



Godavari Gas Private Limited
2nd Floor, Parisrama Bhavan,
Basheerbagh,
Hyderabad-500004
Andhra Pradesh, India

TENDER DOCUMENT

**SUPPLY OF CNG BOOSTER COMPRESSOR PACKAGES FOR
DAUGHTER BOOSTER STATIONS AT
EAST & WEST GODAVARI DISTRICTS OF ANDHRA PRADESH
ON ANNUAL RATE CONTRACT BASIS**

TENDER NO.: GGPL/C&P/Pur/4715/2016-17

"REQUEST FOR QUOTATION"

Ref: GGPL/C&P/PUR/4715/2016-17

Date: 07.01.2017

To

Sub: Supply of **CNG Booster Gas Compressor** for the Construction of Daughter Booster Stations at East & West Godavari Districts Of Andhra Pradesh on Annual Rate Contract basis – Tender No. GGPL/C&P/4715/2016-17

Dear Sir,

Salient Features of Tender

- Godavari Gas Private Limited (GGPL) is a Joint Ventrure of Andhra Pradesh Gas Distribution Corporation and Hindustan Petroleum Corporation. GGPL has been authorized by PNGRB for development of City Gas Distribution Networks in East and West Godavari Districts in Andhra Pradesh. Under the CGD Program, GGPL is constructing 10 Nos. CNG Stations in these areas.
- GGPL invites bids from eligible bidders for the subject supply under "two-bid system", in complete accordance with the following details and enclosed Tender Documents:

(A)	NAME OF SUPPLY/WORK	Supply of CNG Booster Gas Compressor on Annual Rate Contract basis
(B)	DELIVERY SCHEDULE	16 Weeks from the date of Independent Release Orders.
(C)	BID SECURITY / EARNEST MONEY DEPOSIT (EMD)	As indicated below in the RFQ.
(D)	DUE DATE & TIME OF BID-SUBMISSION	14:00 Hrs of 31.01.2017
(F)	TYPE OF BIDDING	2(Two) Bid System (Un-priced and Priced)
(G)	DATE & TIME OF UN-PRICED BID OPENING	15:00 Hrs of 31.01.2017
(H)	VENUE FOR OPENING OF UN-PRICED BIDS	Godavari Gas Private Limited, 2 nd Floor, Parishram Bhavan, Basheer Bagh, Hyderabad-500004
(I)	CONTACT DETAILS	E-mail: info@godavarigas.in Ph. No: 040 67304930

If any of the days specified above happens to be a holiday in GGPL, the next working day shall be implied.

- The "Un-Priced Bid" and "Price Bid" shall contain the documents in the manner specified below:

The bid will be submitted in two parts as follows:

❖ **PART-I: UN-PRICED/TECHNO-COMMERCIAL BID**

The "Un-Priced Bid" must be complete with the following:

- (A) All technical and commercial details other than the rate [i.e. identical to Part-II, with prices blanked out].
- (B) Documentary evidences towards "Bid Evaluation Criteria [BEC]" and other documents sought under this Tender Document.

❖ **PART-II: PRICE BID [SOR]**

The price bid should contain only the Schedule of Rates (SOR) complete with rates duly filled in and no terms and conditions should be entered in the "Price Bid". "Price Bid" containing any new / fresh condition [not mentioned in the "Un-Priced Bid"] shall be liable for rejection.

Any bidder who wishes to quote against this Tender may download the Tender Documents from the websites of GGPL and APGDC and submit the bid, complete in all respects as per terms and conditions of the Tender on or before the "Due Date & Time of Bid-Submission", along with an undertaking that the contents of the Tender Documents have not been altered or modified.

4. Earnest Money Deposit/Bid Security

- (a) Bidders quoting for online/variable suction pressure reciprocating compressor of 250 SCM Capacity for Daughter Booster stations only shall submit EMD in the form of DD or Bank Guarantee for a sum of Rs.2,25,000/- (Rupees Two Lakhs Twenty Five Thousand only).
- (b) Bidders quoting for Hydraulic Booster Compressor of 250 SCM Capacity for Daughter Booster stations only shall submit EMD in the form of DD or Bank Guarantee for a sum of Rs.3,25,000/- (Rupees Three Lakhs Twenty Five Thousand only).
- (c) In case of submission of EMD in the form of DD, the DD should be in favour of Godavari Gas Private Limited payable at Hyderabad and the DD should be valid for 6 months.
- (d) In case of submission of EMD in the form of BG, the BG should be in the format as per Tender document.
- (e) "Central Public Sector Undertakings of Government of India" and "Firms Registered with NSIC and MSME are exempted from furnishing Bid Security, provided they are registered for the quoted items upto the monetary limit, they intend to quote and subject to their enclosing with their Bid a copy of latest and current 'Registration Certificate'".

