

**VADODARA GAS LIMITED**  
**REPLIES TO BIDDER'S QUERIES - ADDITIONAL DATED 21/12/2022**  
**TENDER NO.: VGL/CO/C&P-CNG/BD202206041/RI DATE 06/12/2022 & TENDER ID: 564850**  
**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	BIDDER'S QUERY	VGL'S REPLY
1	SECTION - V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	130 to 132 of 222	15.6	<p>If the equipment is down for more than 4 hours on any day, Penalty would be applicable as follows:                      - 4 to 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>ii. If the equipment is down for more than 4 hours &amp; up to 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.</p> <p>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>Penalty for breakdown or shutdown shall be as below:                      up to eight hours: NIL                      up to 24 hours: INR 10,000/- per day</p> <p>Please note In any case/any situation, total penalty will be limited to 50% of monthly invoice value of concerned package including all panely clauses i.e Clause 15.3 PENALTY TOWARDS EXCESS GAS LOSS , Clause 15.4 PENALTY TOWARDS EXCESS ENERGY CONSUMPTION Clause 15.5. PENALTY TOWARDS PACKAGE EFFICIENCY LOSS and Clause 15.6. Penalty for Non-Performance during Period of Operation &amp; Maintenance.</p>	<p>17.0 PENALTY CLAUSE                      A. PENALTY TOWARDS EXCESS GAS LOSS:                      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.                      Following calculations shall be used for deduction towards excess gas loss: <math>F = [G \{ (Q / 903 \text{ (for 1200 SCMh)} ) * 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.                      Note: - Accuracy of Mass Flow Meter considers as per OEM Guideline and bidder may submit t.he same.</p> <p>B. PENALTY TOWARDS EXCESS ENERGY CONSUMPTION:                      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.                      Following calculations shall be used for deduction towards excess power consumption. <math>F = (G-Q) * 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 SCMh) X CNG produced during the month                      H = Cost of power Rs. 8/Kwh</p> <p>C. PENALTY TOWARDS PACKAGE EFFICIENCY LOSS                      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>                      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 Kgs                      Note:                      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                      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:                      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.                      b. On schedule maintenance day:                      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</p>	<p>Penalty for breakdown or shutdown shall be as below:                      up to eight hours: NIL                      up to 24 hours: INR 10,000/- per day</p> <p>Please note In any case/any situation, total penalty will be limited to 50% of monthly invoice value of concerned package including all panely clauses i.e Clause 15.3 PENALTY TOWARDS EXCESS GAS LOSS , Clause 15.4 PENALTY TOWARDS EXCESS ENERGY CONSUMPTION , Clause 15.5. PENALTY TOWARDS PACKAGE EFFICIENCY LOSS and Clause 15.6. Penalty for Non-Performance during Period of Operation &amp; Maintenance.</p>	Tender Conditions Prevail

