


TRACTEBEL		REPLY TO BIDDER'S PRE-BID QUERIES		Owner: Green Gas Ltd.
		SUPPLY, INSTALLATION, TESTING, COMMISSIONING, OPERATION AND MAINTENANCE OF 5 NOS. 1200 SCM/CNG COMPRESSOR PACKAGES		PMC- Tractebel Engineering Pvt. Ltd. (TE)
		(TENDER NO. P.005914 R11050 007)		Pre-bid meeting held on 31.03.2017 at 1200 HRS IST at GGL Lucknow office.
				Date: 24.04.2017

Sl. No.	Vol. No.	Tender Page No.	Clause No	Requirement as per tender	Bidder's Query/Clarification	GGL/TE Reply
COMMERCIAL						
1	Volume I of II	100008	5.1	Delivery of CNG Compressors package along with Special tools & tackles shall be completed in different lots based on as and when intimation is issued by GGL. Delivery of each lot of items shall be completed within 12 (twelve) weeks from the date of intimation from GGL.	Request you to kindly accept the delivery schedule of Compressor Package to 24 (Twenty Four) weeks from the date of intimation / Delivery Order from GGL. The request is in view of the fact that Delivery being quoted by engine manufacturer is itself 12 to 14 weeks	Tender Conditions prevail
2	Volume I of II	100009	6.1.2	The bidder should have engineered, manufactured, designed, tested and supplied from the proposed facility of manufacturing of minimum below mentioned quantity of compressors of 1200 SCM/H or higher capacity in single purchase order/single rate contract, validity similar in mechanical design to the ones specified in the tender in terms of design and suction pressure to customers in India or Europe or America in last five years reckoned from the bid due date and these compressors should be in operation since last year.	In last 5-6 years the demand for CNG compressors had dropped substantially. In view of same we request you to accept the supplies effected in last 7 years period from the date of bid submission in place of 5 years as stipulated in the tender. All CGD,s are accepting credentials dated 7 years.	Tender Conditions prevail
3	Volume I of II	100009	6, 66,	Operation and Comprehensive Maintenance: The duration for Comprehensive operation & maintenance shall be five (05) years (1 year during warrantee and 4 years post warrantee). Total Contract duration shall be 6.5 years (78 months) from the date of Purchase Orders. The rates quoted by the bidder for comprehensive O&M services shall be valid for this complete contract duration, however rates for supply part shall be valid for only 1 year from the date of PO.	As mentioned in Page No. 6, Vol. I of the Tender Documents, total contract duration for O&M services shall be five years (1 year during warrantee and 4 years post warrantee). Whereas, at Page No. 66, Vol. I, Clause No. 26.2, it has mentioned that maximum duration of contract for operation and comprehensive maintenance during warrantee and post warrantee period shall be limited to 78 months from the date of receipt of last compressor package at GGL store / site for that particular lot. Please confirm the end date of operation and maintenance. Also please allow annual escalation after 60 Months from Date of supply.	Contract duration shall be 78 months for Supply, Operation and Comprehensive Maintenance from the date of intimation of Award from GGL. Tender Conditions prevail.




 26/4/17

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(TENDER NO. P.005914 R11050 007)

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4		7, 8, 9 - Vol. I	6.0 & 6.2		<p>1. We Tulip Compression Private Limited ,are a joint venture company between Tractors India Private Limited and Tulip Energy Private Limited.</p> <p>Tractors India Private Limited is the Authorized Caterpillar Dealer in North and East India having largest experience pool of trained manpower and experience in Supply, Installation, Testing, commissioning, Operation and Maintenance of Gas Engines and reciprocating Machinery.</p> <p>Caterpillar Gas engines are extensively used for powering of Gas Compressors in CGD sector and Tractors India Private Limited is currently providing parts and services to all City Gas Entities for their Gas Engine powering</p> <p>Tulip Energy Private Limited is currently operating and maintaining the largest fleet of Natural Gas Engine powered CNG compressors in India and the management team has an experience of over a Decade in maintaining Internal Combustion Engines and Gas Compressors.</p> <p>Tulip Compression Private Limited (TCPL) has been formed to Package the energy efficient and environmentally safe CNG compressor package with near Zero Gas Loss to environment.</p> <p>TCPL shall be packaging CNG compressors using Compressor blocks – Proudly Made In India by Burckhardt-Compression . These compressor blocks and Gas Engines together have clocked Millions of Hours of operation in India and are currently in use at all large City Gas Entities.</p>	Tender Conditions prevail
				<p>Bid Evaluation Criteria</p> <p>Technical</p> <p>The bidder must be</p>		

