

**VADODARA GAS LIMITED**  
**REPLIES TO BIDDER'S QUERIES DATED 17/11/2022**  
**TENDER NO.: VGL/CO/C&P-CNG/BD202206041 DATE 03/11/2022 & TENDER ID: 563652**  
**TENDER SUBJECT: PURCHASE OF 02 NOS. 1200 SCM MOTOR DRIVEN COMPRESSOR PACKAGE WITH 36 MONTHS AMC FOR AMENDMENT OF VGL MOTHER STATIONS**

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1	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	101 of 220	2.2	Bidder shall be responsible for supply, erection, commissioning and field trial run. Noise level test and performance test of all packages at sites. The field trial run of the compressor will be for minimum of 4 hours (can be in multiple runs) and the package should be kept under observation for 72 hours for stable operation and no major breakdown in which satisfactory performance of the package together with all accessories auxiliaries and controls shall be established for satisfactory performance for specified operating conditions.	Since, Full load performance test is carried out at work for 4 hours on guarantee parameters on Natural gas, we request you to consider a 30mins field trial run and also performance test at site.	Tender Conditions Prevail
2			2.3	It will be the endeavor of all the parties to get the Performance Acceptance Test (PAT) at site conducted within a period of 20 days from the start of commercial operation of a particular package.		
3			2.5	Periodic inspections of safety valves, transmitters, pressure vessel gauge and any other equipment as per statutory norms of state factory rules. SMPV and gas cylinder rules shall have to be carried out by the bidder at his own cost during the period of maintenance by the bidder. The inspections have to be carried out by competent persons as per advice of engineer-in-charge and certificates have to be submitted to owner.	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 / Static and Mobile Pressure Vessels Rules. Retesting is carried out for only storage vessels like cascades. Only a thickness check will be carried out every year. Please note, hydro testing will be in scope of the Client . Same is followed in all the CNG packages and with all the CGD companies. Same is accepted in last tender	Ok Noted. Thickness test of Pressure Vessel is carried out every year.
4	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	102 of 220	2.17	Receipt at site, storage in warehouse as per manufacturer's recommendation and safety and security from theft and breakage/damage during transportation, handling at site.	The storage in the warehouse, safety and security from theft shall be in Client's scope. Kindly confirm your acceptance to the same.	Ok Noted.
5	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	104 of 220	v. of 2.22	<b>2.22 OPERATION AND MAINTENANCE OF COMPRESSOR PACKAGES</b> Contractor has to ensure the safety of man and machine all the times. Damages to equipment due to negligence will be recovered as per the decision of Engineer-in-Charge, which will be final.	Shall be done only for the Packages supplied by KPCL.	Ok Noted.
6	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	106 of 220	xxxv. of 2.22	The bidder shall carryout calibration of gas detectors and flame detectors every six months or earlier as per requirement or instruction of EIC of OWNER. Also yearly calibration of all instruments such as pressure gauges, transmitters, switches, etc shall be in the scope of the bidder. Mass flow meters shall calibrate every 18 months. In addition to the above all safety relief valves shall also be tested and calibrated every Six Months.	For mass flow meters, field calibration shall be carried out. FCRI calibration shall be in Client scope.	Calibration of Mass Flow Meter shall be carried out through OEM or VGL approved agency in every 12 months.
7	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]		xxxviii. Of 2.22	The bidder shall carry out retesting of pressure vessels including blow down vessel periodically i.e. every year or earlier as per Gas Cylinder rules 2016 / Static & Mobile Pressure Vessels Rules.	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 / Static and Mobile Pressure Vessels Rules. Retesting is carried out for only storage vessels like cascades. Only a thickness check will be carried out every year. Please note, hydro testing will be in scope of the Client ,same is followed in all the CNG packages and with all the CGD companies.	Ok Noted. Thickness test of Pressure Vessel is carried out every year.
8	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	109 of 220	ii of 4.	All 3 no. of mass flow meters should be of same make and should have local display and should be weather proof. The flow meters should be enabled with MODBUS/RS 485 communications.	Suction and discharge flow meters are Emerson make and so we need to provide thermal flow meters of Emerson make since tender says same make. Please note, Emerson has stopped manufacturing thermal mass flow meters and the same has been accepted to provide different make in last CNG executed orders.	Ok Noted and the same will be approve by the PESO.
9	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	118 of 220	9.2	The supply shall include all interconnecting piping/tubing/cables.	Please let us know the distances of respective piping / tubing / cables.	1. Compressor package to control/electrical room - Approx. 55 Mtr. 2. UPS DB to package distance for UPS supply to PLC panel - Approx. 55 Mtr. 3. ESD Locations and its distance from Package - Approx. 40 Mtr. 4. Air compressor to electrical room - Approx. 25 Mtr. 5. CO2 Flooding system to compressor package - Approx. 8 Mtr.
10	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	109 of 220	viii. Of 4	Block and bleed valves to be provided for Pressure gauges and pressure Transmitters.	Block and bleed valves cannot be offered due to space constraints. We shall offer needle valves for Pressure Gauges and Pressure Transmitters.	Ok Noted.
11	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	109 of 220	ix. Of 4	Separate junction boxes for different type of signals like intrinsically safe signals, alarm, shutdowns, thermocouples, RTDs etc. for interfacing to local panel.	Local control panel (With PLC) is mounted on the package itself hence junction boxes are not required. Instruments will be directly wired to the Local control panel.	Ok Noted.

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12	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	109 of 220	xii. Of 4	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 a blowdown vessel as suction line and blow down vessel are connected to each other.	Ok Noted.
13	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	109 of 220	xiii. Of 4	Y- Type strainers, valves, sight flow indicators, check valves, auto & manual drain traps etc. as required for various auxiliary systems i.e. frame lube oil, cylinder lubrication system, cooling water systems etc.	Please note that as per Manufacturer's standard practice the lubricator will be divider block type. Y type strainers, Sight flow indicators, check valve etc are applicable for Single Plunger per point lubricator, thus not applicable.	Ok Noted.
14	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	110 of 220	xxi. Of 4	One set of priced spare parts catalogue along with the priced bid (Commercial bid), as built drawings and Operation & Maintenance catalogue with each compressor package.	There is no provision to provide prices of spare parts in the SOR. and also O & M is in bidder scope.	Ok Noted.
15	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	110 of 220	xxvi. Of 4	Duplex suction filters to be provided at the inlet of package with Differential Pressure gauge after Y- type strainer.	Please note Duplex suction gas filter with oil drains and temporary suction inline strainer will be placed outside the package.	Ok Noted.
16	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	110 of 220	xxviii. Of 4	Three no. Emergency stop button (push type) along with one hooter in office/customer interface room with its required cable.	Emergency stop button and hooter will be in the purchaser's scope. Any cabling required to interface the same with package PLC will be in the purchaser's scope.	Tender Conditions Prevail
17	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	110 of 220	xxx. Of 4	Secondary lubrication system with check valve protector, HP (High Pressure) Filter (for all lubricating points) & DNFT (Digital No Flow Timer) flow switches with standby pump. Secondary lubrication system with divider block shall be provided.	Standby pump is not envisaged and therefore will not be provided. Oil pump mounted on a compressor is sufficient for cylinder lubrication.	Ok Noted.
18	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	111 of 220	4.30	Silencer has to be provided in the starting air vent line.	Not applicable.	Ok Noted.
19	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	112 of 220	2.2 of B.	<b>B. COMPRESSOR PERFORMANCE DATA</b> 2.2 Compressor Discharge temperature 52° C (After cooler) with ambient air temperature of 47.5° C and gas inlet temperature of 35° C (max.).	Please note discharge temperature shall be Ambient +10degC. This design is followed in all our packages and same is supplied in GED tender.	Ok Noted.
20	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	116 of 220	9.40	Compressor cylinder shall be provided preferably with removable liners.	Please note that the compressor cylinders are without liners as per manufacturer's standard design.	Ok Noted.
21	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	117 of 220	9.11	In case of lubricated cylinder & packing design, single plunger force feed mechanical lubricator shall provide lubrication to compressor cylinders. Lubricators with double ball check valve shall be provided at each lubricator point. Digital no flow timer shall be provided to stop the compressor in case of loss of cylinder lubrication.	Please note that as per Manufacturer's standard practice the lubricator will be divider block type. Double ball check valves are applicable for Single Plunger per point lubricator, thus not applicable.	Ok Noted.
22	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	117 of 220	9.21	Cross head inspection windows should be transparent for easy of inspection during running. Set values should be prominently marked on the gauges.	Crosshead covers are not transparent as per manufacturer's standard design.	Ok Noted.
23	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	117 of 220	a) of 9.22	Gas tight crankcase.	Crankcase is not gas tight and Crankcase is provided as per manufacturer's standard design.	Ok Noted.
24	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	117 of 220	h) of 9.22	Crankcase breather piped back to suction.	Crankcase is as per manufacturer's standard design. and not piped back to suction.	Ok Noted.
25	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	128 of 220	11.14	For handling of all heavy parts for maintenance purpose suitable lifting arrangement shall be provided i.e. beam fitted with chain hoist arrangement. The chain hoist arrangement i.e. chain pulley block shall be removable type, which can be disassembled and shifted onto the other machines. 1no. each shall be provided for tendered quantity of compressors. Eye bolt arrangement shall be provided on heavier components like electric motor, cylinder crankcase, and wherever felt necessary for lifting during maintenance.	We will provide suitable arrangement such as plate for sliding the compressor motor out of the Canopy for maintenance purpose. No other equipment requires lifting arrangement considering their weight and therefore chain pulley arrangement is not required.	Ok Noted.
26	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	122 of 220	n) of 9.36	The power factor (PF) of the whole electrical system should not be below 0.95. Motor feeder shall be provided with energy meter.	Please note, to maintain power factor of 0.95 in our system, APFC panel is required. We would like to inform you that APFC panel is in Client scope because the APFC panel to be designed considering the complete station load and not only CNG compressor load.	Ok Noted.

