



Vadodara Gas Limited
Replies to Bidder's Queries

SUBJECT: Purchase of 04 Nos. 1200 SCMH Motor Driven Compressor with 05-Year AMC for New CNG Stations on ARC Basis.

TENDER NO.: VGL/CO/C&P-CNG/BD202607P342 Dated 27/07/2026 & **TENDER ID:** 327831.

Sl. No.	Sec. No.	Page No.	Clause No.	Subject	Bidder's Query	VGL's Reply
1.	Section IV	77/243	16.0	Period of Contract	16.0 PERIOD OF CONTRACT (For Operation and Maintenance): The period of the contract shall be valid for 60 (Sixty) Month reckoned from the commissioning of each motor driven Compressor package. However, the period may be extended for another year under the same terms and conditions with mutual consent subject to satisfactory performance and at sole discretion of VGL. We respectfully request the Purchaser to kindly consider a revision in the contract rate for the additional one-year Operation & Maintenance (O&M) period, considering the anticipated escalation in costs due to future increases in the prices of raw materials, oil, copper, and other major components. Furthermore, fluctuations in the USD-INR exchange rate may significantly impact the overall cost of providing O&M services during the extended period.	Tender Conditions Prevail
2.	Section V	146/243	15.2	Loading against package gas loss	15.2 LOADING AGAINST PACKAGE GAS LOSS: The bidder shall design the compressor package so that no venting and leakage of gas takes place. Bidder shall indicate actual vent & 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: $F = (G-0) \times H \times I \times N \times W$ Where, F = Loading amount in Rs. G = Vent/Leakage rate quoted in percentage (G-0) = Bidder's vent /leakage rate above 0% H = Cost of Natural Gas per Kg – Rs. 55.00 /- per kg I = Factor towards lifecycle in hours @ 73000 hours N = Number of Machines W = 903 for 1200 SCMH 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. We understand that the Reverse Auction process is	Reverse Auction is not applicable for this tender. 15.2 LOADING AGAINST PACKAGE GAS LOSS: The bidder shall design the compressor package so that no venting and leakage of gas takes place. Bidder shall indicate actual vent & 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: $F = (G-0) \times H \times I \times N \times W$ Where, F = Loading amount in Rs. G = Vent/Leakage rate quoted in percentage (G-0) = Bidder's vent /leakage rate above 0% H = Cost of Natural Gas per Kg – Rs. 60.00 /- per kg I = Factor towards lifecycle in hours @ 65700 hours N = Number of Machines



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					not applicable to this tender. Please Confirm.	W = 903 for 1200 SCMH Note: Loading amount in INR. will be loaded with Price bid for the evaluation.
3.	GCC	18/41	2.22.1	Price Reduction	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. We request the Purchaser to kindly consider revising the Price Reduction Schedule (PRS) to 0.5% of the value of the undelivered Compressor Packages per week of delay or part thereof, subject to a maximum of 5% of the value of the undelivered Compressor Packages.	Ok Noted. 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 undelivered compressor package.
4.	Section IV	81/243	24.0	Wages	The Minimum Wages shall be paid as notified by the Central Government or State Government, whichever is higher, as per the provisions of The Minimum Wages Act, 1948 / The Code on Wages, 2019, as applicable to Vadodara being notified by Dy. Chief Labour Commissioner (Central), Ahmedabad from time to time. Wage Period and Monthly wages– Wage period shall be monthly and wages for a month will be calculated by multiplying daily rate of Minimum Wages by 26. The contractor shall be solely responsible for the payment of wages and other dues to the personnel, if any, deployed by him latest by 7thday of the subsequent month and submit the proof towards its remittance in the concerned bank account of each person engaged under this contract along with all necessary documents as specified in this contract which shall be duly certified by the Contractor and EIC. We kindly request the purchaser to confirm that the minimum wages payable to the operators shall be in accordance with the provisions of the Minimum Wages Act, 1948, and that the applicable minimum wages shall be as notified by the Central Government or the State Government, whichever is higher.	Ok Noted
5.	Section IV	86/243	25	Performance Bank Guarantee for O&M	25.0 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	Bidder must submit 03 % of Supply & 03 % of Service Contract Value upon award of LOA.



