressor shall not be accepted.	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. It will be carried out at guaranteed parameter 1200 SCMh at 16 Kg/cm2	Accepted
107				Penalty for breakdown time loss will be as per following: • The penalty in case of breakdown for any reason would be as follows: • 0-08 hours breakdown - Grace period and No penalty • 08-12 hours breakdown - Rs. 5000/- • 12-24 hours breakdown - Rs. 10000/- • 24-48 hours breakdown - Rs. 20000/- • 48-72 hours breakdown - Rs. 30000/-	Request you to please reduce the penalties as per below: • 24-48 hours breakdown - Rs. 15,000/- • 48-72 hours breakdown - Rs. 20,000/-	Tender Condition Prevails
108	Section I Invitation for Bids (IFB) – (Commercial Volume-I)	12 of 124	4.A DELIVERY PERIOD : REQUIRED DELIVERY FROM THE DATE OF ISSUANCE OF DELIVERY ORDER (DO) SHALL BE AS FOLLOW:	Design, Engineering, Manufacturing, Supply (including Packing and forwarding, insurance, custom clearance, freight charges, handling and unloading at port as well as AGL's Store/Site at Indore, Ujjain and Gwalior location) of skid mounted Electric Motor Driven CNG Compressor Package with explosion proof & control panel of 1200 Sm3/h capacity at suction pressure ranging from 16 Kg/cm2(g) to 19 kg/cm2(g) with discharge pressure 255 kg/cm2(g) with 9 bank priority panel, Delivery period from the date of Delivery Order (DO) - 18 Weeks Delivery shall be on FOT site basis. * The CNG Booster Compressors shall be delivered at AGL Store / Site at Indore, Pithampur, Ujjain & Gwalior locations in M.P. * Installation, Testing & Commissioning of CNG Compressor time: 04 Weeks from the date of issuance of Letter for readiness of site. * In case of Compressor package will be delivered at AGL store then in that case Re-transportation of Compressor Package from store to site is in bidder scope which will include inland transit insurance, loading and unloading	We understand that Bidder to supply / deliver quantity 10 (ten) of skid mounted Electric Motor Driven CNG Compressor Package of 1200 SCMh capacity at suction pressure ranging from 16 Kg/cm2(g) to 19 kg/cm2(g) with discharge pressure 255 kg/cm2(g) with 9 bank priority panel. We request purchaser to confirm if our understanding is correct.	Bidder to supply / deliver quantity 08 (Eight) of skid mounted Electric Motor Driven CNG Compressor Package of 1200 SCMh capacity at suction pressure ranging from 16 Kg/cm2(g) to 19 kg/cm2(g) with discharge pressure 255 kg/cm2(g) with 9 bank priority panel.
109	Technical Specification for Motor Driven CNG Compressor (Capacity : 1200 SCMh) (Technical Volume II)	4 of 95	1.1 Scope of Work	Scope of work This specification along with applicable codes as referred, describe the minimum requirements for design, engineering, manufacturing, inspection, testing, supply including packaging, forwarding, insurance, custom clearance, handling and unloading at port as well as at PURCHASER store/site at Indore, Ujjain & Gwalior, package performance test at Bidder 's shop, supply, erection & commissioning at site of "ELECTRIC MOTOR DRIVEN RECIPROCATING ON-LINE GAS COMPRESSOR PACKAGES" as required for dispensing CNG to vehicles at various locations in Indore, Ujjain & Gwalior. Various parts of this specification shall be read in conjunction with each other and in case where the different parts of this specification differ the more stringent requirement shall govern. Any additional work/equipment or technical requirement not mentioned in the specification but required to make the offered system complete in accordance with the specification and for safe and proper operation, shall be deemed to be included in the scope of work by the Bidder. THE DESCRIPTION OF TOTAL SUPPLY OF PACKAGED COMPRESSOR IS AS UNDER: Electric Motor driven 1200 SCMh Packaged Reciprocating Compressor Unit - 10 Nos.	We understand that Bidder to supply / deliver quantity 10 (ten) of skid mounted Electric Motor Driven CNG Compressor Package of 1200 SCMh capacity at suction pressure ranging from 16 Kg/cm2(g) to 19 kg/cm2(g) with discharge pressure 255 kg/cm2(g) with 9 bank priority panel. We request purchaser to confirm if our understanding is correct.	Bidder to supply / deliver quantity 08 (Eight) of skid mounted Electric Motor Driven CNG Compressor Package of 1200 SCMh capacity at suction pressure ranging from 16 Kg/cm2(g) to 19 kg/cm2(g) with discharge pressure 255 kg/cm2(g) with 9 bank priority panel.