5. **PRE-BID MEETING (NOT APPLICABLE):**

- a. Bidder desirous to attending the Pre-Bid Meeting must submit authorization letter (ref format F-5 under section-VII) at the time of Pre-Bid Meeting.
- b. The bidder is requested to submit any questions in the format as per APPENDIX-1 to RFQ of this tender document provided herewith by email/courier/fax at least 2 days before the pre-bid meeting. These questions shall be replied during the pre-bid meeting.

❖ **NOTE:**

- 1. Bidders are requested to fill all "Annexures" as enclosed in the Tender Documents.
- 2. Bidders are requested to go through the document named, "Addendum to ITB" (if any) which has been made available in the Tender. This document shall over-ride and supersede any of the clause(s) found contradictory / conflicting elsewhere in the Tender

Documents. This document aims at providing guidelines / instructions to bidders for submitting their bids.

3. Bidders may depute their authorized representative to attend the "Un-priced Bid Opening". Bidders selected for opening of their "Price Bid" shall be suitably informed about the date and time.
4. Any change in bid after the "Due Date & Time of Bid-Submission" of Tender is not allowed.
5. Bidders are advised, in their own interest, to ensure that their bids are submitted well before the "Due Date & Time of Bid-Submission" of the Tender.
6. Bidders are required to submit their bids along with a covering letter under the firm's / company's letterhead specifying the name and designation of the authorized person signing the bid, complete postal address of firm / company, telephone no., fax no., e-mail ID, etc.

This is not an Order.

For & on behalf of
Godavari Gas Private Limited


Authorized Signatory







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SECTION - I
BID EVALUATION CRITERIA [BEC]

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BID EVALUATION CRITERIA

1.0 TECHNICAL CRITERIA:

The bidder should meet the following technical criteria:

- 1.1** The bidder shall either be a regular manufacturer/packager and supplier of Electric motor driven Reciprocating CNG variable suction pressure Booster Compressor and/or Hydraulic type electric motor driven Booster Compressor package, handling hydrocarbon gas.
- 1.2** The bidder in the last seven years should have engineered, manufactured / packaged, tested, supplied from the proposed facility of manufacturing / packaging at least (a) one package of online/variable suction pressure reciprocating compressor of 250 SCM Capacity for Daughter Booster stations and/or (b) one package of Hydraulic Booster Compressor of 250 SCM Capacity for Daughter Booster stations and each of these packages shall have completed the trouble free operation of a minimum 8000 hrs each as on the bid due date.
- 1.3** The offered compressor shall be of proven make from existing production range of the compressor manufacturer & must meet performance requirement as stated under (1.2) above.
- 1.4** The bidder should assure the availability of spares till the operating life of the offered package. A commitment in this regards is required to be submitted by the bidder.

The documentary evidence such as purchase orders and their respective completion/performance certificate has to be furnished in support of the same along with the bid.



2.0 FINANCIAL CRITERIA

2.1 Annual Turnover

(a) Bidders quoting for online/variable suction pressure reciprocating compressor of 250 SCM Capacity for Daughter Booster stations only should have minimum annual turnover of Rs.56 lakhs in any one of the preceding three financial years (2013-14, 2014-2015 and 2015-16).

(b) Bidders quoting for online/variable suction pressure reciprocating compressor and Hydraulic Booster Compressor of 250 SCM Capacity for Daughter Booster stations only should have minimum annual turnover of Rs.84 lakhs in any one of the preceding three financial years (2013-14, 2014-2015 and 2015-16).