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27	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	123 of 220	10.4	Temperature process values should be taken from temperature transmitters and should be independent from temperature gauges installed on local gauge panel.	We shall provide temperature elements like RTD, K-type thermocouple instead of transmitters. All temperature elements shall be directly connected to PLC with appropriate protection.	Ok Noted.
28	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	124 of 220	10.5	Individual (2/3 core) cabling is required for each field instrument from field JB to avoid multiple JB's and multicore cables in field for easy trouble shooting & replacement.	Local control panel (With PLC) is mounted on the package itself hence junction boxes are not required. Hence Multicore cable is not required.	Ok Noted.
29	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	124 of 220	vi. Of 10.11	Compressor jacket water coolant temperature indicator on local gauge panel	Not applicable for air cooled compressor cylinders.	Ok Noted.
30	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	125 of 220	10.16	A separate hooter for customer interface room shall be provided with annunciation window alarm of individual protection device.	We are not providing annunciation window Same is accepted to many CGD companies.	Ok Noted but A separate hooter for customer interface room shall be provided.
31	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	126 of 220	f) of 10.18	PLC shall be configured as a remote terminal unit of supervisory computer and data acquisition system complete with GPRS and Ethernet connectivity.	Please note this is an additional requirement and will impact the price of the machine. However, we can provide an extra port in our PLC for GPRS connectivity. GPRS hardware (sender end), Software (Receiving end) and cable from our PLC to owners Control room.	Ok Noted.
32			g) of 10.18	Successful bidder to include in scope live demonstration of remote monitoring of all PLC logged parameters in one machine at his works. OWNER may ask for the same. However, this may be required to be demonstrated at site.		Ok Noted.
33	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	127 of 220	11.1	Each compressor module shall be housed within a purpose built SS 304 acoustic enclosure or in case of mild steel the surface shall be treated with anti-rust coatings followed by UV resistant epoxy paint for durability and rust protection.	We will use GI sheets for enclosure as per standard design and shall be weather proof.	Ok Noted.
34	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	128 of 220	11.4	The maximum temperature within the enclosure shall be limited to ambient + 8C. Adequate ventilation fans shall be provided to meet the above and also to account heat dissipation of the coolers/ all other components.	Air cooled heat exchanger fan is of forced draught type which throws air out of the enclosure. Hence a separate ventilation fan is not required. Temperature inside the enclosure shall be limited to ambient + 8 degC without the use of additional ventilation fans. Please confirm your acceptance.	Ok Noted.
35	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	129 of 220	11.18	The bidder shall be providing a degree of protection equivalent to IP44 as defined in AS 1939.	Compressor enclosure will be weatherproof.	Ok Noted.
36	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]			INSPECTION & TESTING	Inspection and testing shall be as per bidder's standard QAP and the same shall be discussed during detailed engineering.	Ok Noted.

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						<p style="text-align: center;">17.0 PENALTY CLAUSE</p> <p style="text-align: center;">A. PENALTY TOWARDS EXCESS GAS LOSS:</p> <p>At the start of O&amp;M period or even at any point of time during the O&amp;M period, cost towards excess gas loss beyond the quoted figure shall be deducted from O&amp;M bills.</p> <p>Following calculations shall be used for deduction towards excess gas loss: <math>F = [G - \{(Q/ 903 \text{ (for 1200 SCMh)}\} * D)] * H</math></p> <p style="text-align: center;">Where,</p> <p>F = Penalty in Rupees to be deducted from O&amp;M bill  G = Monthly Vent/Leakage loss observed during O&amp;M period in KG</p> <p><math>Q = \text{Vent} / \text{Leakage loss quoted in Percentage}</math> <math>H = \text{Cost of Natural Gas/Kg} - \text{Rs. } 55/- \text{ per Kg}</math></p> <p>D = Production during the month (Discharge Meter) considering:  G above shall be taken as (Suction – Discharge) OR Reading from Vent Mass Flow Meter, whichever is higher.</p> <p>Note: - Accuracy of Mass Flow Meter considers as per OEM Guideline and bidder may submit the same.</p> <p style="text-align: center;">B. PENALTY TOWARDS EXCESS ENERGY CONSUMPTION:</p> <p>At the start of O&amp;M period or even at any point of time during the O&amp;M period, cost towards excess power consumption beyond quoted figure shall be deducted from O&amp;M bills.</p> <p>Following calculations shall be used for deduction towards excess power consumption. <math>F = (G-Q) * H</math></p> <p style="text-align: center;">Where,</p> <p>F = Monthly Penalty in Rs.  G = Monthly Actual power consumption  Q = Guaranteed consumption rate quoted by supplier for every 903 Kg of CNG 903 (for 1200 SCMh)</p> <p style="text-align: center;">X  CNG produced during the month</p> <p>H = Cost of power Rs. 8/Kwh</p> <p style="text-align: center;">C. PENALTY TOWARDS PACKAGE EFFICIENCY LOSS</p> <p>This penalty shall be imposed on compressor blocks not capable of delivering rated capacity of 1200 shall SCMh Following calculations be used for penalty towards package efficiency loss:  <math>F = 2 * \{(1200 * H * RD * AD) - M\}</math></p> <p style="text-align: center;">Where,</p> <p>F = Penalty Amount in Rupees  H = Hours clocked in a month</p>

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37	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	134 of 220	15.6	<p>If the equipment is down for more than 4 hours on any day, Penalty would be applicable as follows:</p> <ul style="list-style-type: none"> <li>□ 4 to 12 hours: ₹ 20,000/-</li> <li>□ Beyond 12 hours: ₹ 40,000/- per day.</li> <li>□ Beyond 72 Hours to upto 7 days: 50% of monthly Operation &amp; maintenance charges will be deducted.</li> <li>□ Beyond 7 days to upto 15 days: 60% of monthly Operation and maintenance charges will be deducted.</li> <li>□ Beyond 15 days to upto 30 days: 75% of monthly Operation and maintenance charges will be deducted.</li> </ul> <p>Vendor will make all efforts to maintain operation (availability) for duration of &gt; 98%. In Case of monthly average availability is below 98%. Then penalty @ of Rs 10,000 per % or part thereof shall be applicable additional to hourly penalties subject to maximum cumulative penalty for a month i.e. 100 % of monthly operation &amp; maintenance charges for that particular month.</p>	<p>Penalty for breakdown or shutdown shall be as below:</p> <ul style="list-style-type: none"> <li>up to eight hours: NIL</li> <li>up to 24 hours: INR 10,000/- per day</li> </ul> <p>Also, The maximum penalty imposed in a month for non performance of the equipment shall be limited to 50% of the amount to be paid to the bidder per month per compressor.</p> <p>confirm your acceptance.</p>	<p>RD = Average RD for the month using GC Data AD = Air Density = 1.22541 M = Discharge mass flow during the month in Kgs Note:</p> <ol style="list-style-type: none"> <li>1) Gauge Pressure at Station Inlet shall be used as benchmark for imposition of penalties and not suction pressure being displayed at the PLC.</li> <li>2) Pressure regulator shall not be used to reduce the pressure at the compressor block inlet below 16 Kg/Cm2.</li> <li>3) In case pipeline pressure at the station itself is less than 16 Kg/Cm2, then the penalty shall be imposed if the package delivery falls below discharge values corresponding to the station pressure.</li> </ol> <p>D. Penalty for Non-Performance during Period of Operation &amp; Maintenance</p> <p>Details of Penalty for non-performance of equipments</p> <p>a. On normal day (i.e. the day other than the schedule maintenance day):</p> <ol style="list-style-type: none"> <li>i. The party has to ensure that the equipments are available for operation for minimum 20 hours per day and on an average the equipment availability has to be 98% in a month.</li> <li>ii. If the equipment is down for more than 4 hours on any day or availability is less than 98% in a month. Penalty would be applicable as follows: upto 12 hours : Rs. 20,000/- Beyond 12 hours: Rs. 40,000/- per day.</li> </ol> <p>In case of daily availability is 20 hrs. but monthly average availability is below 98%. Then penalty @ of 10,000 per % or part thereof shall be applicable.</p> <p>b. On schedule maintenance day:</p> <ol style="list-style-type: none"> <li>i. The party would be required to carry out the recommended schedule/preventive maintenance of the equipments for which the party has to indicate the time required for each type of schedule maintenance.</li> <li>ii. If the equipment is down for more than 4 hours &amp; upto 12 hours beyond the time indicated for the agreed schedule maintenance, the party would be penalized Rs. 20,000/- and for more than 12 hours Rs. 40,000/- per day.</li> <li>iii. In any case, the maximum penalty imposed in a month for non-performance of the equipment turns out to be 50% or more of the amount of O&amp;M charges to be paid to the party per month per compressor (a complete cost break up of O&amp;M charges need to be furnished by the bidder during bid), OWNER will take necessary actions as per terms and conditions of the contract for such non-performance.</li> </ol> <p>E. In any case/ any situation, total penalty will be limited to 50% of monthly invoice value of concerned package.</p> <p>F. The calculations for levy of penalty as mentioned above shall be calculated on CNG Compressor wise basis for each locations of Vadodara Gas Ltd.</p> <p>G. Penalty shall be excluding preventive maintenance work and other work like power cut, planned shutdown.</p> <p>H. The wages of all manpower deployed at site should be paid through bank only and the copy of bank statement should be submitted alongwith monthly bills. If the contractor fails to pay the wages through bank will attract penalty Rs. 1000 per person per month and same will be deducted from contractor running bill.</p> <p>I. After the operational of contract, Contractor has to provide the uniforms (as per clause no. 4 of scope of work) &amp; safety shoes within 1 month, In case not wearing/ providing of Uniform &amp; Safety Shoes by any employee during their shift/duty, the penalty shall be imposed Rs. 500/- Per person deducted from contractor running bill per observed any time during the random/regular inspection by EIC or his authorized representative.</p>