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						<p>nonperformance.</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/ 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> <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. Incase 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>		
2		68 of 222	j of 15	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.		Please note, maximum of 5 % of Lot quantity / Delivery order. Not on the total contract value. Kindly confirm the same.	Tender Conditions Prevail
3					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. Incase the package is supplied to Client's store , then excludes below scopes : 1. Loading onto the trailer from stores. 2.Transportation i.e from stores to site. 3. Unloading on site or nearby due to non readiness of foundation. 4. In case of non readiness of compressor foundation re-loading package from nearby to foundation after readiness.		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. Incase the package is supplied to Client's store , then excludes below scopes : 1. Loading onto the trailer from stores. 2.Transportation i.e from stores to site. 3. Unloading on site or nearby due to non readiness of foundation. 4. In case of non readiness of compressor foundation re-loading package from nearby to foundation after readiness.	Loading, Unloading & Transportation from VGL Store to site in bidder scope
4	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	129 of 222	17.0 (A) 15.1	<b>15. GUARANTEE, LOADING AND PENALTY CRITERIA</b> <b>15.1 LOADING AGAINST ENERGY CONSUMPTION</b>  For 1200 SCMh Compressor F = ( G-140) x H x I x N Where, F = Loading amount in Rs. 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 Note: Bidder shall not be given any advantage	We request you to consider ; Operating Time in hours = 6570 Hrs & discounting factor to arrive at Net Present Value (NPV) based on 5 years i.e. 3.274 instead of 73000 hours.		We request you to consider ; Operating Time in hours = 6570 Hrs & discounting factor to arrive at Net Present Value (NPV) based on 5 years i.e. 3.274 instead of 73000 hours.	15. GUARANTEE, LOADING AND PENALTY CRITERIA 15.1 LOADING AGAINST ENERGY CONSUMPTION  For 1200 SCMh Compressor F = ( G-140) x H x I x N Where, F = Loading amount in Rs. 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 Note: Bidder shall not be given any advantage
5	SECTION – I INVITATION FOR BIDS [IFB]	08 of 222	2	SUBJECT : PURCHASE OF 02 NOS. 1200 SCMh MOTOR DRIVEN COMPRESSOR PACKAGE WITH 36 MONTHS AMC FOR AMENDMENT OF VGL MOTHER STATIONS  COMPLETION/ CONTRACT PERIOD - 36 Months	Please note Prices considering contract period of 36 months shall be different for supply and O&M.		Please note Prices considering contract period of 36 months shall be different for supply and O&M.	Contract Period 36 months for O&M of Supply Packages.