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				submit declaration on its letter head Financial BEC	Further More we submit as under :- 2. We shall bid in the capacity "Packager of CNG Compressor" duly authorized by the compressor Manufacturer / OEM - Burckhardt Compression India Private Limited as well as Caterpillar Gas Engine Distributor- Tractors India Private Limited. 3. We shall submit a submit back-up authority letter from both the compressor block manufacturer / OEM- Burckhardt Compression India Private Limited as well as Tractors India Private Limited confirming our authorization to package / assemble CNG compressor packages using their compressor blocks and Gas Engines. The authority letter shall be valid at the time of bidding. 4. We shall submit a confirmation towards technical and after sales parts and service support from Burckhardt Compression India Private Limited for a period of ten years from the date of supply. A latest confirmation by the compressor manufacturer / OEM to this effect shall be submitted along with the bid. 5. The assembly of compressor at our packaging facility shall be carried out under the supervision of OEM- Burckhardt Compression India Private Limited. In support of this the TCPL shall submit letter from OEM confirming the above. 6. All equipment's / components / accessories / instrument etc used in package assembly shall be of same make/ model as approved in tender specification. 7. Mechanical Run Test (MRT) of the compressor block will be conducted by OEM- Burckhardt Compression India Private Limited at their premises / factory using shop driver and may be witnessed. As in the case of foreign bidders, Indian bidders may also be given option of payment through Irrevocable Inland Letter of Credit (I/L/C). This shall enable us as Indian bidders to provide better prices to Purchaser.	
5	Volume I of II	100072	1.1.2	Payment terms		Tender Conditions prevail.
6	Volume I of II	100068	26.4	Within twenty one (21) Days of receipt of the Notification of Award, the successful bidder shall furnish to the Purchaser the Contract-sum-Equipment Performance (CPBG) equivalent to 10% of total order value exclusive of all taxes duties for Supply, installation as mentioned at 26.2	We will submit CPBG against each Delivery Order towards supply, Installation, Commissioning & Performance Acceptance Test of compressor packages as delivery schedules are different for total no. of compressors.	Clause no. 26.4 of SCC on page no. 100068 is explicitly clear. Tender Conditions prevail.

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7	Volume I of II	100072	1.2.2 B) Payment Terms	20% (Twenty Percent) of supply value / order value shall be released after successful completion of installation, Testing, Commissioning and Performance Acceptance Test of each compressor package at the site and Acceptance thereof by the Purchaser. In case Performance Acceptance Test (PAT) is not done within 120 days from the date of receipt of compressors at store, bidder can claim the payment against submission of irrevocable Bank Guarantee of equal amount. This BG will be uncashed if bidder does not perform PAT as per instruction of Purchaser.	We request that this Requirement of BG for release of payment should be waived if delay in completion of installation, Testing, Commissioning and Performance Acceptance Test of each compressor package at the site is on account of Purchaser.	Tender Conditions prevail.
8	Volume I of II	100062/63 200037 Volume II Annexure I	24.7.1 Clause ii), 24.7.2 Clause ii), 24.7.3 Clause ii)	Loading & Penalty on account of Package Gas Loss	We submit as below: The maximum acceptable gas loss is 1% beyond which the package shall be rejected. If the loading & penalty is calculated as per the formula given, then even at the best available accuracy from a coriolis flow meter (i.e. of +/- 0.5%), it translates that GGL shall accept: 1. An error of (+/-4.5 kg) in measurement from Suction Flow Meter. 2. An error of (+/-4.5 kg) in measurement from Discharge Flow Meter. 3. An error of (+/-0.2 kg) in the measurement from Engine Consumption Flow Meter. From the above it will be observed that there is a strong possibility that in case all the three meters are in error then, the cumulative acceptable error by GGL as per the formula shall amount to 4.5+4.5+0.2 = 9.2 Kg per Hour. It also translates to GGL not imposing any penalty on a package that shall loose gas to the atmosphere at the rate of 9.2 kg per hour. It also translates to GGL accepting a package with gas loss exceeding 1%. We suggest that GGL should impose penalty on the basis of the reading of the Mass Flow Meter being installed in the Vent as: GGL has specified maximum acceptable package gas loss as 1% or say 9 kg per hour. Under the circumstances a Mass Flow Meter capable of measuring upto 50 Kg per Hour will be sufficient to measure the Vent Loss. Even at 1% inaccuracy, the 50 kg per Hour capacity mass flow meter will measure the vent loss with an error of maximum 0.5 kg per hour. We request that Low flow Thermal Mass flow meters be installed in the vent and	Tender Conditions prevail.
9	Volume I of II	100054	43.1.1	Bidder has to take the material from Purchaser's store, arrange for loading, transportation from store to installation site and unloading at site. Bidder has to arrange for all equipments, vehicles and labor required for loading, transportation and un-loading at site.	Please note that we shall be transporting the package either to storage/store or site (Place to be confirmed by client during dispatch instructions). Further loading, re-transportation and unloading of the package store to site will not be in our scope.	Bidder understanding is correct. Tender Conditions prevail.