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						<p>J. The contractor has to submit recent police verification for all the persons within a period of 90 days from the date of deployment under this contract for character verification as per TABLE – A of SOW, non-submission of character certificate will attract penalty Rs. 1000 per workmen &amp; will deduct from running bill. In case authority are unable to issue character certificate, letter to be submitted to VGL. Old police verification will not be considered. Date of police verification shall be after date of award of contract only.</p> <p>K. Mass Flow Meters shall be calibrated through MFM OEM or VGL approved agency once in a year, if not done penalty shall be Rs. 25,000/- per mass flow meter.</p> <p>L. Non calibration of instruments as per SOW, penalty shall be Rs. 25,000/- for yearly instruments &amp; Rs. 15,000/ for half yearly instruments</p>
38	SECTION – V SCOPE OF WORK COMPRESSOR DATASHEET]	142 of 220	9.3.5	ASME / IBR CODE STAMP	<p>Third party inspection reports will be provided in lieu of ASME/IBR code stamps for coolers, volume bottles, separator, oil mist separator, gas recovery vessel.</p> <p>Kindly confirm your acceptance.</p>	Ok Noted.
39	SECTION – V SCOPE OF WORK COMPRESSOR DATASHEET]	144 of 220	13.2	Ultrasonic testing for piston rod, connecting rod, crank shaft, big end bolts, main brg. studs. - YES	Ultrasonic testing will be carried out for connecting rod only. We have used the same philosophy for compressors supplied to various CGD companies in India.	Ok Noted.
40	SECTION – V SCOPE OF WORK COMPRESSOR DATASHEET]	144 of 220	13.3	Magnaflux testing for crankshaft, piston rod, connecting rod - YES	Leak proof test of crank case is not carried out. We have used the same philosophy for compressors supplied to various CGD companies in India.	Ok Noted.
41	SECTION – V SCOPE OF WORK COMPRESSOR DATASHEET]	144 of 220	13.4	Dye penetrant testing for cylinder liners , piston - YES	Dye penetrant testing for cylinders liners, piston is not carried out. We have used the same philosophy for compressors supplied to various CGD companies in India.	Ok Noted.
42					<p>Request you to please share the below distances in order to enable us to consider cable costs:</p> <ol style="list-style-type: none"> <li>1. Compressor package to control/electrical room</li> <li>2. UPS DB to package distance for UPS supply to PLC panel</li> <li>3. ESD Locations and its distance from Package</li> <li>4. Air compressor to electrical room</li> <li>5. CO2 Flooding system to compressor package</li> </ol>	<ol style="list-style-type: none"> <li>1. Compressor package to control/electrical room - Approx. 55 Mtr.</li> <li>2. UPS DB to package distance for UPS supply to PLC panel - Approx. 55 Mtr.</li> <li>3. ESD Locations and its distance from Package - Approx. 40 Mtr.</li> <li>4. Air compressor to electrical room - Approx. 25 Mtr.</li> <li>5. CO2 Flooding system to compressor package - Approx. 8 Mtr.</li> </ol>
43		68 of 220	j of 13	In the event of delay in mobilizing the services/ manpower for the particular CNG compressor package a penalty at the rate of 0.5 % of the contract value per week or part thereof shall be recovered from the contractor subject to a maximum of 5% of the contract value.	Please note, maximum of 5 % of Lot quantity / Delivery order. Not on the total contract value. Kindly confirm the same.	Tender Conditions Prevail
44					<p>Please note, One time transportation from factory to site or store will be considered. Our supply contract ends once the package is transported either at store or site. In case the package is supplied to Client's store , then excludes below scopes :</p> <ol style="list-style-type: none"> <li>1. Loading onto the trailer from stores.</li> <li>2. Transportation i.e from stores to site.</li> <li>3. Unloading on site or nearby due to non readiness of foundation.</li> <li>4. In case of non readiness of compressor foundation re-loading package from nearby to foundation after readiness.</li> </ol>	Transportation from client store to site in the scope of Bidder.

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45	5.0 TERMS OF PAYMENT.	65 of 220			<p>90% after receipt of package at site .                      10% after erection , installation and PT.</p> <p>After receipt of compressor Erection , Installation and PT shall be done before 30 days,else 100 % payment against erection and CMG will be applicable.</p>	Tender Conditions Prevail
46		Page-69		<p>Following calculations shall be used for deduction towards excess gas loss:  <math>F = [G - (Q * D)] * H</math>                      Where,                      F Penalty in Rupees to be deducted from O&amp;M bill                      G Monthly Vent/ Leakage loss observed during O&amp;M period                      Q Vent/Leakage loss quoted in percentage H= Cost of Natural Gas/ Kg - ₹ 38 per Kg                      D Production during the month (Discharge meter) Considering:                      G above shall be taken as (Suction-Discharge) OR Reading from Vent Mass Flow Meter, whichever is higher</p>	<p>As our compressor crankcase being pressurized hence Vent MFM is not applicable, However, VGL need to consider a MFM instrument accuracy error i.e. + .5% as per manufacturer's (Emerson/ MFM) standards.</p>	<p>17.0 PENALTY CLAUSE</p> <p>A. PENALTY TOWARDS EXCESS GAS LOSS:</p> <p>At the start of O&amp;M period or even at any point of time during the O&amp;M period, cost towards excess gas loss beyond the quoted figure shall be deducted from O&amp;M bills.</p> <p>Following calculations shall be used for deduction towards excess gas loss: <math>F = [G - ((Q/ 903 \text{ (for 1200 SCM)})) * D] * H</math>                      Where,                      F = Penalty in Rupees to be deducted from O&amp;M bill                      G = Monthly Vent/Leakage loss observed during O&amp;M period in KG                      Q = Vent / Leakage loss quoted in Percentage H = Cost of Natural Gas/Kg - Rs. 55/- per Kg                      D = Production during the month (Discharge Meter) considering:                      G above shall be taken as (Suction - Discharge) OR Reading from Vent Mass Flow Meter, whichever is higher.</p> <p>Note: - Accuracy of Mass Flow Meter considers as per OEM Guideline and bidder may submit the same.</p>
47		Page-70		<p>D.                      PENALTY TOWARDS PACKAGE EFFICIENCY LOSS                      This penalty shall be imposed on compressor blocks not capable of deliver in grated capacity of 1200SCMH Following calculations shall be used for penalty towards package efficiency loss:  <math>F = 2 \times ((1200 \times H \times RD \times AD) - M)</math>                      Where,                      F-Penalty Amount in Rupees                      H-Hours clocked in a month                      RD-Average RD for the month using GC Data                      AD-Air Density = 1.22541                      N-Discharge mass flow during the month in Kg</p>	<p>Please clarify and remove this penalty.</p>	<p>B. PENALTY TOWARDS EXCESS ENERGY CONSUMPTION:</p> <p>At the start of O&amp;M period or even at any point of time during the O&amp;M period, cost towards excess power consumption beyond quoted figure shall be deducted from O&amp;M bills.</p> <p>Following calculations shall be used for deduction towards excess power consumption, <math>F = (G-Q) \times H</math>                      Where,                      F = Monthly Penalty in Rs.                      G = Monthly Actual power consumption                      Q = Guaranteed consumption rate quoted by supplier for every 903 Kg of CNG 903 (for 1200 SCM)                      X CNG produced during the month                      H = Cost of power Rs. 8/Kwh</p> <p>C. PENALTY TOWARDS PACKAGE EFFICIENCY LOSS</p> <p>This penalty shall be imposed on compressor blocks not capable of delivering rated capacity of 1200 shall SCM Following calculations be used for penalty towards package efficiency loss:  <math>F = 2 \times ((1200 \times H \times RD \times AD) - M)</math>                      Where,                      F = Penalty Amount in Rupees                      H = Hours clocked in a month                      RD = Average RD for the month using GC Data                      AD = Air Density = 1.22541                      M = Discharge mass flow during the month in Kes</p>