(c) Bidders quoting for both Hydraulic Booster Compressor of 250 SCM Capacity for Daughter Booster stations only should have minimum annual turnover of Rs.140 lakhs in any one of the preceding three financial years (2013-14, 2014-2015 and 2015-16)

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2.2 Net worth

The Net Worth of the bidder should be positive as per the last audited financial statement 2015-16 for Indian bidders / 2015 ending Dec for Foreign Bidders

2.3 Working Capital

Bidder should have minimum working capital of Rs.30 Lakhs as per the last audited financial statement (2015-16). If the Bidder's working capital is inadequate, the bidder should submit a letter from the bidder's bank having networth not less than Rs.100 Crores, confirming the availability of line of credit for the working capital requirement as stated above.

Documentary proofs in respect of above to be submitted along with the technical bid.

Bidder should furnish documentary evidence (copies of, Purchase Orders & relevant Inspection note, Performance Certificate issued by the client. Certificate of client should confirm trouble free operation of compressor for 8000 Hrs , Audited Balance Sheet, P&L Account, etc.) to substantiate their eligibility against the above technical as well as financial evaluation criteria along with the technical bid.

3.0 DOCUMENTS REQUIRED FOR QUALIFICATION:



3.1 Technical criteria:

1. Bidder shall meet the qualification criteria as stated above. Bidder shall furnish following documents along with the bid to justify meeting the stipulated qualification criteria.
 - 1.1 Copy of the purchase order / Work order for the skid.
 - 1.2 Inspection release note / completion certificate/ delivery proof / commissioning report for the skid linked with PO / WO.
 - 1.3 P&ID drawing and data sheets linked to Purchase order/Work order.
 - 1.4 Certificate from Inspection agency for the capability of workshop as per the Technical Criteria clause no 3.



Note: - All documents in support of Technical Criteria of Bid Evaluation Criteria (BEC) to be furnished by the bidders shall necessary be duly certified / attested by Chartered Engineer and notary public with legible stamp. In absence of any requisite documents, Godavari Gas Private Ltd reserves the right to reject the bid without making any reference to the bi

3.2 Financial criteria:



1. Bidder(s) shall submit copy of Audited Annual Financial Statement [Balance Sheet and Profit & Loss Account Statement with all schedules] of the three (3) preceding Financial Year(s), i.e. FY: 2013-14, 2014-15 & 2015-2016 along with un-price bid.

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2. For authentication of document submitted in support of Financial Criteria of Bid Evaluation criteria (BEC), the bidder shall submit "Details of financial capability of bidder" in prescribed format duly signed and stamped by a chartered accountant. Further, copy of audited annual financial statements submitted in bid shall be duly certified/ attested by notary public with legible stamp.
 3. In absence of requisite documents GGPL reserves the right to reject the bid without making any reference to bidders.
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SECTION-II
INSTRUCTIONS TO BIDDERS [ITB]

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INSTRUCTIONS TO BIDDERS [ITB]

[A] – GENERAL

1 SCOPE OF BID

1.1 The Employer, as defined in the "General Conditions of Contract [GCC]", wishes to receive Bids as described in the Tender Document.

1.2 Throughout these Bidding Documents, the terms 'Bid' and 'Tender' and their derivatives [Bidder/Tenderer, Bid/Tender, Bidding/Tendering, etc.] are synonymous and 'Day' means 'Calendar Day'. 'Singular' also means 'Plural'.

2 ELIGIBLE BIDDERS

2.1 The Bidder shall not be under a declaration of ineligibility by Employer for corrupt or fraudulent practices, as defined in "Instructions to Bidders [ITB]".

2.2 The Bidder is not put on 'Holiday' by APGDC/HPCL/GGPL or 'Blacklisted' by any Government Department / Public Sector Enterprise.

3 BIDS FROM "JOINT VENTURE"/"CONSORTIUM" – **NOT ACCEPTABLE/APPLICABLE**

4 ONE BID PER BIDDER



A Firm/Bidder shall submit only 'one [01] Bid' in the same Bidding Process, individually as a Bidder. No Firm can be a sub-Contractor while submitting a Bid individually in the same bidding process. A Bidder who submits or participates in more than 'one [01] Bid' will cause all the proposals in which the Bidder has participated to be disqualified.

5 COST OF BIDDING

The Bidder shall bear all costs associated with the preparation and submission of the Bid and GGPL will in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

6 SITE VISIT

The Bidder is advised to visit and examine the site and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a Contract for the required job. The costs of visiting the site shall be borne by the Bidder.