110	Section I Invitation for Bids (IFB) (Commercial Volume-I)	12 of 124	6 BID SECURITY / EMD	BID SECURITY / EMD : Rs 42.75 Lakh in form of DD/Bank Guarantee The Indian / Domestic firms registered with NSIC/MSME, under its single point registration scheme are exempted from furnishing Bid Security and Tender fees. NSIC / MSME certificate submitted shall be duly attested by CHARTERED ACCOUNTANT (CA) AND NOTARY PUBLIC WITH LEGIBLE STAMP.	We understand that MSME who shall submit UDYAM registration certificate along with bid security declaration are exempted from submission of Bid Security / EMD. Please confirm if our understanding is correct.	Please refer Clause no. 6 of IFB Section I of Volume I of II
111	Section III – Payment	44 of 46	Payment Terms	Payment Terms	We request for:	Tender Condition Prevails, In the event that the
112	SECTION IV -SPECIAL CONDITIONS OF CONTRACT (Commercial Volume-I)	46 of 124	4.0 CONTRACT PERFORMANCE BANK GUARANTEE:	4.2 FOR AMC PART: Within 15 days from the date of commissioning of supplied Compressors, bidder shall furnish Performance Guarantee in the form of Bank Guarantee to the PURCHASER, for an amount equivalent to 10% of the AMC part of Delivery Order value (Excluding taxes & duties). Performance Bank guarantee shall be valid for a period of 3 months beyond the expiry of the AMC period. Contractor can revise the PBG amount after completion of each year of AMC period and can submit PBG for remaining AMC period amount.	For AMC Part: We request purchaser to accept Performance Security equivalent to 10% of the basic annualized value of AMC part excluding taxes, separately before start of AMC of the machines covered under respective order as per prevailing practice of leading CGD entities. Please accord acceptance	Tender Condition Prevails

113	SECTION VI -GENERAL CONDITIONS OF CONTRACT (GCC-WORKS) (Commercial Volume I)	78 of 124	7 GUARANTEE/ WARRANTY/ DEFECT LIABILITY PERIOD	7.1 The Contractor warrants that the work carried out under the Agreement are meeting the requirement of the Bid document and will rectify/ repair any defective work on receipt of instructions from Owner/ Consultant. 7.2 The Owner shall promptly notify the Contractor in writing of any claims arising under this warranty. 7.3 Upon receipt of such notice, the Contractor shall, within a reasonable period, repair or replace the defective Goods or parts thereof, free of cost to the Owner. The Contractor may take over the replaced parts/ Goods at the time of their replacement. No claim whatsoever shall lie on the Owner for the replaced parts/ goods thereafter. In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected / replaced Goods or item or material shall be extended to a further period of twelve (12) Months from the date of such repair/replacement if put to use immediately or eighteen (18) Months. Defect liability period shall be 12 months from the date of handing over of the system to AGL. 7.4 If the Contractor, having been notified, fails to remedy the defect(s) within a reasonable period, the Owner may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Owner may have against the Contractor under the Agreement.	We request purchaser to accept the warranty period for twelve (12) months from the date of commissioning of compressor package at site Or Eighteen (18) months from the date of delivery of each compressor at purchaser store/ site whichever is earlier.	Tender Condition Prevails
114	TECHNICAL SPECIFICATION FOR MOTOR DRIVEN CNG COMPRESSOR (CAPACITY: 1200 SCM/H) (Technical Volume II)	6 of 95	1.6 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE	The scope of work/services to be provided by the bidder shall be inclusive of but not limited to: • Design, Engineering, Manufacture, assembly, testing at manufacturer's works, erection, commissioning, field trial runs, Equipment performance test along with associated electricals, instrumentation etc. as per bid document.	Please allow Trunk Piston design compressor bare block as they are in use with City Gas Distribution entities for over 20 years and Burckhardt Trunk Piston design Compressor machines have clocked over 4 million operating hours in India. Please accord your acceptance.	OEM Proprietary Design acceptable confirming to Industrial Norms and PESO Approval.
115	TECHNICAL SPECIFICATION FOR MOTOR DRIVEN CNG COMPRESSOR (CAPACITY: 1200 SCM/H) (Technical Volume II)	7 of 95	1.6 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE	Acoustic Enclosure Separate acoustic enclosure, separated with a partition wall of minimum 3 mm thickness and fabricated in such fashion that it is completely sealed so that gas or fire should not travel from one enclosure to another, for both Compressor and motor as specified, with two number L.E.L detector and two UV detectors in each enclosure.	Being Motor Driven CNG Compressor package, separate acoustic enclosure for Compressor & Motor is not required. Hence, we kindly request AGL to accept Single Acoustic Enclosure for Compressor and Motor. Please confirm.	OEM Proprietary Design pertaining to established single acoustic enclosure is acceptable confirming to Industrial Norms and PESO Approval.
116	Scope of Work for AMC of EMD CNG Compressor (Technical Volume II)	51 of 95	xiv Minimum Wage	It will be the responsibility of the bidder to pay as per the minimum wages of the appropriate government applicable under the Minimum Wage Act.	We understand that the Minimum Wages of State Government shall be paid to the worker for Operation and Maintenance of CNG Compressors. We request purchaser to confirm if our understanding is correct	Central Wage is applicable
117	GUARENTEED PARAMETERS (Technical Volume II)	54 of 95	13 GUARENTEED PARAMETERS OF COMPRESSOR	13.1 SUCTION PRESSURE 19 Kg/cm2(g); COMPRESSOR CAPACITY BY BIDDER 13.2 SUCTION PR 17.5 KG/CM2(g), COMPRESSOR CAPACIT Y BY BIDDER 13.3 SUCTION PR 16.0 KG/CM2(g), COMPRESSOR CAPACIT Y BY BIDDER	We understand that Guaranteed parameters for 1200 SCM/H capacity at designed Suction Pressure 16 Kg/Cm2(g) and discharge pressure of 255 Kg/Cm2g shall be considered for imposition of loading. Please confirm	Guaranteed Parameters shall be considered at 16 Kg/Cm2 for imposition of loading and penalty