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10	Volume I of II	100062	12.1	Transit Insurance	We shall cover Transit Insurance up to the Delivery Point i.e. either to storage/store or to the site, as confirmed by Client. Transit Insurance for further re-transportation of the package store to site will be in Scope of the purchaser.	Bidder understanding is correct. Tender Conditions prevail.
11	Volume I of II	100007	3.2	Installation, testing, commissioning and performance Acceptance Test of each compressor package after intimation from GGL.	Price validity of charges for Installation, testing, commissioning and performance Acceptance Test should be clarified. Compressor packages should be commissioned and Performance Acceptance Test to be done within six months from the date of receipt of respective compressor at store else the prices quoted for these activities will not be valid.	Validity of prices for Installation, testing, commissioning and performance Acceptance Test shall be 78 months. Tender Conditions prevail.
12	Volume I of II	100009	6.1.3	In case manufacturer intends to quote through his authorized dealer/subsidiary.	We understand that the back up from OEM is in terms of Bank guarantee to be submitted to Purchaser. Please let us know if our understanding is correct. If it is otherwise than KPCL will prefer to bid through its authorised agent.	BEC Clause no. 6.1.3 -Note on page no. 100009 is explicitly clear. Tender Conditions prevail.
13	Volume I of II	100018	10.6	Statutory Variation	If there is change in minimum wages during execution of the contract, same shall be considered as Statutory Variation and purchaser shall revise the prices for Operation and Maintenance based on the changes in the minimum wages act.	Tender Conditions prevail.