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6	-	22	80	22.0 CONTRACT CUM PERFORMANCE BANK GUARANTEE i. After finalization of the Contract, whenever work order is issued by the Owner, CONTRACTOR shall furnish to the Owner within 30 (Thirty) days from the date of issue of work order, an unconditional Contract Performance Bank Guarantee from a nationalized/scheduled bank of India or any international bank of repute having a branch in India for due Performance of the Contract for a sum equivalent to 10% of the one year's Contract Value or 2.5% of Contract/ Order Value within 30 days of award and balance to be deducted against each RA Bill till the balance 7.5% is deducted from the invoices. This deducted amount can be release/ deduction can be stopped against submission of bank guarantee of equivalent amount. This Contract-cum-Performance Bank Guarantee shall be drawn in favour of the Owner and shall be initially valid for a period adequate to cover up to 90 days after end of defect liability period.	CPBG clause to be modified as under with respect to government norms applicable : After finalization of the Contract, whenever work order is issued by the Owner, CONTRACTOR shall furnish to the Owner within 30 (Thirty) days from the date of issue of work order, an unconditional Contract Performance Bank Guarantee from a nationalized/scheduled bank of India or any international bank of repute having a branch in India for due Performance of the Contract for a sum equivalent to 3% of the supply portion contract value.	Tender Conditions Prevail		
7	-	A	89	CNG Piping	We request, Piping between PRV Skid to Inlet of Compressor Package shall be done by VGL as site.	Ok Noted.		
8	-	94	94	1. CONTRACTOR SCOPE A. SUPPLY, ERECTION, INSTALLATION & COMMISSIONING Successful Supply, Erection, Installation & commissioning of 1200 SCMH Motor Driven CNG Compressor -02 No. at Site & its accessories including Electrical panel, Air Compressor, Leak detection system, CO2 Flooding system, PLC of compressor Package, CNG Piping, around the compressor area and other auxiliaries with the compressor package etc. The contractor shall provide all necessary tools, tackles, chain-pulley block, hoist, equipments, trolley, fork-lift, pick-up, crane etc which may be necessary required during erection & installation of compressor etc. covered under the contractor scope. All Type of Cable (Main motor power supply, UPS, Panel, Instrument cable) with requires gland Supply, Laying, Testing & Termination of PCV Insulated PVC Sheathed etc. covered under the contractor scope.	All type of cabling, piping, tubing for the accessories (i.e. CO2 system, PRS skid, Air Compressor, UPS, ETC) beyond Compressor package skid limits shall be excluded from scope of Supplier. This also includes piping between PRS skid up to Compressor Suction flange. Supplier is not aware about the site location/distances hence the request.	piping between PRS skid up to Compressor Suction flange in VGL Scope. All Type of Cable (Main motor power supply, UPS, Panel, Instrument cable, Co2 system) with requires gland Supply, Laying, Testing & Termination of PCV Insulated PVC Sheathed etc. covered under the contractor scope. <b>Distance:-</b> 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.		
9	-	GCC	13	26. Price Reduction Schedule For Delayed Delivery 26.1 Subject to Article-29, if the SELLER fails to deliver any or all of the GOODS or performance the services within the time period (s) specified in the CONTRACT, the PURCHASER shall, without prejudice to his other remedies under the CONTRACT, deduct from the CONTRACT PRICE, a sum calculated on the basis of the CONTRACT PRICE, including subsequent modifications. 26.1.1 Deductions shall apply as per following formula: In case of delay in delivery of equipment/ materials or delay in completion, total contract price shall be reduced by ½% (half percent) of the total contract price per complete week of delay or part thereof subject to a maximum of 5% (five percent) of the total contract price.	Request to modify clause as under : 26.1.1 Deductions shall apply as per following formula: In case of delay in delivery of equipment/ materials or delay in completion, total contract price shall be reduced by ½% (half percent) of the total contract price per complete week of delay or part thereof subject to a maximum of 5% (five percent) of INDIVIDUAL INVOICE VALUE.	Tender Conditions Prevail		
10	-	-	-	PAYMENT TERMS FOR SUPPLY PORTION	Kindly mention Payment terms for equipment supply portion, same are not mentioned in the tender document. We shall accept following mentioned Payment terms :: FOR SUPPLIES - Payments shall be released by the Owner against pre-receipted invoice, submission of a copy of valid contract performance bank guarantee and other documents complete in all respect meeting the requirement of contract document. 1.1 For Indian Bidders - A) 100 % of supply value within 30 days against receipt of material/ equipment at site with following documents:- i) Invoice (as per GST Act / Law) in triplicate ii) Inspection Release note issued by inspection agency appointed by Owner. iii) GR/ LR iv) Packing List	1.0 Payment Terms:  SUPPLY PORTION: 90% (GST Compliant Invoice value with taxes and duties) of the total supply order price (per Compressor package) will be paid against receipt of ordered item(s) by owner at site within 30 days of receipt and acceptance of bills at site against relevant documents as mentioned in order: 1. Inspection release note by Purchaser or by his approved TPI Agency. 2. LR/GR in original. 3. Packing List. 4. Proof of customs clearance including payment of custom duty for imports permitted in the contract. 5. Proof of receipt at store. 6. A certificate from manufacturer that the all items/ equipment under supply including its component or raw material used with manufacturing are new and conform to the tender requirement. In case manufacturer is not the contractor, the contractor owning Overall responsibility will duly endorse this certificate. 7. Dispatch instructions clearance by purchased. 8. Performance Bank Guarantee(s) of 10% of Order Value. If already submitted, a copy of the same. 9. Documents/drawings as specified in Vendor Data Requirement in Material. 10% of the total supply order price (per Compressor package) will be paid within 30 days of successful completion of erection, testing, commissioning and field performance test and acceptance thereof by owner and submission of final document, as built drawings and completion in all respects or upon submission CPBG of equivalent amount valid for a period of 03 Months from the date of supply. In case erection and commissioning is delayed beyond 03 months from receipt of package at site, this 10% payment CPBG will be released within 30 days to the vendor against submission of an undertaking for the above on non-judicial stamp paper of appropriate value. INSTALLATION AND COMMISSIONING: 100% within 30 days on successful testing, commissioning and handing over to owner.		
11	-	-	-	PAYMENT TERMS FOR SUPPLY PORTION				