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					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 03 % of Supply & 03 % of Service Contract Value. 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. We request purchaser to accept Contract Performance Bank Guarantee @ 3 % of the Supply Value excluding GST. Please accord acceptance.	
6	Section IV	72/243	2.0	Delivery Schedule	2.0 Delivery Schedule: 04 Weeks From the date of approved drawing by EIC. We request purchaser to kindly consider revising the delivery period from 8 -10 weeks from the date of approved drawing by EIC.	Delivery Schedule: 08 Weeks From the date of approved drawing by EIC.
7	Section V	122/243	4.0	All Inlet & Outlet	xxix. All inlet & Outlet ¾” (0.095” min wall thick) SS Tubing (Approx. 700 Mtr for – Sandvik/Tubacex) of the compressors are supply by the contractor. We request you to kindly elaborate the requirement specified under this clause regarding the supply of ¾” SS tubing (minimum 0.095” wall thickness, approximately 700 meters, Sandvik/Tubacex make) for the compressor package.	Package tubing is in the scope of the bidder. Package to dispenser & cascade tubing laying by VGL. Bidder is requested to supply only 700 Mtr SS tubing Sandvik/Tubacex make with the 1st supply of the package.
8	Section V	132/243	9.31	VFD/SOFT Starter	9.31 Prime mover (Electric Motor) The motor shall be flaming 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. The Motor shall be provided with class ‘F’ insulation; however, temperature rise shall be limited to the temperature specified for class ‘B’ insulation as per IS and shall be suitable for voltage variation of 415V+ 10%. The bidder shall indicate the guaranteed total power requirement in KW. The motor rating shall be 110% of the greatest BkW required by the compressor. We understand that the Starter panel is VFD. Please Confirm.	The starter Panel is VFD/Soft Starter.
9	SOR	240/243	SOR	Design, Engineering, Manufacturing,	We understand that the applicable design suction	Compressor Suction pressure: 14 – 22 kg/cm2(g).



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				Supply including packaging and forwarding, insurance, custom clearance, handling, loading and unloading at site, delivery & unloading at Client's store /site of Skid mounted motor driven 1200 SCMH CNG Compressor Package with explosion proof electric & control panel having suction pressure of 19 kg/cm2(g), inlet line pressure range of 14 – 22 kg/cm2(g) (performance range 14 to 19 kg/cm2(g) with discharge pressure 255 kg/cm2(g) with 9 bank Priority panel		
	Section V	145/243	15.0	Bidder shall guarantee 1200 SCM/hr capacity (as the case may be) 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 with the negative tolerance for errors in instruments and measurements.		
	Annexure 1	151/243	Annexure 1	Compressor Capacity at suction pressure 16kg/cm2 (g) (1200SCMH) (basis for penalty)		
					pressure for the 1200 SCMH EMD Compressor Package shall be 16 kg/cm²(g). Kindly confirm.	Compressor Guarantee Parameter on Suction Pressure: 16 kg/cm2g Bidder shall request to design a compressor on 19 kg/cm2(g).
10	Section V	145/243	15.0	Bank Guarantee for EMD & Contract Performance Security	We request purchaser to provide list of approved banks for issuance of Bank Guarantee towards EMD & Contract Performance Security	All Nationalized/ Scheduled Bank of India or any International bank of repute having a branch in India will be acceptable
11	Section - V	122 of 243	4.0 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE	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.	*Kindly permit non lubricated type compressor, which has several advantages over lubricated one, as listed below: 1. There will not be any oil-carry over into the gas hence, the contamination of gas with lube oil is eliminated. 2. It does not require divider block and plunger pump arrangement for cylinder lubrication. 3. As there is no oil-carry over hence there will not be any condensation of oil after cooling the compressed gas. Hence Separator vessels are not required.	Ok Noted.
12	Section - V	123,124 of 243	A. GENERAL DATA	1.1 Compressor type 1.1.1 Oil lubricated	* Tender clause 9.33 says, ingress of oil into CNG gas adversely affects vehicle emission and storage system. *Our design is non-lubricated type, which prevents oil carrying over into CNG gas hence, contamination gas with lube oil is eliminated. *Similar machines are working successfully across the world including India. Hence, we hereby request you to allow the same.	Ok Noted.
13	Section - V	124 of 243	1.4 Cylinders	Horizontal Balanced Opposed design with lined cylinder/ trunk piston	Our design is V type compressor. Kindly confirm acceptance.	Ok Noted.
14	Section - V	181 of 243	ANNEXURE – VI: VENDOR	ON OFF BALL/NEEDLE VALVE	Bidder request to approve M/s DK Lok and M/s Dawsons-Tech makes	DK Lok make is approved by VGL.