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14	Volume I of II	100018	10.10.3	Octroi	Octroi/Entry tax if applicable shall be reimbursed by purchaser against documentary proof to bidder. Please confirm.	Clause no. 10.10.3 on page no. 100018 is explicitly clear. Tender Conditions prevail.
15	Volume I of II	100062	12	Transit Risk Insurance from FOT despatch point onwards to FOT site for indigenous supplier	Transit risk insurance from FOT despatch point (in present case FOT Store) onwards to FOT site for indigenous supplier shall be in purchaser's scope. Please confirm.	Clause no. 12.1 on page no. 100062 is explicitly clear. In case manufacturer deliver the material at GGL store then transit risk insurance from GGL store to CNG Station shall be in Purchaser's account. Tender Conditions prevail.
16	Volume I of II	100063	23.4	TPIA charges	Kindly consider the TPIA charges in purchaser's scope.	Clause no. 23.4 on page no. 100063 is explicitly clear. Tender Conditions prevail.
17	Volume I of II	100063	24.6.1	The same shall be used to establish the capacity at the test bed during package performance test.	We understand that, guaranteed capacity at 16 kg/cm ² g to be demonstrated at supplier factory.	Bidder understanding is clear. Tender Conditions prevail.
18	Volume I of II	100064	24.7.1	Loading during bid evaluation (ii) for package gas loss	Package loss should not be loaded during bid evaluation as all compressors will not have unique design. There should be allowable package loss i.e. 1% of rated capacity as mentioned by other CGD companies in their tender.	Tender Conditions prevail.
19	Volume I of II	100065	24.7.3	Penalty During Operation & Comprehensive Maintenance period. (i) Gas consumption for engine (ii) For package gas loss (iii) For package efficiency loss	Compressor performance with guaranteed parameters is generally demonstrated during Performance Acceptance Test. (i) & (ii) Please note that, compressor will be reciprocating type having reciprocating components. These components subject to wear and tear during operation. Therefore it is not possible to guarantee gas consumption and package efficiency of compressor during operation and maintenance period of compressor.	Tender Conditions prevail.
20	Volume I of II	100066	24.7.4	Penalty for Non-performance during operation and comprehensive maintenance period.	Penalty for breakdown or shutdown shall be as below: up to eight hours: NIL up to 24 hours: INR 10,000/- Total penalty on account of Non-performance of compressors (Break down/Shutdown) shall be limited to 50% of monthly order value of operation and maintenance.	Tender Conditions prevail.
21	Volume I of II	100066	25.1	Sub-Letting of contract	We will sublet the contract for Operation and maintenance services. This philosophy is followed for earlier and ongoing orders of M/s GGL for operation and maintenance services. Please note that, though the services are sublet, overall responsibility lies with the bidder.	Bidder understanding is correct but agency should have experience of Operation & Maintenance services and should have been working with bidder for last two years. Tender Conditions prevail.
22	Volume I of II	100068	26.1	Warranty period	Warranty shall be calculated from the date of delivery on FOT Store basis and not from the the of delivery at FOT Site basis as tender calls for delivery at FOT Purchaser's Store basis. Please confirm.	Clause no. 26.1 on page no. 100068 is explicitly clear. Tender Conditions prevail.



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23	Volume I of II	100068	26.4	Contract cum equipment performance bank guarantee	We understand that CPBG shall be valid for warranty period. For For operation and comprehensive maintenance services: Please confirm the percentage of 50% of total order value. It is generally 10% of operation and maintenance order value for respective year. We understand that, CPBG for operation and maintenance to be submitted on yearly basis with validity of one year.	Tender Conditions prevail.
24	Volume I of II	100069	28.1.4	Total of operation and maintenance prices quoted for each year shall not be less than 20% of the total of Supply, erection and commissioning spares.	Please clarify whether "Total" means total addition of five years operation and maintenance charges OR per year charges for operation and maintenance charges.	Total means per year charges of operation & Maintenance. Tender Conditions prevail.
25	Volume I of II	100072	1.1.2 (B)	Payment terms: Balance 20%....	Please mention validity of irrevocable Bank Guarantee which is to be submitted to claim the 20% payment if PAT is not done within 120 days from the date of receipt of compressors at store.	BG should be valid till the PAT is carried out. Tender Conditions prevail.
26	Volume I of II	100072	1.1.2 (C)	Payment terms: Balance 10%....	Payment term for Balance 10% payment shall be released against Bank Guarantee if PAT is not done within 120 days from the date of receipt of compressors at store. Please note that, there is no backstop for release of this payment if compressor package is not commissioned/performance	Tender Conditions prevail.
27	Volume I of II	100098		Column (5)-Unit freight extra upto Purchaser's store i.e. Agra/Lucknow including Octroi/Entry Tax, transit insurance & unloading etc. at site	Please confirm whether Octroi/Entry tax will be reimbursed to bidder against documentary proof. We understand that, loading from purchaser store, transportation of compressor package from Purchaser Store to Site including transit insurance and unloading at site is excluded from bidder's scope.	Clause no. 10.10.3 on page no. 100018 is explicitly clear. Tender Conditions prevail. Bidder understanding is clear. Tender Conditions prevail.
28	Volume I of II	100009	6.0 (6.1.2)	BEC CRITERIA	Request to consider no of years for supply of compressors for BEC in PAST SEVEN YEARS instead of FIVE YEARS from date of bid due date.	Tender Condition Prevail.