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48				In any case, the maximum penalty imposed in a month for non-performance of the equipment turns out be 50% or more of the amount of O&M charges to be paid to the party per month per compressor (a complete cost break up of O&M charges need to be furnished by the bidder during bid), OWNER will take necessary actions as per terms and conditions of the contract for such non-performance.	We can not understand the clause, hence VGL is requested to clarify the same.	<p style="text-align: center;">Note:</p> <p>1) Gauge Pressure at Station Inlet shall be used as benchmark for imposition of penalties and not suction pressure being displayed at the PLC.  2) Pressure regulator shall not be used to reduce the pressure at the compressor block inlet below 16 Kg/Cm2.  3) In case pipeline pressure at the station itself is less than 16 Kg/Cm2, then the penalty shall be imposed if the package delivery falls below discharge values corresponding to the station pressure.</p> <p>D. Penalty for Non-Performance during Period of Operation &amp; Maintenance</p> <p style="text-align: center;">Details of Penalty for non-performance of equipments</p> <p>a. On normal day (i.e. the day other than the schedule maintenance day):</p> <p>i. The party has to ensure that the equipments are available for operation for minimum 20 hours per day and on an average the equipment availability has to be 98% in a month.  ii. If the equipment is down for more than 4 hours on any day or availability is less than 98% in a month. Penalty would be applicable as follows:  upto 12 hours : Rs. 20,000/-  Beyond 12 hours : Rs. 40,000/- per day.  In case of daily availability is 20 hrs. but monthly average availability is below 98%. Then penalty @ of 10,000 per % or part thereof shall be applicable.</p> <p>b. On schedule maintenance day:</p> <p>i. The party would be required to carry out the recommended schedule/preventive maintenance of the equipments for which the party has to indicate the time required for each type of schedule maintenance.  ii. If the equipment is down for more than 4 hours &amp; upto 12 hours beyond the time indicated for the agreed schedule maintenance, the party would be penalized Rs. 20,000/- and for more than 12 hours Rs. 40,000/- per day.  iii. In any case, the maximum penalty imposed in a month for non-performance of the equipment turns out be 50% or more of the amount of O&amp;M charges to be paid to the party per month per compressor (a complete cost break up of O&amp;M charges need to be furnished by the bidder during bid), OWNER will take necessary actions as per terms and conditions of the contract for such non-performance.</p> <p>E. In any case/ any situation, total penalty will be limited to 50% of monthly invoice value of concerned package.</p> <p>F. The calculations for levy of penalty as mentioned above shall be calculated on CNG Compressor wise basis for each locations of Vadodara Gas Ltd.</p> <p>G. Penalty shall be excluding preventive maintenance work and other work like power cut, planned shutdown.</p> <p>H. The wages of all manpower deployed at site should be paid through bank only and the copy of bank statement should be submitted alongwith monthly bills. If the contractor fails to pay the wages through bank will attract penalty Rs. 1000 per person per month and same will be deducted from contractor running bill.</p> <p>I. After the operational of contract, Contractor has to provide the uniforms (as per clause no. 4 of scope of work) &amp; safety shoes within 1 month, Incase not wearing/</p>
49				F. In any case/ any situation, total penalty will be limited to 50% of monthly invoice value of concerned package.	We requested to VGL, In any case/ any situation, total penalty will be limited to 20% of monthly invoice value of concerned package.	<p>E. In any case/ any situation, total penalty will be limited to 50% of monthly invoice value of concerned package.</p> <p>F. The calculations for levy of penalty as mentioned above shall be calculated on CNG Compressor wise basis for each locations of Vadodara Gas Ltd.</p> <p>G. Penalty shall be excluding preventive maintenance work and other work like power cut, planned shutdown.</p> <p>H. The wages of all manpower deployed at site should be paid through bank only and the copy of bank statement should be submitted alongwith monthly bills. If the contractor fails to pay the wages through bank will attract penalty Rs. 1000 per person per month and same will be deducted from contractor running bill.</p> <p>I. After the operational of contract, Contractor has to provide the uniforms (as per clause no. 4 of scope of work) &amp; safety shoes within 1 month, Incase not wearing/</p>



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50		Page-70		<p>E. Penalty for Non-Performance during Period of Operation &amp; Maintenance  Details of Penalty for non-performance of equipments  a. On normal day (i.e. the day other than the schedule maintenance day):  i. The party has to ensure that the equipments are available for operation for minimum 20 hours per day and on an average the equipment availability has to be 98% in a month.  ii. If the equipment is down for more than 4 hours on any day or availability is less than 98% in a month. Penalty would be applicable as follows:  Up to 12 hours: ₹ 20,000/-  Beyond 12 hours: ₹ 40,000/- per day.  In case of daily availability is 20 hrs but monthly average availability is below 98%.  Then penalty @ of 10,000 per % or part thereof shall be applicable.</p>	<p>As the CNG compressor is specific machine hence we requested to VGL for not keeping stringent penalty clause and requested to replace these clause as per below.  i. The party has to ensure that the equipments are available for operation for minimum 16 hours per day and on an average the equipment availability has to be 97% in a month.  ii. If the equipment is down for more than 8 hours on any day or availability is less than 97% in a month. Penalty would be applicable as follows:  Up to 12 hours: ₹ 5,000/-  Beyond 12 hours: ₹ 10,000/- per day.  In case of daily availability is 16 hrs but monthly average availability is below 97%.  Then penalty @ of 5,000 per % or part thereof shall be applicable.</p>	<p>providing of Uniform &amp; Safety Shoes by any employee during their shift/duty, the penalty shall be imposed Rs. 500/- Per person deducted from contractor running bill per observed any time during the random/regular inspection by EIC or his authorized representative.  J. The contractor has to submit recent police verification for all the persons within a period of 90 days from the date of deployment under this contract for character verification as per TABLE – A of SOW, non-submission of character certificate will attract penalty Rs. 1000 per workmen &amp; will deduct from running bill. In case authority are unable to issue character certificate, letter to be submitted to VGL. Old police verification will not be considered. Date of police verification shall be after date of award of contract only.  K. Mass Flow Meters shall be calibrated through MFM OEM or VGL approved agency once in a year, if not done penalty shall be Rs. 25,000/- per mass flow meter.  L. Non calibration of instruments as per SOW, penalty shall be Rs. 25,000/- for yearly instruments &amp; Rs. 15,000/ for half yearly instruments.</p>
51		Page-109		<p>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 spool piece for online test arrangement. All 3 no. of mass flow meters should be of same make and should have local display and should be weather proof. The flow meters should be enabled with MODBUS/RS 485 communications.</p>	<p>As our compressor crankcase being pressurized hence Vent MFM is not applicable.</p>	<p>You are advised to provide drain vent MFM.</p>
52		107	3	<p style="text-align: center;">CODES AND STANDARDS</p> <p>The following National &amp; International Codes &amp; Standards of Latest editions shall be applicable. OISD 179, NFPA-52: 1995 or equivalent  NFPA – 37: STANDARD FOR THE INSTALLATION AND USE OF STATIONARY COMBUSTION ENGINES AND GAS TURBINES  NFPA – 12: STANDARD ON CO2 EXTINGUISHING SYSTEM  IS: 325/ IEC or International standards. : THREE PHASE INDUCTION MOTORS - SPECIFICATION  IS: 6382: CODE OF PRACTICE FOR DESIGN AND INSTALLATION OF FIXED CO2 FIRE EXTINGUISHING SYSTEM Applicable ANSI, ASTM, NEC, NEMA code. API – 618: RECIPROCATING COMPRESSORS FOR PETROLEUM, CHEMICAL AND GAS INDUSTRY SERVICES  API – 11P 2nd edition: SPECIFICATION FOR PACKAGED RECIPROCATING COMPRESSORS FOR OIL AND GAS PRODUCTION SERVICES API – 661: SPECIFICATIONS FOR AIR COOLED EXCHANGERS ASME Section – VIII Div – 1/2: DESIGN CODES FOR PRESSURE VESSELS. Gas Cylinder Rules 2016. 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</p>	<p>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. Heat exchangers shall be air cooled as per OEM standard</p>	<p>Ok Noted.</p>
53		107	3	<p>2. Technical Specification  3. International standards/codes as applicable  4. Indian Standards / codes as applicable</p>		
54		116	9.4	<p>Compressor cylinder shall be provided preferably with removable liners.</p>	<p>Liner will be provided only for last stage</p>	<p>Ok Noted.</p>
55		116	9.7	<p>The inter stage and final stage cooler tube material shall be carbon steel. Bidder to submit cooler sizing calculation for review.</p>	<p>Cooler sizing is proprietary DESIGN so not feasible to submit. Cooler design shall be as per previous supplied package.</p>	<p>Ok Noted.</p>