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			LIST			
15	Section - V	179 of 243	ANNEXURE – VI: VENDOR LIST	FLP SWITCH	Bidder request to approve M/s Shyam Switchgear and M/s Saai Electrica makes	Ok Noted. However, bidder may be requested to submit the PESO Approval at the time of detailed drawing approval.
16	Section - V	176 of 243	ANNEXURE – VI: VENDOR LIST	SOLENOID VALVES/ACTUATOR	Bidder request to approve M/s Aira Euro Automation Pvt Ltd make	Ok Noted. However, bidder may be requested to submit the PESO Approval at the time of detailed drawing approval.
17	Section - IV	72 of 243	2.0 Delivery Schedule	04 Weeks From the date of approved drawing by EIC.	Bidder request to consider lead time 12 to 14 weeks from the date of approved drawing by EIC.	Delivery Schedule: 08 Weeks From the date of approved drawing by EIC.
18	-	72	2	04 Weeks From the date of approved drawing by EIC.	Bidder request delivery schedule to be extended from 4 weeks to 14-16 weeks as the delivery schedule of the components used is much more than 4 weeks and considering that minimum 14-16 weeks are required to complete the package.	
19	ANNEXURE – VI	177	ANNEXURE – VI: VENDOR LIST	FLAME DETECTOR	Kindly Approve ambetronics as it is approved in other CGD companies like BPCL, HPCL etc.	Ok Noted.
20	ANNEXURE – VI	178	ANNEXURE – VI: VENDOR LIST	Gas Detector	Kindly Approve ambetronics as it is approved in other CGD companies like BPCL, HPCL etc.	Ok Noted.
21	ANNEXURE – VI	179	ANNEXURE – VI: VENDOR LIST	SS FITTINGS/ VALVES	Kindly Approve DK-Lok as it is approved in other CGD companies like BPCL, HPCL etc.	DK Lok make is approved by VGL.
22	ANNEXURE – VI	177	ANNEXURE – VI: VENDOR LIST	TWO WAY / THREE-WAY VALVES/ 2-WAY DRAIN VALVES	Kindly Approve DK-Lok as it is approved in other CGD companies like BPCL, HPCL etc.	DK Lok make is approved by VGL.
23	Section – I Invitation for Bid [IFB]	10 of 243	2 F	Delivery Period: 04 Weeks	We understand that the delivery period is counted from the date of drawing approval by the EIC. However, this timeline is quite aggressive. We kindly request that the delivery period be revised from 4 weeks to 16 weeks.	Delivery Schedule: 08 Weeks From the date of approved drawing by EIC.
24	Section – IV SPECIAL CONDITIONS OF CONTRACT [SCC]	77 of 243	15 J	In the event of delay in mobilizing the services/ manpower for the 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.	Ok Noted. 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 undelivered compressor package.
25	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	107 of 243	e	C.1. CNG COMPRESSOR OPERATION: Observance of Safety Rules and Regulations prevalent in the Gas & Electrical based installations, specifically Compressed Natural Gas, Fire Drills, DCP operation, firefighting, and spreading awareness. Ensure Safety of Man and	Shall be done only for the Packages supplied by KPCL.	Ok Noted.



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				Machine at all the times.		
26	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	113 of 243	2.3	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 guaranteed parameters on Natural gas, we request you to consider a 30mins field trial run and performance test at site.	Tender Condition shall prevail.
27	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	118 of 243	2.23 xxxviii	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 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 checks will be carried out every year.
28	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	122 of 243	-	All inlet & Outlet ¾” (0.095” min wall thick) SS Tubing (Approx. 700 Mtr for – Sandvik/Tubacex) of the compressors are supply by the contractor.	Tubing outside the package is in client scope, kindly accept.	Package tubing is in the scope of the bidder. Package to dispenser & cascade tubing laying by VGL. Bidder is requested to supply only 700 Mtr SS tubing, Sandvik/Tubacex make.
29	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	122 of 243	2.23 xxxi	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 blocks shall be provided.	Standby pumps are not envisaged and therefore will not be provided. Oil pump mounted on a compressor is sufficient for cylinder lubrication.	Ok Noted.
30	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	121 of 243	4.0 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, check valve etc. are applicable for Single Plunger per point lubricator, thus not applicable.	Ok Noted.
31	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	121 of 243	-	8 lines for 1200 SCMH (3 bank) Priority Panel at Package Discharge.	Please confirm the lines of priority panel, as in tender it is mentioned that 8 bank & 9 bank (Page 131 of 243) priority panel. Please confirm the same.	7 Lines priority panel supply by the bidder. Dispenser – 03 banks (Low, Medium, high) Stationary Cascade – 03 banks (Low, Medium, high) Mobile Cascade – 01 bank
32	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL	126 of 243	8.0 i)	Relief valves shall be provided at suction and discharge, and each inter stages of compressor with setting as per cl.7.20.4 of API-11P with R.V. venting as per cl. 7.20.4	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.