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[B] – BIDDING DOCUMENTS

7 CONTENTS OF BIDDING DOCUMENTS

7.1 The Bidding Documents / Tender Documents are those stated below, and should be read in conjunction with any 'Addendum / Corrigendum' issued in accordance with "ITB: Clause-9":



- Section-I : CUT OUT SLIPS
- Section-II : BID EVALUATION CRITERIA [BEC]
- Section-III : Instructions to Bidders [ITB]
- Section-IV : General Conditions of Contract [GCC – Goods]
- Section-V : Special Conditions of Contract [SCC]
- Section-VI : Specifications
- Section-VII : Schedule of Rates
- Section-VIII : Forms and Formats

7.2 The Bidder is expected to examine all instructions, forms, terms & conditions in the Bidding Documents. The "Request For Quotation [RFQ]" together with all its attachments thereto, shall be considered to be read, understood and accepted by the Bidders. Failure to furnish all information required by the Bidding Documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect will be at Bidder's risk and may result in the rejection of his Bid.

8 CLARIFICATION OF BIDDING DOCUMENTS

8.1 A prospective Bidder requiring any clarification(s) of the Bidding Documents may notify GGPL in writing or by fax or email at GGPL's mailing address indicated in the "RFQ" no later than 'Five [05] days' prior to bid closing date. If deemed appropriate, respond in writing to the request for clarification. GGPL's response [including an explanation of the query, but without identifying the source of the query] will be uploaded on GGPL's website www.godavarigas.in and no separate communication will be sent to Bidders.

Any clarification or information required by the Bidder but same not received by the Employer 'five [05] days' prior to the bid closing date, is liable to be considered as "no clarification / information required".

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9 AMENDMENT OF BIDDING DOCUMENTS

- 9.1 At any time prior to the 'Bid Due Date', GGPL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents. Any addendum thus issued shall be part of the Bidding Documents and shall be posted on GGPL's e-tendering website.
- 9.2 In order to afford prospective Bidders, reasonable time in which to take the amendment(s) into account in preparing their Bids, GGPL may, at its discretion, extend the 'Bid Due Date'.

[C] – PREPARATION OF BIDS

- 10 LANGUAGE OF BID: The bid prepared by the bidder and all correspondence/drawings and documents relating to the bid exchanged by bidder and GGPL shall be written in English language, provided that any printed literature furnished by the bidder may be written in another language so long as accompanied by an ENGLISH translation, in which case, for the purpose of interpretation of the bid, the ENGLISH translation shall govern. Metric measurement system shall be applied. In the event of submission of any document/certificate by the Bidder in a language other than English, the English translation of the same duly authenticated by Chamber of Commerce of Bidder's country shall be submitted by the Bidder.

11. DOCUMENTS COMPRISING THE BID



- 11.1 The Bid prepared by the Bidder shall comprise the following components:

11.2 PART-I: "Techno-commercial / Un-priced Bid" shall contain the following:

- (a) 'Covering Letter' on Bidder's 'Letterhead'
- (b) 'Bidder's General Information
- (c) 'Bid Form
- (d) EMD/Bid Security.
- (e) Copy of Schedule of Rate (SOR) with prices blanked out
- (f) 'Letter of Authority
- (g) 'No Deviation Confirmation
- (h) 'Bidder's Declaration
- (i) 'Certificate' from Bidder
- (j) 'Agreed Terms and Conditions'
- (k) 'ACKNOWLEDGEMENT CUM CONSENT LETTER'
- (l) Documents substantiating "BID EVALUATION CRITERIA [BEC]"
- (m) Any Other Forms and Formats not mentioned above.
- (n) Any other information/details required as per Bid Document

Note: All pages of the Bid must be signed by the "authorized signatory" of the Bidder.

The PART-I "Techno-commercial /Un-priced Bid" comprising all the above documents along with copy of EMD/Bid Bond should be uploaded in the relevant folders of GGPL's e-tendering portal.

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11.3 PART-II : Price Bid

The Prices are to be submitted strictly as per the Schedule of Rate and GGPL shall not be responsible for any failure on the part of the bidder to follow the instructions.