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12	-	-	-	DELIVERY SCHEDULE	Kindly mention Delivery Schedule for equipment supply portion, same are not mentioned in the tender document.	03 Weeks from the date of approved drawing by EIC.		
13	-	2.4	64	CNG Compressor package: The CNG compressor package include the CNG compressor, all other associated equipment like Air Compressor, Air Volume bottle, Co2 Flooding System, Gas filter, Interconnecting pipes, UPS etc.	Please confirm whether, UPS is supplied by Vadodara Gas Ltd.	Yes		
14	-	SCC	65	5.0 TERMS OF PAYMENT. 5.1 The payment shall be released by the owner against submission of monthly bills. The payment will become due and payable By VGL within 15 working days from the date of receipt of Contractor's bill/ invoice by VGL. The Contractor shall prepare the monthly invoice with all the required supporting documents - proof of payment through e-banking to ll the employees as per contract duly signed by each workmen in original, Electronic Challan cum Return (ECR)/Electronic Challan along with online Upload list of contract workers/members for the proof of remittance of Provident Fund (PF) and Employee State Insurance (ESI) contributions with respective authorities for the contract workers engaged by him/ them in contract, Professional Tax receipt, Reports-Maintenance including PM, BD, SM, Overhauling, Running Hours, Spares Consumption etc and submit the said invoice to Engineer in Charge for certification of the work. 5.2 The operation & Maintenance service charges: Monthly payment as per SOR as certified by EIC shall be made against the invoice raised. 5.3 The Monthly bills, maintenance report, breakdown report & all other services will be on CNG Compressor package wise basis. The bill and its certification will also be done compressor wise basis.	We presume these payment terms are for O&M / Services Portion. Kindly clarify whether our assumption is correct.	Ok Noted.		
15	-		102	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.	Storage, Insurance of equipment at VGL Site / stores is not applicable to supplier and shall be in scope of VGL. Re-Transport of material from stores to site or vice versa is not included in bidder's scope. Same shall be arranged by VGL.	Ok Noted. But re-Transport of material from stores to site or vice versa is included in bidder's scope.		
16	-		Page-69	Following calculations shall be used for deduction towards excess gas loss: $F = [G - (Q * D)] * H$ Where, F Penalty in Rupees to be deducted from O&M bill G Monthly Vent/ Leakage loss observed during O&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	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.	A. PENALTY TOWARDS EXCESS GAS LOSS:  At the start of O&M period or even at any point of time during the O&M period, cost towards excess gas loss beyond the quoted figure shall be deducted from O&M bills. Following calculations shall be used for deduction towards excess gas loss: $F = [G - ((Q / 903 \text{ (for 1200 SCM)} * D)] * H$ Where, F = Penalty in Rupees to be deducted from O&M bill G = Monthly Vent/Leakage loss observed during O&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.  Note: - Accuracy of Mass Flow Meter considers as per OEM Guideline and bidder may submit the same.		
17	-		Page-70	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: $F = 2x((1200 \times H \times RD \times AD) M)$ 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	Please clarify and remove this penalty.	Tender Conditions Prevail		
18	-			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.	In any case/ any situation, total penalty will be limited to 50% of monthly invoice value of concerned package.		
19	-			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.	Tender Conditions Prevail		

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20	-		Page-109	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.	As our compressor crankcase being pressurized hence Vent MFM is not applicable.	You are advised to provide drain vent MFM.		
21	-		Page-70	E. Penalty for Non-Performance during Period of Operation & 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.	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.	Tender Conditions Prevail		
22	-			Guarantee / Warrantee	GUARANTEE/ WARRANTY: Materials shall be guaranteed against manufacturing defects, materials, workmanship and design for a period of 12 months from the date of commissioning or 18 months from the date of dispatch whichever is earlier.	Ok Noted.		
23	-	XII	99	It will be the responsibility of the contractor to pay as per the minimum wages of the appropriate government applicable under the Minimum Wage Act 1948.	We have considered State Wages only with 8% wages hike on YEAR TO YEAR basis. If any point of time during the contractual year minimum wages would hike beyond 8%, Vadodara Gas will compensate at the actual difference amount to Atlas Copco.	Tender Conditions Prevail		
24	-	3.0	107	CODES AND STANDARDS The following National & International Codes & 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	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	Ok Noted		
25				2. Technical Specification 3. International standards/codes as applicable 4. Indian Standards / codes as applicable				
26	-	3	107	2. Technical Specification 3. International standards/codes as applicable 4. Indian Standards / codes as applicable				
27	-	9.4	116	Compressor cylinder shall be provided preferably with removable liners.	Liner will be provided only for last stage	Ok Noted.		
28	-	xxxiv	110.0	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 type of cabling, piping, tubing for the accessories (i.e. CO2 system, PRS skid, Air Compressor, UPS, ETC) beyond Compressor package skid limits shall be excluded from scope of Supplier. This also includes piping between PRS skid up to Compressor Suction flange. Supplier is not aware about the site location / distances hence the request.	Distance:- 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.		