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	SPECIFICATION [TS]			of API-11P.All vented to common relief valve header.		
33	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	126 of 243	9.12	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.
34	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	132 of 243	9.31	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.	We understood that bidder has choice to select VFD / Soft Starter starting for prime mover, kindly confirm?	Ok Noted.
35	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	137 of 243	10.9	Separate junction boxes shall be provided for each type of signal i.e. analog, digital, solenoids RTD, thermocouple, and intrinsic safe and for power supply. No cable shall share power & signal.	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.
36	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	138 of 243	10.2	ESD button (3 Nos.) with required 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.	Please let us know the distances of respective location.	1. Compressor package to control/electrical room:- Approx. 70 Mt. 2. UPS DB to package distance for UPS supply to PLC panel:- Approx. 70 Mt. 3. ESD Locations and its distance from Package:- Approx. 60 Mt. 4. Air compressor to electrical room:- Approx. 40 Mt. 5. CO2 Flooding system to compressor package:- Approx. 15 Mt.
37	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	141 of 243	11.4	The maximum temperature within the enclosure shall be limited to ambient + 80C. Adequate ventilation fans shall be provided to meet the above and also to account for 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. Please confirm your acceptance.	Ok Noted.
38	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	145 of 243	15.2	15.2 LOADING AGAINST PACKAGE GAS LOSS: $F = (G-0) \times H \times I \times N \times W$ Where, F = Loading amount in Rs. G = Vent/Leakage rate quoted in percentage (G-0) = Bidder's vent /leakage rate above 0% H = Cost of Natural Gas per Kg – Rs. 55.00 /- per kg	We are expressing concerns about the loading criteria based on running hours for 10 years (i.e., 73,000 hours). This is incorrect since the tender we are bidding for specifies a service period of 5 years. Therefore, the loading should be calculated for 5 years. To address this, we recommend using a discounting factor to calculate the Net Present Value (NPV) for the 5-year period. Using a discounting factor of 9% per annum	$F = (G-0) \times H \times I \times N \times W$ Where, F = Loading amount in Rs. G = Vent/Leakage rate quoted in percentage (G-0) = Bidder's vent /leakage rate above 0% H = Cost of Natural Gas per Kg – Rs. 60.00 /- per kg I = Factor towards lifecycle in hours @ 65700 hours N = Number of Machines W = 903 for 1200 SCMH



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				I = Factor towards lifecycle in hours @ 73000 hours N = Number of Machines W = 903 for 1200 SCMH	Consequently, the running hours per year should be considered as 6,570 hours (18 hours/day * 365 days/year).	
39	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	145 of 243	15.2	15.2 LOADING AGAINST PACKAGE GAS LOSS:	While taking measurements from the mass flow meters for gas loss calculations, the OEM-specified accuracy rate also needs to be considered. In this regard, the OEM of the mass flow meter, M/s. Emerson Process Management (India) Pvt. Ltd., has shared a confirmation letter confirming the same. The letter is attached herewith for your reference. Please accept the same	Tender Condition shall prevail.
40	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	118 of 243	2.23 xxxv	The bidder shall carry out 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 12 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 by bidder. FCRI calibration shall be in Client scope.	Mass flow meter fixed Calibration shall be carried out by the bidder. As & when required by the purchaser. Furthermore, MFM shall be calibrate every 12 months through the OEM or VGL approved vendor and this calibration cost in the scope of the bidder. Further, the calibration from the FCRI is in scope of VGL.
41	General	-	-		Please let us know the distances of respective piping / tubing. Air compressor & air piping for air Piping from CO2 cylinders up to the enclosure.	Air Piping: - 50 Mtrs.
42	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	142 of 243	14.0	INSPECTION & TESTING	Inspection and testing shall be as per bidder's standard QAP and the same shall be discussed during detailed engineering.	The QAP must be approved by VGL. IF VGL gives any suggestion in QAP, the bidder same shall be complied.
43	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	142 of 243	11.1	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.	We will provide suitable arrangements such as plate for sliding the compressor motor out of the Canopy for maintenance purposes. No other equipment is required for lifting arrangements considering their weight and therefore chain pulley arrangement is not required.	Ok Noted.
44	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	169 of 243	-	SPECIFICATION SHEET FOR GAS DETECTORS Type: Infrared sensor with Transmitter, with Local Display or Indicator	Gas detectors with Local Display and Indicator are not considered, for safety reasons, since in event of gas leakage, it is not recommended for any operator enter the area where leaked gas is already present.	Ok Noted.
45	General	-	-	Transportations	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	Tender Condition shall prevail.