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TECHNICAL

Sl. No.	Vol. No.	Tender Page No.	Clause No	Requirement as per tender	Bidder's Query/Clarification
29	Volume I of II and Volume II of II	100063 /200022	4.1.3 & 24.6.1	Bidder shall guarantee -----and measurements. Since the compressor suction pressure varies from 14 kg/cm ² g to 19 kg/cm ² g the compressor shall be sized / selected for specified discharge capacity of 1200 SCM ³ at 16 kg/cm ² g (with no -ve tolerance) whereas the driver shall be selected on the basis of compressor BkW with either 14 kg/cm ² g or 19 kg/cm ² g whichever is higher".	At Page 61 – Vol. I, Clause 24.6.1, it has been mentioned that Suction Pressure of 16 kg/cm ² g shall be used for compressor sizing / selection whereas in Page 12, Vol. II, Clause 4.1.3, it has been mentioned that suction pressure of 19kg/cm ² g shall be used for compressor sizing / selection. Kindly Re-confirm the guaranteed design parameters for sizing of the compressor package including Suction Pressure etc.
30	Volume II of II	200016	1.4	Common Structural Steel skid for the compressor – engine combination and for all auxiliary systems of maximum 5.0m (length) x 3.0m (width) x 3.0m (height)	The size mentioned in the bid is typically for compressor packages with engine and compressor block in single chamber. Also lower foot print is achieved by keeping the filtration skid outside the package etc. This increases the total area required for Compressor package as well as accessories. In line with CCOE directive, double chamber compressor package has been specified in the tender document. Hence, kindly allow foot print of 18 Sq mtr. to accommodate: 1. Separate enclosure for Engine and Compressor 2. Priority Panel 3. Inlet & discharge filter Systems within the package. Vendor may supply the Package with their proprietary design. However the same design must have been supplied in the past, and approved by PESO and other regulatory bodies. The size of the compressor skid shall be approximately as mention in the tender document.
31	Volume II of II	200016	1.4, 7th Paragraph	Mass Flow Meter for Vent, Package Gas Loss	As per Page 62 – Vol. I – Clause 24.7.1 ii), a compressor with more than 1% gas loss shall be rejected. As per Page 6 – Vol. II – Clause 1.4, Para 7 – 4 nos. mass flow meters have been mandated to measure the same i.e. at Package Inlet, Package Discharge, Package Vent and Fuel Consumption of Gas Engine. As per Page 90 – Vol. II – Clause 2.12, all flow meters shall be of “Coriolis” principle based. In this regard we request GGL to clarify the following: A Coriolis Mass flow meter works on principle of vibration of tubes for which it requires some back pressure in line. Back pressure in vent line is not advisable in view of safety. Kindly approve low flow thermal mass flow meter to measure the vent loss. Thermal mass flow meter be specified for measuring the discharge from the vent as it has same accuracy as Coriolis mass flow meter and is able to measure the low pressure & slow flow of the process gas through the vent. Thermal mass flow meter is acceptable.
32	Volume II of II	200022/23	4.2.2 & 4.2.4	Allowable Speeds, temperature and vibration levels	The points highlighted do not pertain to our Trunk Piston Design. Please Accept
33	Volume II of II	200023	4.3	Piston Rod, Bearings and Cross Heads	The points highlighted do not pertain to our Trunk Piston Design. Please Accept
34	Volume II of II	200023	4.4	Packing Cases and Pressure Packing	The points highlighted do not pertain to our Trunk Piston Design. Please Accept
35	Volume II of II	200023	4.6	Distance Pieces	The points highlighted do not pertain to our Trunk Piston Design. Please Accept
36	Volume II of II	200024	4.8.2	Air-cooled, interstage and final stage discharge cooler shall be provided which shall limit the gas temperature after the after cooler to 52 Deg. C.	Air-cooled, interstage and final stage discharge cooler shall be provided which shall limit the gas temperature after the after cooler to ambient + 7 Deg. C. Ambient temp. shall be considered as 49 Deg. C. The Final Stage Discharge Gas Temperature after the after cooler shall be Ambient +10 Deg. C. Kindly approve. CNG Compressor Packages for CGD Project Lucknow and Agra