- ii) Bidders are advised NOT to mention Rebate/Discount separately, either in the SOR format or anywhere else in the offer. In case bidder(s) intend to offer any Rebate/Discount, they should include the same in the item rate(s) itself under the "Schedule of Rates (SOR)" and indicate the discounted unit rate(s) only.



In case, it is observed that any of the bidder(s) has/have mentioned Discount/Rebate separately, the same shall not be considered for evaluation. However, in the event of the bidder emerging as the lowest bidder, the Discount/Rebate offered by the bidder shall be considered for Award of Work and the same will be conclusive and binding on the bidder.

11.4 EMD/Bid Bond

EMD/Bid Security should be to GGPL, 2nd Floor, Parishram Bhawan, APIDC building, Basheerbagh, Hyderabad-500004, in a sealed envelope, superscribing the Tender number.

12 SCHEDULE OF RATES / BID PRICES

- 12.1 Unless stated otherwise in the Bidding Documents, the Contract shall be for the whole works as described in Bidding Documents, based on the rates and prices submitted by the Bidder and accepted by the Employer.
- 12.2 Prices must be filled in excel format enclosed as part of "RFQ" in GGPL's e-portal.
- 12.3 Bidder shall quote for all the items of "SOR" after careful analysis of cost involved for the performance of the completed item considering all parts of the Bidding Document. In case any activity though specifically not covered in description of item under "SOR" but is required to complete the works/supply as per Specifications, Scope of Work / Service, Standards, "GCC", "SCC" or any other part of Bidding Document, the prices quoted shall deemed to be inclusive of cost incurred for such activity.
- 12.4 All duties, taxes [except 'Sales Tax', and Cess thereon] and other levies [if any] payable by the Contractor under the Contract, or for any other cause, shall be included in the rates / prices and the total bid-price submitted by the Bidder. Applicable rate of Sales Tax & Excise Duty shall be indicated in Agreed Terms & Conditions and SOR.
- 12.5 Prices quoted by the Bidder, shall remain firm and fixed and valid until completion of the Contract and will not be subject to variation on any account.
- 12.6 The Bidder shall quote the prices in 'figures' and words.
- 12.7 Alternative Bids shall not be considered.
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12.8 INVOICE AND PAYMENT

All payments against the contract shall be released by GGPL, Hyderabad, India. The invoices must be addressed to the following:

Chief Finance Officer, Godavari Gas Private Limited, 2nd Floor, Parishram Bhavan, Basheer Bagh, Hyderabad-500004

13 BID CURRENCIES: Indian Rupees only

14 BID VALIDITY

14.1 Bids shall be kept valid for 'three [03] months' from the final 'Bid Due Date'. A Bid valid for a shorter period may be rejected by GGPL as 'non-responsive'.

14.2 In exceptional circumstances, prior to expiry of the original 'Bid Validity Period', the Employer may request that the Bidders extend the 'Period of Bid Validity' for a specified additional period. The request and the responses thereto shall be made in writing or by fax/email. A Bidder may refuse the request without forfeiture of his 'Bid Security'. A Bidder agreeing to the request will not be required or permitted to modify his Bid, but will be required to extend the validity of its 'Bid Security' for the period of the extension and in accordance with "ITB: Clause-15" in all respects.



15 EARNEST MONEY/BID SECURITY

15.1 Bids must be accompanied with 'Earnest Money / Bid Security' in the form of 'Demand Draft' [in favor of GGPL, payable at Hyderabad] or 'Banker's Cheque' or 'Bank Guarantee'. Bidders shall ensure that Bank Guarantee, having a validity of at least SIX (6) months' beyond the validity of the bid, must accompany the Bid in the format(s) made available in the Bid Document. Bid not accompanied with 'Bid Security', or Bank Guarantee (not in requisite form) shall be liable for rejection.



15.2 The 'Bid Security' is required to protect GGPL against the risk of Bidder's conduct, which would warrant the 'Bid Security's' forfeiture.