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56		109	4 ii	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 spool piece for online test arrangement. All 3 no. of mass flow meters should be of same make and should have local display and should be weather proof. The flow meters should be enabled with MODBUS/RS 485 communications.	Venting of gas to atmosphere is not applicable due to Pressurised crankcase design, hence mass flow meter at vent line not considered	You are advised to provide drain vent MFM.
57		109	4 iv.	Common structural steel skid for the compressor- Motor combination and for all auxiliary systems	As per our standard package offering all auxiliaries like CO2 system, PRS skid will be supplied loose & to mounted apart from package.	Ok Noted.
58		109	4 vi.	8 line for 1200 SCMh (3 bank) Priority Panel at Package Discharge.	7 line (3 bank) Priority Panel will be provided.	Tender Conditions Prevail
59		109	4 vii.	All interconnecting oil, gas, water, air piping within the compressor package.	Piping/ tubing at 3rd stage diacharge 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. Piping between PRV Skid to Inlet of Compressor Package shall be done by VGL as site to site location is not fixed, hence request to considered same.	Ok Noted.
60		109	4 ix.	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. LCP (With PLC) is mounted on package itself Separate JB for solenoid valve used. For transmitters being intrinsically safe these are routed thru barriers for additional safety	Ok Noted.
61		109	4 xii.	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. Also note that as 3rd discharge is connected with priority panel common SRV is provided. This is our standard design & running in all our packages.	Ok Noted.
62		109	4 xiii.	Y- Type strainers, valves, sight flow indicators, check valves, auto & manual drain traps etc. as required for various auxiliary systems i.e. frame lube oil, cylinder lubrication system, cooling water systems 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. 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.	Ok Noted.
63		110	4 xxii.	An oil drain pot outside of the package shall be provided to collect all drains from packing, distance pieces, processes etc. The capacity of the drain pot should not be more than 2.5 Litres.	All the drain is collected in the Oil Recovery Vessel. ORV will be provided mounted inside the package, with a capacity of 20lts for uninterrupted operation of machine.	Ok Noted.
64		110	4 xxiii.	Only air cooled and lubricated compressor with suction/discharge volume bottles (dampers) for each stage (separators) with manual drains and automatic drain system, lube oil system, closed circuit cooling water system (console type)/ Air cooled as required.	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.	Ok Noted.

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65		110 125	4 xxviii. 10.16	Three no. Emergency stop button (push type) along with one hooter in office/customer interface room with its required cable. ESD button (3 Nos.) with require cables shall be provided by bidder (Customer Interface room, locally mounted on package and Panel room). A separate hooter for customer interface room shall be provided with annunciation window alarm of individual protection device.	Three no. Emergency stop button ( push type ) one on control panel, one on package & one will supply loose. Hooter will mounted on package, all field cables will be in VGL scope.	Tender Conditions Prevail
66		110	4 xxix.	Wires mesh type guard for heat exchanger fan.	Cooling fan chamber is isolated from working area and is not exposed to working person.	Ok Noted.
67		110	4 xxx..	Secondary lubrication system with check valve protector, HP (High Pressure) Filter (for all lubricating points) & DNFT (Digital No Flow Timer) flow switches with standby pump. Secondary lubrication system with divider block shall be provided.	As per our standard & proven design primary lubrication system which is sufficient. Divider block type Lubrication system as per manufacturer's standard design with Brass check valves of Parker make will provided. Kindly accept.	Ok Noted.
68		110	4 xxxiv.	Supply and laying of all required cable (Main cable, UPS cable, PLC cable, Panel cable, ESD cable, Air compressor cable, instrument cable) in bidder scope.	All field piping & cabling will not be considered in bidder scope as site to site location condition change, kindly accept.	Tender Conditions Prevail
69		110	4 ii.	Exclusions All piping beyond battery limits except from air compressor & air piping for air and piping from CO2 cylinders up to the enclosure.	All field piping & cabling will not be considered in bidder scope as site to site location condition change, kindly accept.	Tender Conditions Prevail
70		110	4 iii.	Exclusions Three banks Cascades.	Kindly provide cascade details for designing cascade mounting provision on top of canopy if required. Only 3000 WL cascade provision will be considered.	Cascade Mounting provision on top of canopy not required.
71		111	4.3	As and where specified on the data sheets all vents (i.e. Relief valve, distance piece, packing and starting air) shall be man folded and terminated at skid edge outside the enclosure and vented to safe height (3 M from ground) at package roof. Silencer has to be provided in the starting air vent line.	Silencer not applicable since motor driven packages.	Ok Noted.
72		111	4.4	All drains from different process equipment, distance piece and packing shall be manifolded and terminated as 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.	All the drain is collected in the Oil Recovery Vessel. ORV will be provided mounted inside the package, with a capacity of 20lts for uninterrupted operation of machine. For all drains single point threaded connection with isolation valve will be provided.	Ok Noted.
73		111	6.0	UTILITIES 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 L&T make DOL / star delta starter having overload protection, single phase preventer.	Gas operated actuator's shall be used so separate air compressor & receiver not required. To avoid site hassle and additional maintenance of air compressor, we recomend gas actuated valve for motor driven compressor.	Gas Actuated Valve should be not Consider.
74		Page-112		Herein after the rated suction pressure, where guaranteed flow is required, will be referred as Rated Suction Pressure, which means 16 Kg/cm2g for 1200 SCMh compressors. Suction	<b>We will provide compressor with guarantee parameters 1200SCMH @ 19 Bar (However compressor can run between 14-19 Bar Inlet) Kindly Accept.</b>	Tender Conditions Prevail
75		112	4.0	Performance curves and tables i.e. Flow versus suction pressure and temperature and power curves i.e. absorbed power versus suction pressure and temperature at specified discharge conditions shall be furnished. In addition to above, flow capacity and absorbed power values for suction conditions from 14 Kg/Cm2 g to 19 Kg/Cm2 g in steps of 0.5 Kg/Cm2 shall also be given in tabular form. The graph shall be plotted at various suction pressures ranging from 14 Kg/Cm2g to 19 Kg/Cm2g and at various suction temperatures ranging from 20 to 40 degree Centigrade. Similarly, the graphs shall be plotted at various discharge pressures ranging from 200 Kg/Cm2g to 255 Kg/Cm2g, however at 520 C (max) discharge conditions.	Not feasible to submit performance curves	Tender Conditions Prevail
76		113	8 d	All exposed rotating parts shall be provided with adequate guards of non-sparking type.	Adequate protection as per manufacturer's standards shall be provided.	Ok Noted.
77		113	8.0	Carbon Dioxide (CO2) Flooding System	The CO2 system panel is integral with main control panel.	Ok Noted.
78		116	9.7	The inter stage and final stage cooler tube material shall be carbon steel. Bidder to submit cooler sizing calculation for review.	The Gas cooler design shall be such that suitable to the application as per manufacturer's design. Cooler sizing calculation is proprietary, so not feasible to submit.	Ok Noted.