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					at the site. In case the package is supplied to Client's store, then excludes below scopes: 1. Loading onto the trailer from stores. 2. Transportaton 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.	
46	General	-	-	Cable	Request you to please share the distances below to enable us to consider cable costs: 1. Compressor package to control/electrical room 2. UPS DB to package distance for UPS supply to PLC panel 3. ESD Locations and its distance from Package 4. Air compressor to electrical room 5. CO2 Flooding system to compressor package	1. Compressor package to control/electrical room: - Approx. 70 Mt. 2. UPS DB to package distance for UPS supply to PLC panel: - Approx. 70 Mt. 3. ESD Locations and its distance from Package: - Approx. 60 Mt. 4. Air compressor to electrical room.: - Approx. 40 Mt. 5. CO2 Flooding system to compressor package: - Approx. 15 Mt.
47	Section – VIII Schedule of Rates [SOR]	241 of 243	2	Operation & Comprehensive Maintenance	For Operation & Comprehensive Maintenance, please limit minimum % of total supply price to avoid manipulation in values	Tender Condition shall prevail.
48	SECTION – V SCOPE OF WORK [SOW] & TECHNICAL SPECIFICATION [TS]	83 of 243	21	Wages	Please confirm its state or central wages.	Central wages.
49	General	-	-	Air Compressor	Air compressor motor rating 1.5 kW motor & it is non-flameproof type	3 KW non flameproof/ flameproof type.
50	ANNEXURE – VI	173 of 243		Vendor List: Suction & Discharge Filter	Kindly accept KPCL & Filtration Technik	Ok Noted.
51	ANNEXURE – VI	173 of 243	-	FLAME DETECTOR & GAS DETECTOR	Kindly accept Pollution Protection System	Bidder may be requested to submit the PESO Approval at the time of detailed drawing approval.
52	3 3.1	122 123	3 3.1	CODES & STANDARDS Precedence 3) International standards/codes as applicable 4) Indian Standards / codes applicable	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.	Ok Noted.
53	4 ii	124	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	Due to composite package design not feasible to mount the suction MFM inside the package, suction MFM shall be supplied loose and to be assembled onsite. Venting of gas to atmosphere is not applicable due to all veted gas is reconnected to suction, hence mass flow meter at vent line is not required & hence not considered	Ok Noted. However, the suction MFM is installed inside the package only. Further, the thermal type of MFM is required at Venting Line for the reconciliation of the Gas. If Bidder reconnects the venting line to the suction line, the package loss shall be determined based on the difference between the suction and discharge MFM readings. Accordingly, VGL