15.3 GGPL shall not be liable to pay any Bank charges, commission or interest on the amount of 'Bid Security'. In case 'Bid Security' is in the form of a 'Bank Guarantee', the same shall be from any Indian scheduled Bank or a branch of an International Bank situated in India and registered with 'Reserve Bank of India' as Scheduled Foreign Bank. However, in case of 'Bank Guarantee' from Banks other than the Nationalized Indian Banks, the Bank must be commercial Bank having net worth in excess of Rs. 100 Crores [Rupees One Hundred Crores] and a declaration to this effect should be made by such commercial Bank either in the 'Bank Guarantee' itself or separately on its letterhead. 'Earnest Money / Bid Security' shall be valid for 'two [02] months' beyond the 'Bid Validity Period'

15.4 Any Bid not secured in accordance with "ITB: Clause-15" may be rejected by GGPL as non-responsive.

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- 15.5 Unsuccessful Bidder's 'Earnest Money / Bid Security' will be discharged/ returned as promptly as possible, but not later than 'thirty [30] days' after expiry of the 'Period of Bid Validity' prescribed by GGPL.
- 15.6 The successful Bidder's 'Bid Security' will be discharged within 30 days from the last date of supply of material and submission of PBG.
- 15.7 The 'Bid Security' may be forfeited:
- (a) If a Bidder withdraws his Bid during the 'Period of Bid Validity'
 - (b) In the case of a successful Bidder, if the Bidder fails:
 - (i) to accept the "Notification of Award" / "Fax of Acceptance [FOA]", or
 - (ii) to furnish "Contract Performance Security / Security Deposit"
 - (iii) to accept 'arithmetical corrections'
- 15.8 In case Bid Security is in the form of 'Bank Guarantee', the same must indicate the Bid Document No. and the Work for which the Bidder is quoting. This is essential to have proper correlation at a later date. The 'Bid Security' should be in the form provided in Tender Documents.
- 15.9 "Central Public Sector Undertakings of Government of India" and "Firms Registered with NSIC" are exempted from furnishing Bid Security, provided they are registered for the quoted items upto the monetary limit, they intend to quote and subject to their enclosing with their Bid a copy of latest and current 'Registration Certificate'.
- 16 PRE-BID MEETING – Not applicable
- 17 FORMAT AND SIGNING OF BID
- 17.1 The original and all copies of the Bid shall be typed or written in indelible ink [in the case of copies, photocopies are also acceptable] and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. The name and position held by each person signing, must be typed or printed below the signature. All pages of the Bid except for unamended printed literature where entry(s) or amendment(s) have been made shall be initialed by the person or persons signing the Bid.
- 17.2 The Bid shall contain no alterations, omissions, or additions, unless such corrections are initialed by the person or persons signing the Bid.
- 18 ZERO DEVIATION AND REJECTION CRITERIA
- 18.1 ZERO DEVIATION: Deviation to terms and conditions of "RFQ" may lead to rejection of bid. GGPL will accept bids based on terms & conditions of "RFQ" only. Bidder may note GGPL will determine the substantial responsiveness of each bid to the Bidding Documents. For purpose of this, a substantially responsive bid is one which conforms to all terms and conditions of the Bidding Documents without deviations or reservations. GGPL's determination of a bid's responsiveness is based on the content of the bid itself without recourse to
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extrinsic evidence. Technical and/or commercial query(s), if required, may be raised on the bidder(s) – the decision for which will be solely based on circumspection by GGPL. The response(s) to the same shall be in writing, and no change in the price(s) or substance of the bids shall be sought, offered or permitted. The substance of the bid includes but not limited to prices, completion, scope, technical specifications, etc. Bidders are requested to not to take any deviation/exception to the terms and conditions laid down in this "RFQ/Tender Document", and submit all requisite documents as mentioned in this "RFQ/Tender Document", failing which your offer will be liable for rejection.

- 18.2 REJECTION CRITERIA: Deviation to the following clauses of "RFQ" shall lead to rejection of Bid:
- (a) Firm Price
 - (b) Earnest Money / Bid Security
 - (c) Specifications & Scope of supply
 - (d) Special Conditions of Contract [SCC]
 - (e) General Conditions of Contract [GCC-Goods]
 - (f) Schedule of Rates / Price Schedule / Price Basis
 - (g) Duration of Contract/Completion Schedule
 - (h) Contract Performance Security / Security Deposit
 - (i) Guarantee / Defect Liability Period
 - (j) Force Majeure
 - (h) Period of Validity of Bid
 - (i) Price Reduction Schedule
 - (j) Arbitration / Jurisdiction of Court
 - (k) Force Majeure
 - (l) Documentary Evidence to Substantiate "BID EVALUATION CRITERIA [BEC]"

Note:

Further, it is once again reminded not to mention any condition in the Bid which is contradictory to the terms and conditions of "RFQ".