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37	Volume II of II	200042		Gas Engine Make	Kindly approve Gas Engines of Caterpillar / Cummins / Waukesha / Liebherr.	GGL/TE Reply Gas Engines of Caterpillar or Cummins is acceptable. Tender Conditions Prevail.
38	Volume II of II	200025	4.1.1.6	The engine shall be provided with the shielded ignition system of breaker less type ----- (DIS) is acceptable.	Use of shielded / unshielded Spark plug by engine manufacturer is a design criteria. A spark plug stand in conjunction with Ignition system as a whole should be viewed. We shall use Caterpillar, Cummins Or Waukesha Gas Engines, already in use at City gas companies . Please Approve.	Vendor may supply the Package with their proprietary design. However the same design must have been supplied in the past, and approved by PESO and other regulatory bodies. As per tender vendor list (Annex-II) : Only Caterpillar or Cummins make of Gas engines are acceptable. Tender conditions prevail.
39	Volume II of II	200026	4.1.1.11	Engine shall be compatible & meet all latest CPCB rules & regulations.	We understand Gas engines for CNG compressor applications are not covered under CPCB rules. Please confirm acceptance.	Noted
40	Volume II of II	200033	8.3.2	Submission of Exhaust Gas Certificate at the time of Performance Test.	OEM Standard Test Certificate shall be provided.	Bidder to submit Certificate showing analysis of Exhaust Gas constituents, with their Percentage with compliance to statutory / regulatory / environmental norms and regulations. Tender Conditions prevail.
41	Volume II of II	200033	10.2 a)	The minimum acceptable standard for blast cleaning shall be SA 2- 1/2 or equivalent as per Swedish Standard SIS-055900-1967 or equivalent.	Kindly approve surface preparation as per IS standards.	Acceptable.
42	Volume II of II	200027	4.1.4.6	All high-pressure double ferrule fitting & 2/3 way valves shall be from SWAGELOK or PARKER make & shall be SS 316L material only.	Swagelok / Parker fittings are mostly compatible with Balanced Opposed Design Compressor Blocks. All fitting in range of Swagelok / Parker shall be used. Burckhardt Trunk Piston Design also utilizes DIN (European) standard fittings which are approved & supplied by OEM-Burckhardt Compression and sourced from VOSS, Germany. They are not available in Parker and Swagelok range. All Burckhardt packages over last Two decades have been supplied with Voss fittings and have been in use at CGD companies sites for over 20 years now. Please approve Swagelok / Parker/ VOSS fitting for our packages.	VOSS make fitting is also acceptable.
43	Volume II of II	200017	Para 15	Separate acoustic enclosure, separated with a partition wall of minimum 3 mm thickness and fabricated in such fashion that it is completely sealed so that gas or fire should not travel from one enclosure to another, for both Compressor and Engine.	As a standard practice the metallic sheet of minimum 3 mm thickness is used to fabricate partition wall. It is thereafter lined with Heat resistant acoustic material on the engine side and covered with perforated sheet. Thus the total thickness of the section shall be minimum 2.5" thick. Please Confirm if our understanding is correct and kindly issue a clarification if so.	Vendor may supply the package with or without a partition. However the same design must have been supplied in the past, and approved by PESO and other regulatory bodies.
44	Volume II of II	200026	4.1.3.2	Enclosures with a degree of protection equivalent to IP 54 as per AS 1939.	Package Enclosures has vents for suction of air and for discharge of hot air. The vents are intentionally kept large to allow escape of gaseous built up. It is not possible to seal enclosure to prevent the ingress of water from vents. We shall supply OEM standard acoustic enclosure. Please advise changes in this specification.	Tender Conditions Prevail.
45	Volume II of II	200026	4.1.3.1	The enclosure to restrict maximum noise level to 75 dBA at 1 meter from the enclosure.	We propose maximum noise level of 75 + 3 dB (A) at 1 meter from the enclosure as the air vents sizes are large in size to allow dissipation of gas in event of any leakage.	Acceptable.