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79		117	9.10	Compressor maximum vibrations of cylinders shall not exceed 10 mm/sec. unfiltered peak velocity. Maximum vibration level installed compressor frame shall not exceed an unfiltered peak velocity of 5 mm/sec or 200 micron unfiltered peak to peak vibration whichever is less. The bidder shall provide for all structural support within the package so that these levels can be achieved.	Vibration levels shall be maintained as per manufacturer's design standards and good engineering practices as per industry standards.	Tender Conditions Prevail
80		117	9.11	In case of lubricated cylinder & packing design, single plunger per point force feed mechanical lubricator shall provide lubrication to compressor cylinders. Lubricators with double ball check valve shall be provided at each lubricator point. 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.	Ok Noted.
81		117	9.14	Gauge panel with physical gauges for temperature and pressure shall be provided and should be visible from outside of the package. LCD display as an extension of PLC display is not acceptable.	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.	Ok Noted.
82		117	9.17	All package flow meters should have isolation valve in upstream and NRV/Valve at downstream of flow meter. Flow meters which are on piping should be connected with flexible hoses and should have proper clamping support to avoid vibration so that correct reading are observed.	Isolation valve and NRV shall be as per manufacturer's standards. Installation and supports for Mass flow meter shall be as per recommendation from flowmeter OEM.	Tender Conditions Prevail
83		117	9.21	Direction of flow should be marked on the pipe line and nomenclature of all vessel (e.g. 1st stage discharge dampener etc.) should be written on them. Cross head inspection windows should be transparent for easy of inspection during running. Set values should be prominently marked on the gauges.	Arrow mark will be provided for flow directions. Nameplate & tagging will be provided for vessels. Transparent cross head inspection window will not be considered.	Ok Noted.
84		118	9.22 r)	Interconnecting water piping between radiator and compressor.	Not applicable	Ok Noted.
85		118	9.22 u)	Thermal Mass flow meter for vent loss	Not applicable	You are advised to provide drain vent MFM.
86		118 127	9.25 10.19	9 line (3 bank - Cascade) priority fill system, for 1200 to be provided. Priority fill system Contractor shall supply 3-bank of cascade (8 line for 1200 scmh) priority fill system with compressor top-up facility inclusive of regulating valves, check, by pass valves & liquid filled pressure gauges all mounted in a stainless steel panel. All fittings and tubes used in priority system shall be of stainless steel 316 of suitable pressure rating. The priority fill system is to be installed to ensure that vehicle filling takes priority over cascade filling and direct CNG to three storage banks in correct sequence. The compressor shall shut down once all three-cascade storage banks are filled to 250 barg g. Compressor shall start on pressing of manual start push button & automatically when the cascade storage high bank pressure of compressor falls to 200 barg and shutdown automatically when all 3 stages of stationery cascade and mobile cascade are filled to a pressure of 250barg.	7 line (3 bank) Priority Panel will be provided.	8 Line (3 bank) Priority Panel will be provided. Stationary Cascade - 03 Bank Dispenser - 03 Bank Mobile cascade - 01 Bus Dispenser - 01
87		119	9.26	Noise level shall not exceed 75+3dBA at 1m from the compressor package enclosure at any point.	The enclosure shall restrict maximum noise level to 75 dB (A) ± 3 dB (A) at 1 meter from the enclosure in free field condition.	Tender Conditions Prevail
88		119	9.27	Framework shall be mounted on a suitable skid type base, external-lifting lugs shall be provided at each corner. For 1200 scmh, bidder should quote their most optimized footprint area package. PLC can be placed separately (outside of the canopy) for optimization of the foot print area. Maximum footprint of compressor Package shall be as under, a) For 1200 SCMh, the foot print of the package shall be limited to 10m2.	Foot print will be 3.5m Length x 2.5m. Width	Ok Noted.

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**TENDER SUBJECT: PURCHASE OF 02 NOS. 1200 SCMH MOTOR DRIVEN COMPRESSOR PACKAGE WITH 36 MONTHS AMC FOR AMENDMENT OF VGL MOTHER STATIONS**

Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY
89		119	9.30	The compressor shall be vented into BDV before restarting in order to avoid overload to the main drive. In any case venting of gas to atmosphere is not allowed. There is need to have a blow down vessel so that gas is vented to vessel. The size of the BDV should be the sufficient to allow main drive to start. BDV volume to be designed in such a way that gas accumulated in the process should not be vented out in any case of stopping/ emergency push of package. Calculation for BDV volume shall be considering 20% higher than calculated volume and it should be calculated on higher range (19 bar) of the operating pressure (14 bar to 19 bar). Bidder shall submit calculation for same at the time of designing/drawing approval to client. BDV should be preferably placed on top of package and if placed inside package, it should be in vertical position.	Being proprioretory design, submitting calculations is not possible. As per standard design BDV shall be placed inside the canopy in horizontal position, this is as per our past supplied package design, with proven functionality. Kindly accept	OK Noted but Bidder should ensure that, the compressor shall be vented into BDV before restarting in order to avoid overload to the main drive. In any case venting of gas to atmosphere is not allowed. There is need to have a blow down vessel so that gas is vented to vessel. The size of the BDV should be the sufficient to allow main drive to start. BDV volume to be designed in such a way that gas accumulated in the process should not be vented out in any case of stopping/ emergency push of package.
90		119	9.31	Prime mover (Electric Motor) The motor shall be flame proof/ explosion proof and confirm to IS: 2148 suitable for zone 1 group II area as per IS/IEC. The Motor shall be of standard frame size as per IS/IEC and rated for continuous duty with high efficiency and shall be designed for VFD/ Soft Starter starting. Motor shall be three phase, AC, asynchronous, flameproof, high efficiency (IE# or better, as per IEC60034-30), Ex'd' rated, continuous duty, service factor 1.1, on IEC standard type. Designing shall be done on basis of 50 degrees package ambient temperature. Motor shall be suitable for VFD starter. Service factor shall not play any role in finalizing the rating of motor. Main Motor Starter: Variable Frequency Drive (Heavy Duty) with input line and DC choke, along with other safety measures.	Motor shall be designed for Soft Starter starting.	Ok Noted.
91		120		Note: 1) Motor shall be three phase, AC, asynchronous, flameproof, high efficiency (IE# or better, as per IEC60034-30), Ex'd' rated, continuous duty, service factor 1.1, on IEC standard type. Designing shall be done on basis of 50 degrees package ambient temperature. Motor shall be suitable for VFD starter. Service factor shall not play any role in finalizing the rating of motor. 2) Main Motor Starter: Variable Frequency Drive (Heavy Duty) with input line and DC choke, along with other safety measures.	We will provide soft starter panel for 1200 SCMH @19 Bar Inlet, kindly accept.	Ok Noted.
92		121		The gas temperature after after-cooler shall not exceed 52 degree C.	The approach would be above ambient temperature 12°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 satndard design approach same is proven for earlier supplied packages.	Ok Noted. ΔT = 12°C
93		121	9.32	Each compressor package shall be complete with its own cooling system. The cooler shall be air-cooled heat exchanger. The gas temperature after after-cooler shall not exceed 52 degree C.	The approach would be above ambient temperature 10°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 satndard design approach same is proven.	Ok Noted.
94		121	9.33	The ingress of oil into CNG adversely effects vehicle emission and storage system. Only lubricated cylinder compressors are allowed and 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.	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.	Ok Noted.

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY
95		121	9.35	Piping & Appurtenances	Gas piping/ tubing at 3rd stage discharge after duplex filter 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.	Ok Noted.
96		122	9.36	The power factor (PF) of the whole electrical system should not be below 0.95. Motor feeder shall be provided with energy meter, heavy duty switch, HRC link type with single phase presenter fuses, contractors (AC-3 Duty), bi-metal relay switch fuse unit, voltmeter, push buttons, earth leakage relays, indication lamps for start/stop/trip/ etc. Ammeters shall be provided for all motors above 3.7. KW rating. Stop push buttons shall be lockable and have stay put except in case of critical devices such as lube oil pumps etc.	Customer to maintain power factor as per requirement.	Ok Noted.
97		123	9.39	<b>VIBRATION</b> Compressor maximum vibration of cylinders shall not exceed 10 mm/sec unfiltered peak velocity. Maximum vibration level of installed compressor frame shall not exceed an unfiltered peak velocity of 5mm/sec or 200 micron unfiltered peak-to-peak vibration whichever is less. The bidder shall provide for all structural support within the package so that these levels can be achieved.	Vibration levels shall be maintained as per manufacturer's design standards and good engineering practices as per industry standards.	Tender Conditions Prevail
98		123	10.4	The temperature gauge shall be generally mercury in steel field type. Capillary tubing shall be min. SS304 with SS flexible armouring. The gauge shall have an accuracy of +/-1% FSD and 100mm dial size.	Due to smaller size packages being dmanded by CGD companies it is feasible only to provide 63 mm dial size gauges. The constraints are highlighted to concerned dept during detail engg stages. Practically the gauges should be at normal height for ease of monitoring and keeping in view the no of gauges, only 63 mm gauges can be accomodated in one gauge panel, Our packages have a single gauge panel wherein all gauges are installed.	OK Noted.
99		123	10.9	Separate junction boxes shall be provided for each type of signal i.e. analog, digital, solenoids RTD, thermocouple, intrinsic safe and for power supply. No cable shall share power & signal.	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.	OK Noted.
100		123	10.11	Compressor package shall be provided with the following indicators: ii. Oil pressure indicator on each pressure lubrication system iv. Hour meter vi. Compressor jacket water coolant temperature indicator on local gauge panel e. Coolant flow low devices xiv. The Compressor package shall be provided with the following trip devices: e. On coolant flow low	As our standard offering compressor package shall be provided with the following indicators considering space constraint on display panel: ii. Oil switch and no flow switch on lubrication system shall be provided. iv. Hour meter shall be available at HMI. Separate hardware not considered vi. Not applicable as compressor is air cooled type. e. Coolant flow not applicable as heat exchanger is air cooled type. xiv. e. Coolant flow not applicable as heat exchanger is air cooled type.	OK Noted.