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY	BIDDER'S QUERY	VGL'S REPLY
29	-	9.7	116	The inter stage and final stage cooler tube material shall be carbon steel. Bidder to submit cooler sizing calculation for review.	Cooler sizing is proprietary DESIGN so not feasible to submit. Cooler design shall be as per previous supplied package.	Ok Noted.		
30	-	4 ii	109	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.		
31	-	4 iv.	109	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.		
32	-	4 vi.	109	8 line for 1200 SCM (3 bank) Priority Panel at Package Discharge.	7 line (3 bank) Priority Panel will be provided. 7 line (3 bank) Priority Panel will be provided. Same is recommended nad most suitable for moor driven packages.	8 Line (3 bank) Priority Panel will be provided. Stationary Cascade - 03 Bank Dispenser - 03 Bank Mobile cascade - 01 Bus Dispenser - 01		
33	-	4 vii.	109	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 consedered same.	Ok Noted.		
34	-	4 ix.	109	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.		
35	-	4 xii.	109	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.		
36	-	4 xiii.	109	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.		
37	-	4 xxii.	110	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.		
38	-	4 xxiii.	110	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.		
39	-	4 xxviii. 10.16	110 125	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		
40	-	4 xxix.	110	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.		

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY	BIDDER'S QUERY	VGL'S REPLY
41	-	4 xxx..	110	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.		
42	-	4 xxxiv.	110	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		
43	-	4 ii.	110	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		
44	-	4 iii.	110	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.		
45	-	4.3	111	As and where specified on the data sheets all vents (i.e. Relief valve, distance piece, packing and starting air) shall be manifolded 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.		
46	-	4.4	111	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.		
47	-	6.0	111	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 recommend gas actuated valve for motor driven compressor.	Gas Actuated Valve should be not Consider.		
48	-			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	We will provide compressor with guarantee parameters 1200SCMH @ 19 Bar (However compressor can run between 14-19 Bar Inlet) Kindly Accept.	Tender Conditions Prevail		
49	-	4.0	112	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	TCP		
50	-	8 d	113	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.		
51	-	8.0	113	Carbon Dioxide (CO2) Flooding System	The CO2 system panel is integral with main control panel.	Ok Noted.		
52	-	9.7	116	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.		
53	-	9.10	117	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		
54	-	9.11	117	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.		
55	-	9.14	117	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.		
56	-	9.17	117	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		

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Sl. No.	SEC NO.	PAGE NO.	CLAUSE NO.	SUBJECT	BIDDER'S QUERY	VGL'S REPLY	BIDDER'S QUERY	VGL'S REPLY
57	-	9.21	117	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 considered.	Ok Noted.		
58	-	9.22 r)	118	Interconnecting water piping between radiator and compressor.	Not applicable since Compressor is air cooled.	Ok Noted.		
59	-	9.22 u)	118	Thermal Mass flow meter for vent loss	Not applicable since zero packing losses due to pressurized crankcase. Hence not considered for supply.	You are advised to provide drain vent MFM.		
60	-	9.25 10.19	118 127	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. Same is recommended nad most suitable for moor driven packages.	8 Line (3 bank) Priority Panel will be provided. Stationary Cascade - 03 Bank Dispenser - 03 Bank Mobile cascade - 01 Bus Dispenser - 01		
61	-	9.26	119	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		
62	-	9.27	119	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.		
63	-	9.30	119	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.		
64	-	9.31	119	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 IE-2 & designed for Soft Starter starting.	Ok Noted.		
65	-	9.32	121	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 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		