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						shall impose a penalty as stipulated under Clause 20.0 of Section IV (Special Conditions of Contract) of the Tender Document.
54	4 iv	124	4 iv	Common structural steel skid for the compressor- Motor combination and for all auxiliary systems	All auxiliaries like CO2, Air compressor, etc. will be supplied loose & to mounted apart from package.	Ok Noted.
55	4 9.11	125 133	4 9.11	Structural support within the compressor package for all piping, instruments etc. The bidder shall provide all structural support within the package so that these levels can be achieved.	All field tubing, piping and support will be in the scope of customer. Request to kindly exclude from scope of bidder.	Ok Noted, we required Structural support within the compressor package for all piping, instruments etc. The bidder shall provide all structural support within the package so that these levels can be achieved.
56	4 xxiii.	125	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.	All the separators with auto drain system over manual drain system considered for safety reasons, only ORV with manual drain considered. Drain system will be time based as per OEM standard offering.	Ok Noted.
57	4.4	126.0	4.4	All drains from different process equipment's, distance piece and packing shall be man folded 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 drains are 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 valves will be provided.	Ok Noted.
58	4.3	126.0	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 must be provided in the starting air vent line.	All the vents will be manifolded and terminated at a single point of the package as per manufacturer's design layout for the package. Separate header is not considered. Packing vent line is not applicable since crankcase is pressurized and gas loss is zero. Starting air vent will carry Silencer.	Ok Noted.
59	6.0	126.0	6.0	UTILITIES & BATTERY LIMITS i. Any auxiliary motor above 10 hp shall be provided with soft starter (three phase controlled) type starter. Single phase motor will not be acceptable above 1 hp rating. ii. 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.	We have considered air compressor suitable for 10.5 kg/cm2g discharge pressure & coupled to 3hp electric motor DOL starter with integral dryer & 500 liters receiver tank as loose supply. Air Compressor shall be kept away from hazardous location & shall be non FLP type.	Ok Noted.
60	9.8 9.33 II	132 137	9.8 9.33 II	Inter / After Gas Coolers Each compressor package shall be complete with its own	The approach would be above ambient temperature 12°C . (max. ambient temp. 42°C + 12°C = 54°C).	Tender Condition shall prevail



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				cooling system. The cooler shall be air-cooled heat exchanger. The gas temperature after after-cooler shall not exceed 52-degree C. b) Special attention to be given while designing the gas cooler considering the local conditions. Bidders shall ensure that final delivered gas temperature is less than 520C. c) Direction of flow should be marked on the pipeline and nomenclature of all vessels (e.g. 1st stage discharge dampener etc.) should be written on them. Cross head inspection windows if applicable should be transparent for ease of inspection during running. Set values should be prominently marked on the gauges. d) Packages design should be such that its vent should not go upward (package vent in vertical direction not required) i.e opening of package vent should be in horizontal directional with duct arrangement 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 manufacturers design. Gas coolers of the design shall be designed as per ASME-SEC-VIII, as per manufactures standard design approach same is proven for earlier supplied packages. - Cooler sizing calculation is proprietary, so it is not feasible to submit.	
61	9.12	133	9.12	Digital no flow timer shall be provided to stop the compressor in case of loss of cylinder lubrication	OEM 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.
62	9.33 2	137	9.33 2	Prime mover (Electric Motor) Main Motor Starter: Variable Frequency Drive (Heavy Duty) with input line and DC choke, along with other safety measures. 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 factors should not play any role in finalizing the rating of motor.	As per clause no .9.32 electrical panel for motor starter soft starter will be provided and motor type will be IE2 efficiency FLP type. Kindly confirm	Ok Noted, the starter Panel is VFD/Soft Starter.
63	9.36	138	9.36	Piping	Gas piping/ tubing at 3rd stage discharge will only be in SS-316, with SS fittings, rest all piping /tubing will be Combination of Flanged & screwed connections with CS material (pipes, Fittings & Flanges) as per application requirement & standard design.	Tender Condition shall Prevail.