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY
101		124	10.18	<p>Redundancy in PLC is required. PLC shall incorporate all process parameters (specified elsewhere) and status of compressor, engine &amp; priority panels and shall be modular in construction with 100% redundancy with respect to CPU, Power supply, Interface. PLC components/ system shall be tropicalized, MIL standard adopted with complete wiring and necessary terminals. Wiring to be color coded with cross ferruling in position. PLC shall be capable of carrying out on line routines for at least ten separate loops without affecting the scan, cycle &amp; updating time etc. PLC shall be configured as a remote terminal unit of supervisory computer and data acquisition system complete with GPRS and Ethernet connectivity. One card for transferring and accessing data from minimum twenty devices with RS485 port shall be provided.</p> <p>In case of failure of master/ active controller/ CPU, standby controller/ CPU should take over the control in bump less manner. All values &amp; data should be available through both the controllers immediately, i.e. there should be no data loss.</p>	<p>SCADA is not considered in bidder's scope. Ethernet port is provided for customer SCADA communication. SCADA compatibility is provided for remote monitoring. GPRS &amp; SCADA system not considered.</p> <p>100% redundancy shall be provided only for CPU. Kindly accept.</p>	OK Noted.
102		124		10.11 Compressor package shall be provided with the following indicators:	Instruments selection / Alarm and Trip condition as per OEM Operation Philosophy and design Logic, whereas we use Instrument as per VGL approved Make.	OK Noted.
103		127	910.20	<p>Documents</p> <p>e. Bill of Material with Tag No &amp; Technical Specifications</p>	e) Providing BOM will not be possible, instead ASL shall be provided which is our standard offering. Kindly accept.	OK Noted.
104		127	11.0	<p>SKID AND ENCLOSURE</p> <p>Each compressor module shall be housed within a purpose built SS 304 acoustic enclosure or in case of mild steel the surface shall be treated with anti-rust coatings followed by UV resistant epoxy paint for durability and rust protection. The units shall incorporate a rigid framework with a combination of fixed and removable panels. Filling of Class A melamine self-extinguishing polyurethane (PU) foam specifying the maximum burn extent, with UL certification or better shall be used in acoustic enclosure.</p>	<p>The structural members of enclosure shall be provided with two coats of primer and two coats of epoxy paints duly applied after mentioned surface treatment. The package unit shall be provided with doors for easy access during maintenance and similar activities.</p> <p>As per standard design we shall use Rockwool instead of PU which is provided for our large fleet of compressors supplied previously.</p>	OK Noted.
105		128	11.4	The maximum temperature within the enclosure shall be limited to ambient + 8 deg C. Adequate ventilation fans shall be provided to meet the above and also to account heat dissipation of the coolers/ all other components.	The approach above ambient would be 10°C. (max. discharge temp. 42°C + 10°C = 52°C).	OK Noted.
106		128	11.5	Enclosures shall be engineered to give a noise level of maximum 75+3 dBA measured at 1 meter as standard, utilizing Melamine filled self-extinguishing, low smoke Polyurethane (PU) foam. Specifying maximum burn extent with UL certification covering aluminum or steel with perforated steel inner face. Materials shall be noncombustible to deter spread of flame requirements.	The enclosure shall restrict maximum noise level to 75 dB (A) ± 3 dB (A) at 1 meter from the enclosure in free field condition.	Tender Conditions Prevail
107		128	11.9	External emergency stop push-button shall be fitted to wall of enclosure close to main access door. Total 3 Nos. of Emergency shut off push buttons with hooter. One to be provided local at package mounted area, one in panel room and one in customer interface room (control / sales room). Bidder to assume that the sales / control room and compressor area, each, will be max 50 Mtrs away from the compressor. Bidders to include the cables along with cable trays / flexible PVC ducts for Emergency stop push buttons and have to install the same at the site. Cables shall be PVC insulated with steel armored and of 1.1 KV grade. Any unutilized cables shall be returned to OWNER with no extra cost.	All field cabling will not be considered in bidder scope as site to site location condition change, kindly accept.	Tender Conditions Prevail
108		128	11.11	Adequate fixed flameproof lighting (minimum at 2 locations) shall be provided inside the enclosure.	Adequate fixed flameproof lighting shall be provided inside the enclosure.	Tender Conditions Prevail
109		128	11.14	For handling of all heavy parts for maintenance purpose suitable lifting arrangement shall be provided i.e. beam fitted with chain hoist arrangement. The chain hoist arrangement i.e. chain pulley block shall be removable type, which can be disassembled and shifted onto the other machines. 1no. each shall be provided for tendered quantity of compressors. Eye bolt arrangement shall be provided on heavier components like electric motor, cylinder crankcase, and wherever felt necessary for lifting during maintenance.	Beam fitted with chain hoist not considered due to space constraints, instead suitable lifting arrangement provision shall be offered. Kindly accept.	Tender Conditions Prevail

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY
110		128	11.18	The bidder shall be providing a degree of protection equivalent to IP44 as defined in AS 1939.	Degree of protection equivalent to IP54 shall be provided as per our standard offering, kindly accept.	Tender Conditions Prevail
111		129	13	Painting and protection: Packing shall be sufficiently robust to withstand rough handling during ocean shipment & inland journey. Sling points shall be clearly indicated on crates. Painting of Internal process piping should be as per international color coding standard, e.g.- Gas line-Yellow, Water line- green, Airline-Blue, Fire suppressing system – Red etc. The paint shall be chosen, primed and applied to have a service life of ten years the exterior of equipment and enclosure is required to be corrosion free for ten years.	Painting shall be as per manufacturer's standard procedures. Package enclosure shall be Powder Coated ensuring longer durability in all weather out door installation conditions. Piping color code for package shall be as per manufacturer standard i.e Red color- Discharge/hot gas line. Blue color-Suction gas line This also helps in identification for hot gas line from safety point of view The canopy is weather proof so no separate packing considered.	Ok Noted.
112		129		11.15 The bidder shall also provide 1 nos. monkey ladder for safe climbing on the top of the canopy along with hand railing on the top for ease of maintenance and operation.	As per standard design we shall provide 1 nos. incline ladder, kindly accept.	Tender Conditions Prevail
113		129	13.1	Mechanical Running Test (MRT) The MRT for the 100% compressors block of the lot shall be carried out with job or shop driver including complete job driving system for 4 hours continuously at the premises of compressor block OEM. The compressor need not be pressure loaded for MRT test. During this test following shall be recorded at agreed intervals (as applicable). - Vibration levels measured on cylinders and frame - Bearing temperature - Oil cooler inlet and outlet temp -Subsequent to satisfactory run the compressor shall be examined as per standard procedure & following shall be examined as minimum: - Bore & other parts by opening a valve - Piston & cylinder clearance - Visual examination of position rod, cylinder guide bore without dismantling 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.	MRT will be carried out as per manufacturer's std. Following not feasible during FAT: -Bearing temperature -Sound level -Not feasible to unavailability of free field. To be demonstrated at site.  As it is not possible to disassemble any part of the compressor package after assembly & testing strip test is not feasible. FAT for 2 hrs and SAT 4 Hrs (in Part) kindly accept.	Ok Noted. Factory Acceptance test certified by approved TPIA .
114		129	13.2	Mechanical String Test Mechanical String Test for 4 hrs is a mandatory requirement to be performed at packager's shop before dispatch in presence of Owner's representatives (or a third party as arranged by Bidder and approved by Owner). 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. At least 25% of the package lot ordered shall be string tested. String test on N2 or air is not acceptable. It shall be on natural gas.	Mechanical string test will be carried out on CNG as per manufacturer's standards.	Ok Noted.
115		Page-131		Compressor Capacity (As applicable for 1200 SCM)	We will provide compressor with guarantee parameters 1200SCMH @ 19 Bar (However compressor can run between 14-19 Bar Inlet) Kindly Accept.	Tender Conditions Prevail
116		Page-134		Details of Penalty for non-performance of equipments	If machine is not down in previous month at least 12 Hrs uptime carryover in next month by OEM. The minimum permissible downtime should be 8 Hrs and penalty shall be calculated after 8 Hrs only. Kindly accept.	Tender Conditions Prevail
117		158	-	SPECIFICATIONS FOR DISCHARGE FILTER Filter Designed : Paint Compatible CE mark in accordance with European Directive for Pressure Equipment, PED ( 97 / 23 / EC ) Are Designed to meet the ATEX European Directive for Explosion Protection , ( 94 / 9 / EC) All natural gas filters in accordance to CE Eex 2GD IIB T6.	Kindly approve DISCHARGE FILTER- manufacturer's (Atlas Copco ) make with element (Borosilicate Microfibre Fabric). Our standard filter is proven is CNG application.	Ok Noted.