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66	-	9.33	121	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.		
67	-	9.35	121	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.		
68	-	9.36	122	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.		
69	-	9.39	123	VIBRATION 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		
70	-	10.4	123	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.		
71	-	10.9	123	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 guage box will be used for intrinsically safe signals.	Ok Noted.		
72	-	10.11	123	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.		
73	-	10.18	124	Redundancy in PLC is required. PLC shall incorporate all process parameters (specified elsewhere) and status of compressor, engine & 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 & 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. In case of failure of master/ active controller/ CPU, standby controller/ CPU should take over the control in bump less manner. All values & data should be available through both the controllers immediately, i.e. there should be no data loss.	SCADA is not considered in bidder's scope. Ethernet port is provided for customer SCADA communication. SCADA compatibility is provided for remote monitoring. GPRS & SCADA system not considered. 100% redundancy shall be provided only for CPU. Kindly accept.	Ok Noted.		

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74	-	910.20	127	Documents e. Bill of Material with Tag No & Technical Specifications	e) Providing BOM will not be possible, instead ASL shall be provided which is our standard offering. Kindly accept.	Ok Noted.		
75	-	11.0	127	SKID AND ENCLOSURE 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.	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. As per standard design we shall use Rockwool instead of PU which is provided for our large fleet of compressors supplied previously.	Ok Noted.		
76	-	11.4	128	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 12°C. (max. discharge temp. 42°C + 12°C = 54°C).	Ok Noted.		
77	-	11.5	128	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.	Ok Noted.		
78	-	11.9	128	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		
79	-	11.11	128	Adequate fixed flameproof lighting (minimum at 2 locations) shall be provided inside the enclosure.	Adequate fixed flameproof lighting shall be provided inside the enclosure.	Ok Noted.		
80	-	11.14	128	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.	Ok Noted.		
81	-	11.18	128	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.	Ok Noted.		
82	-	13	129	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.		
83	-	13.1	129	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 - 2 Hours at Factory during inspecting. SAT - 4 Hrs or Total 4 Hrs if machine not in continuous operation considering start stop of Machine	Ok Noted. Factory Acceptance test certified by approved TPIA .		

**VADODARA GAS LIMITED**  
**REPLIES TO BIDDER'S QUERIES - ADDITIONAL DATED 21/12/2022**  
**TENDER NO.: VGL/CO/C&P-CNG/BD202206041/RI DATE 06/12/2022 & TENDER ID: 564850**  
**TENDER SUBJECT: PURCHASE OF 02 NOS. 1200 SCM 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	BIDDER'S QUERY	VGL'S REPLY
84	-	13.2	129	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.		
85	-	-	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 manufacturer's standard filter with parker make filter cartridge(Borosilicate Microfibre Fabric). Our standard filter is proven is CNG application.	Ok Noted.		
86	-	ANNEXURE-VI	158	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 Parker element. VIBRATION TRANSMITTER-Masibus Actuator- El-O-Matic Two way valve- PHBB VENT MASS FLOW METERS THERMAL- PCD CO2 FLOODING SYSTEM- CP approved make (It consists of parts from VTI )	Ok Noted.		

**NOTE: A COPY OF THESE REPLIES TO BIDDER'S - ADDITIONAL QUERIES AS ISSUED ON n-procure &VGL WEBSITE ALONG WITH SIGN AND SEAL OF THE BIDDER WILL BE REQUIRED TO BE SUBMITTED WITH TECHNO-COMMERCIAL BID AS THIS WILL BE AN INTEGRAL PART OF THE TENDER.**