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					This is as per manufacturing standard design. Piping between PRS Skid to Inlet of Compressor Package, air compressor & CO2 piping up to enclosure will be in CUGL scope, as site to site location is not fixed, hence request to considered same.	
64	10	139	10	INSTRUMENTATION & CONTROLS	Instrumentation and Controls will be as per the manufacturer's standard; P&ID will be submitted for approval.	Ok Noted.
65	10.4	139	10.4	The temperature gauge shall be generally mercury in steel field type. Capillary tubing shall be min. SS304 with SS flexible armoring. The gauge shall have an accuracy of +/-1% FSD and 100mm dial size	Due to limited space all gauges 63 mm dial size mounted in the gauge panel as all the gauges are centrally located to monitor machine performance from single location. The material selection, certificate & warranty shall be as per OEM standard.	Ok Noted.
66	10.11	140	10.11	10.11 Compressor package shall be provided with the following indicators: i. Pressure indicator at 1st stage suction & discharge and other stage discharge. ii. Oil pressure indicator on each pressure lubrication system iii. Oil levels indicator, field mounted iv. Hour meter v. Non- resettable electromechanical hour meter on local control panel. vi. Compressor jacket water coolant temperature indicator on local gauge panel vii. Hydraulic oil cooler inlet & outlet temperature on local gauge panel (if required) viii. Hydraulic oil pressures each stage on local gauge panel (if required) The Compressor	We shall provide following Indicators on compressor package: All instruments will be finalized after approval of P&ID. i. Pressure indication at each stage suction. ii. Temperature indication at each stage discharge. iii. Oil switch and no flow switch on lubrication system. iv. Oil level gauge on oil tank. v. Hour meter shall be available at HMI. Separate hardware not considered viii. Crankcase oil temperature indication. ix. Low oil pressure protection is provided. Level indicator provided	Ok Noted.
67	11.15	145	11.15	8 lines for 1200 SCMH (3 bank) Priority Panel at Package Discharge.	We will provide 7-line priority panel, kindly accept	7 Lines priority panel supply by the bidder. Dispenser – 03 banks (Low, Medium, high) Stationary Cascade – 03 banks (Low, Medium, high) Mobile Cascade – 01 bank
68	11.1	145.0	11.1	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	Due to compact layout of packaging & overhead mounting of coolers, it is not possible to install the Chain Pulley block. However, adequate facility at site shall be provided in case there is an occurrence of motor removal.	Ok Noted.
69	13	145	13	PAINTING AND PROTECTION	Painting shall be as per manufacturer's standard procedures. Package enclosure shall be Powder Coated ensuring longer durability in all-weather outdoor installation conditions.	Ok Noted.
70	13.1	146	13.1	Mechanical Running Test (MRT) a) These tests shall have mechanical operation of compressor, driver and accessories, Instruments, control system	MRT will be carried out as per manufacturer's standard procedures. Reports shall be presented for review to Purchaser / Consultant / TPIA during final String Test of the Complete Package.	Ok Noted.



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				and the coolers. b) The MRT for the 25% compressors block of the lot shall be carried out with job or shop driver including complete job driving system i.e., job driven V-belt, job pulleys etc., for 2 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). i. Vibration levels measured on cylinders and frame ii. Bearing temperature iii. Oil cooler inlet and outlet temp iv. After satisfactory run the compressor shall be examined as per standard procedure & following shall be examined as minimum: v. Bore & other parts by opening a valve vi. Piston & cylinder clearance vii. 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.		
71	13.2	147	13.2	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 in presence of Purchaser/ Consultant/TPI	Ok Noted.
72		240		Piping & cabling	All field piping & cabling is not considered in bidder scope, as site to site location changes kindly accept.	Tender Condition shall Prevail
73	-	-	-	Certification:	CCOE or its equivalent certificate (FM, CSA, ATEX, UL, CMRI) whichever applicable & available will be provided.	Tender Condition shall Prevail
74	-	174.0	-	SPECIFICATION OF GAS DETECTOR Infrared sensor with Transmitter, with Local Display or Indicator	Gas detectors with Local Display and Indicator are not considered, for safety reasons, GD readings are purposefully shown only on HMI screen, since in event of gas leakage, it is not recommended for any operator to enter the area where leaked gas is already	Ok Noted.



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					present. Further, visual indication on HMI, alarm & trip are also provided to take necessary actions without exposing person to hazard.	
75	-	177	-	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 with CE Eex 2GD IIB T6.	Manufacturer's approved two stage discharge filter will be provided; calculation is proprietary name shall not be submitted for review/record. Kindy approve manufacturer's standard filter with parker make filter cartridge (Borosilicate Microfiber Fabric).	Ok Noted.
76	D	178.0	D	Preferred makes	Shall be as per final approved vendor list. Kindly approve below makes:	
				GD FD	PPS (pollution protection systems)	Bidder may be requested to submit the PESO Approval at the time detailed drawing approval.
	-			Suction & Discharge Filter	CP approved make	Ok Noted.
	-	-	-	Instrument manifold, Instrument SS fittings/valves	Baumer	Ok Noted.
77	-	200.0	-	QUALITY ASSURANCE PLAN	We shall follow our standard QAP as attached herewith. Inspection & Testing will be as per Approved QAP by customer, detail QAP will be submitted for approval. Copy of QAP is attached herewith for your reference.	The QAP must be approved by the VGL. If VGL gives a suggestion in QAP, the bidder same shall be complied.

Note: This Replies to Bidder's Queries as uploaded on n-Procure & VGL's Website. Please upload the same duly Sign and Seal with Techno-Commercial Bid as this is an Integral Part of the Tender.