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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY
118		158	ANNEXURE-VI	ANNEXURE-III RECOMMENDED VENDOR LIST	Kindly approve the following make. SUCTION FILTER- Filtration Technik/ R S Instrumentation DISCHARGE FILTER-manufacturer's (Atlas Copco ) make with element (Borosilicate Microfibre Fabric). VIBRATION TRANSMITTER-Masibus Actuator- El-O-Matic Two way valve- PHBB VENT MASS FLOW METERS THERMAL- PCD (THERMAL MASS TYPE) CO2 FLOODING SYSTEM- CP approved make (It consists of parts from VTI ) Fittings ( Instrument Manifold ) : Baumer	Ok Noted.
119		-	ANNEXURE - XII	QUALITY ASSURANCE PLAN	Inspection & Testing will be as per QAP approved by VGL, detail QAP will be submit for approval.	Ok Noted.
120				DELIVERY BASIS & COMPLETION SCHEDULE	8 weeks from date of receipt of code-A approved drawings and manufacturing clearance.	Tender Conditions Prevail
121				Bid Submission date	30-Nov-2022, kindly accept	Tender Conditions Prevail
122	Bid DOC compressor 1200 SCMH- (SPECIAL CONDITIONS OF CONTRACT)	65 of 220	5.0	TERMS OF PAYMENT	We request VGL to release the supply payment terms as below:  1) 90% payment against dispatch documents. 2) Balance 10% within 30 days after receipt of material at site /store.	Tender Conditions Prevail
123	GENERAL CONDITIONS OF CONTRACT-SERVICES	20 of 44, GCC-S	2.22.1	PRICE REDUCTION SCHEDULE	Purchaser is requested to consider Nil deductions associated with PRS clause if the machines are not put to use and are stocked off the base.  Also, PRS shall be applicable only on undelivered (delayed) on per unit supply basis	Tender Conditions Prevail
124	Bid DOC compressor 1200 SCMH	80 of 220	22.0	Contract Performance Bank Guarantee	For Supplies: We request VGL to accept 3% Performance Security of the delivery order value for Supply, Installation, Testing & Commissioning of CNG Compressor package with excluding taxes.  For Comprehensive Operation & Maintenance Contract: We request VGL to accept 3% Performance Security of the basic annualised value of Comprehensive Operation & Maintenance Contract with excluding taxes.  Kindly accord your acceptance.	Tender Conditions Prevail
125	Bid DOC compressor 1200 SCMH	101 of 220(SCOPE)	2.0	O&M validity	We understand that:  Bidder shall provide operation & comprehensive maintenance during one-year warranty period. Further bidder shall provide operation & comprehensive maintenance for 2 years from the date of end of warranty. However maximum duration of contract for operation and comprehensive maintenance during warranty and post warranty period shall be limited to 42 months from the date of receipt of compressor package at VGL Stores / site of that particular lot.	The maximum duration of contract for operation and comprehensive maintenance during warranty and post warranty period shall be limited to 42 months from the date of receipt of compressor package at VGL Stores /site or from the date of Commissioning of that particular lot.

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY
126		SOR	2.0(2.2,2.3,2.4)		<p>The AMC Charges shall be applicable as follows:</p> <p>First year rates of AMC will be valid for 18 months from the date of supply of package at site or 12 months from the date of start of commercial sales whichever is earlier.</p> <p>Second Year AMC rates shall become applicable after completion of 18 months from the date of supply of package at site or 12 months from the date of Start of Commercial sale whichever is earlier.</p> <p>Third Year AMC rates shall become applicable after completion of 30 months from the date of supply of package at site or 24 months from the date of Start of Commercial sale whichever is earlier.</p> <p>Please confirm if our understanding is correct.</p>	Confirm Ok.
127	Bid DOC compressor 1200 SCMH	113 of 220	1.5.9	j)	<p>Relief Valve are provided as per the established PTR and proprietary design of the OEM to ensure safety in operations.</p> <p>Please accord your acceptance.</p>	Tender Conditions Prevail
128	Bid DOC compressor 1200 SCMH	121 of 220	iii, a	Inter/after gas coolers	<p>Purchaser may deploy procured CNG Compressors to locations where maximum temperature during summer goes upto 48 Degree C.</p> <p>We request to allow maximum gas temperature after the after cooler as Ambient+10 Deg C for such locations.</p>	Ok Noted.
129	Bid DOC compressor 1200 SCMH	130-131 of 220	13.4 13.6	Performance Acceptance Test (PAT)	<p>We hereby submit that at site, Intermittent loads, fluctuations in suction pressure and other input conditions and frequent auto shutoff cause variations in performance parameters and do not truly represent the actual performance capability of machine</p> <p>Therefore, it is requested to allow option to conduct Performance Acceptance Test in Packagers Plant itself as:</p> <ol style="list-style-type: none"> <li>PAT at plant permits testing on full load without interruptions for 4 Hour continuously (which is not possible in Field)</li> <li>All performance parameters can be monitored and recorded in presence of TPIA</li> <li>Helps eliminate all short coming observed in the packages at factory level itself</li> <li>Package leaves the plant in Plug and Play mode, vastly free from shortcomings</li> </ol> <p>We shall bear the cost of gas / energy utilized during the testing.</p> <p>Please accord acceptance.</p>	<ol style="list-style-type: none"> <li>PAT at Bidder plant on full load without interruptions for 2 Hour continuously and same shall be certified by approved TPIA.</li> <li>PAT shall be conducted at site for minimum 4 hours in presence of EIC. (stable Suc. Press and power supply provided by purchaser)</li> </ol>
130	Bid DOC compressor 1200 SCMH	130 of 220	13.1, iii	MRT	<p>Oil cooler is not applicable in Trunk piston design.</p> <p>Please accord your acceptance.</p>	Ok Noted.
131	Bid DOC compressor 1200 SCMH	133 of 220	15.2	GUARANTEE, LOADING AND PENALTY CRITERIA	Please clarify	Loading amount in INR will be loaded with Price bid prior to RA, however, the loaded value will not be subject to decrement during RA.
132	Bid DOC compressor 1200 SCMH ANNEXURE - I	138 of 220		GUARANTEED PARAMETERS	<p>We understand that guaranteed 1200 SCMH capacity of compressor with design case gas composition, at suction pressure of 16 kg/cm2g, suction temperature of 35°C, discharge pressure of 255 kg/cm2g.</p> <p>Please confirm if our understanding is correct.</p>	Confirm Ok.

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY
133	GCC Goods	10 of 18	20	Guarantee	We request for Warranty period of 12 months from the date of commissioning and 18 months from the date of dispatch of specific equipment whichever is earlier. Please confirm.	Ok Noted.
134	Bid DOC compressor 1200 SCMH (SCC) Bid DOC compressor 1200 SCMH	68 of 220 132 of 220	17.0 (A) 15.1	PENALTY CLAUSE - LOADING AGAINST ENERGY CONSUMPTION LOADING AGAINST ENERGY CONSUMPTION	We request VGL to confirm that which formula will be consider for loading in account of energy consumption during the evaluation.  Please confirm	<p style="text-align: center;"><b><u>LOADING AGAINST ENERGY CONSUMPTION:</u></b></p> <p>The compressor package shall be designed in such a way that Energy Consumption (KWH/Kg) should be minimum for production of CNG. Bidder shall indicate actual energy consumption for their compressor package. This quoted figure will be used for evaluation and total quoted price for all compressors towards supply, special tools &amp; tackles, erection and commissioning will be loaded as per following formulas:  For 1200 SCMH Compressor  <math>F = (G-140) \times H \times I \times N</math>  Where,  F = Loading amount in ₹  G = Bidder's Energy consumption rate quoted in KWH for producing 1200SCMH of CNG  G- = Bidder's energy consumption rate over and above 140 KWH  H = Cost of Energy INR 8/Kwh  I = Factor towards lifecycle in hours @ 73000 hours  N = Number of machines</p> <p>Note: Bidder shall not be given any advantage/credit for quoting power consumption below 140 KWH for 1200 SCMH.</p> <p style="text-align: center;"><b><u>LOADING AGAINST PACKAGE GAS LOSS:</u></b></p> <p>The bidder shall design the compressor package so that no venting and leakage of gas takes place. Bidder shall indicate actual vent &amp; leakage losses through the compressor package. If package loss is quoted more than 1% of suction capacity of gas consumption, then bid shall be rejected. This quoted figure will be used for evaluation and total quoted price for all compressors towards supply, special tools and tackles, erection and commissioning will be loaded as per following formulas:  <math>F = (G-0) \times H \times I \times N \times W</math>  Where,  F = Loading amount in ₹.  G = Vent/Leakage rate quoted in percentage  (G-0) = Bidder's vent /leakage rate above 0%  H = Cost of Natural Gas per Kg – ₹ 55.00 /- per kg  I = Factor towards lifecycle in hours @ 73000 hours  N = Number of Machines  W = 903 for 1200 SCMH</p> <p>Note: Loading amount in INR will be loaded with Price bid prior to RA, however, the loaded value will not be subject to decrement during RA.</p>