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46	Volume II of II	200014/200024	4 - Para 14 & 4.9.4	Location of Blow Down Vessel	Reference is drawn from Gas Cylinder Rules 2016 / Static and Mobile Pressure Vessels Rules. As per Page 4, Vol. I of Tender Documents, the pressure vessels have to be retested periodically i.e. every year or earlier. In order to comply with the tender terms we will have to supply the Blow Down Vessel (BDV) outside the package as BDV positioned at the base of the package can neither be visually tested nor be taken out for testing as per rules. Please specify the location of Blow down vessel.	Vendor may supply the Package with their proprietary design. However the same design must have been supplied in the past, and approved by PESO and other regulatory bodies. Please note that as per regulations all pressure vessels have to be tested at regular interval.
47	Volume II of II	200017	Para 17	Inlet and outlet manual & automatic isolating valves.	In our Package Design, Priority Panel is mounted inside the Package & is equipped with 6 independent NRVs, hence Isolation in outlet is not required. Please approve.	Tender Conditions Prevail.
48	Volume II of II	200068	26	OIL COOLER TEMA "C"	Oil cooler as per manufacturer's standard proprietary design. Being air cooled, TEMA C is not applicable.	Vendor may supply their proprietary design. However the same design must have been supplied in the past, and approved by PESO and other regulatory bodies.
49	Volume II of II	200027	5.1 Para 2	Compressor Package shall be provided with a PLC based LCP of recommended make (i.e. Siemens/Allen Bradley/Emerson), which shall be weatherproof to IP65 and shall be certified suitable for specified hazardous area classification. PLC should be integral with the package with necessary Hazardous Area Certificate (HAC) compliance HMI shall be of touch screen type. All operational buttons shall be on touch screen except the Emergency stop button. Touch screen display system shall be weather proof to IP65.	This is a Proprietary design feature of a particular manufacturer. In the absence of volumes, the spare parts availability of the same may also be an issue. We shall supply the package with Siemens S7300 Series PLC panel, which is extensively used in all City Gas Distribution Companies and has a track record of reliable & efficient service in harsh city gas environment. Moreover, we offer integrated option of remote monitoring solution along with the package which relays majority of the parameters in real time to designated Servers, mobile phones and thereby eliminating the need for frequent download of data from PLC.	Design to be approved during execution. Tender Conditions Prevail.
50	Volume II of II	200028	5.1 Para 11	PLC would be provided with integral keyboard ----- ---laptop not included in bidder's scope.	This is a Proprietary design feature of a particular manufacturer. In the absence of volumes, the spare parts availability of the same may also be an issue. We shall supply the package with Siemens S7300 Series PLC panel, which is extensively used in all City Gas Distribution Companies and has a track record of reliable & efficient service in harsh city gas environment. Please approve.	
51	Volume II of II	2000107	2.17	The system shall be microprocessor based and having functional distribution and data base distribution sub systems. The operator screen shall be colored TFT touch screen of size minimum 8"x6" size type having mimic for plant (compressor operation). The operation of compressor is menu driven type. All analog values shall be provided with bar type indication with set value, alarm value indication. It shall also have digital value of each analog indication. Each screen shall have 8 nos of process parameter indication. It should be ensured that processor and memory loading shall not exceed 60% under the worst load conditions.	This is a Proprietary design feature of a particular manufacturer. In the absence of volumes, the spare parts availability of the same may also be an issue. We shall supply the package with Siemens S7300 Series PLC panel, which is extensively used in all City Gas Distribution Companies and has a track record of reliable & efficient service in harsh city gas environment. PLC has option to relay the parameters to local HMI. Please approve	
52	Volume II of II	/200029/200099	Para 3 & 2.9.4	In PLC pressure process values should be taken from pressure transmitters and should be independent from pressure gauges installed on local gauge panel. Temperature process values should be taken from temperature transmitters and should be independent from temperature	We shall supply RTD's instead of temperature transmitters as our PLC can take input directly from RTD & does not need interface of transmitters.	

[Handwritten signatures and initials in blue ink]