19 PAYMENT-TERMS

As per Special Conditions of Contract.

- 20 AGENT/CONSULTANT/REPRESENTATIVE/RETAINER/ASSOCIATE – NOT APPLICABLE



[D] – SUBMISSION OF BIDS

21 PREPARATION & SUBMISSION OF BIDS:

- 21.1 Bid shall be submitted through e-tender mode in the manner specified elsewhere in tender document. No Manual/ Hard Copy (Original) offer shall be acceptable.

22 DEADLINE FOR SUBMISSION OF BIDS

- 22.1 Bids must be uploaded online not later than the date and time specified in the RFQ.

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22.2 GGPL may, in exceptional circumstances and at its discretion, extend the deadline for submission of Bids. in which case all rights and obligations of GGPL and the Bidders, previously subject to the original deadline will thereafter be subject to the deadline as extended.

23 LATE BIDS (NOT APPLICABLE FOR E-TERNDERING)

23.1 Any bid received by the OWNER after the bid due date and time prescribed in the Bid Document shall be rejected.

23.2 Telefax/E-mail offers will not be considered and shall be rejected.

24 MODIFICATION AND WITHDRAWAL OF BIDS

24.1 The bidder may modify or withdraw his bid after the bid submission, but before the due date of submission.

24.2 No bid shall be modified after the deadline for submission of bids.

24.3 No bid shall be allowed to be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidder on the Bid Form. Withdrawal of a bid during this interval shall result in the bidder's forfeiture of his bid security.

[E] – BID OPENING AND EVALUATION

25 BID OPENING

GGPL will open bids (Part-I & III) at due date & time as stipulated in IFB. The bidder's names, the presence (or absence) and amount of bid security and any other such details as GGPL may consider appropriate will be announced by GGPL.



26 PROCESS TO BE CONFIDENTIAL

Information relating to the examination, clarification, evaluation, and comparison of Bids, and recommendations for the award of a Contract, shall not be disclosed to Bidders or any other persons officially concerned with such process. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

27 CONTACTING THE EMPLOYER

27.1 From the time of Bid opening to the time of award of Contract, if any Bidder wishes to contact the Employer on any matter related to the Bid, it should do so in writing.

27.2 Any effort by the Bidder to influence the Employer in the Employer's 'Bid Evaluation', 'Bid Comparison', or 'Contract Award' decisions may result in the rejection of the Bidder's Bid.

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28 EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS

28.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid,

- (a) Meets the "BEC" / 'techno-commercial requirements' of the Bidding Documents;
- (b) Has been properly signed;
- (c) Is accompanied by the required 'Earnest Money / Bid Security';
- (d) Is substantially responsive to the requirements of the Bidding Documents; and
- (e) Provides any clarification and/or substantiation that the Employer may require to determine responsiveness pursuant to "ITB: Clause-28.2"

28.2 A substantially responsive Bid is one which conforms to all the terms, conditions and specifications of the Bidding Documents without material deviations or reservations. A material deviation or reservation is one,

- (a) That affects in any substantial way the scope, quality, or performance of the works;
- (b) That limits in any substantial way, inconsistent with the Bidding Documents, the Employer's rights or the Bidder's obligations under the Contract; or
- (c) Whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive bids.

28.3 If a Bid is not substantially responsive, it may be rejected by the Employer and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.



29 CORRECTION OF ERRORS

28.1 The bids will be checked for any arithmetical errors as follows:

28.1.1 Rates should be quoted only in Figures. In case of any error in total indicated by the Bidder, the unit price alone shall be considered valid and binding on the Bidder.

If the bidder does not accept the correction of errors, its bid will be rejected and the bid security will be forfeited.

30 CONVERSION TO SINGLE CURRENCY FOR COMPARISON OF BIDS (NOT APPLICABLE)

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31 EVALUATION AND COMPARISON OF BIDS

31.1 Evaluation shall be done Itemwise and on FOT site basis. GGPL reserves the right to place order on one party or multiple parties at its own discretion.

32 PREFERENCE FOR DOMESTIC BIDDERS – NOT APPLICABLE

33 PURCHASE PREFERENCE:

33.1 Purchase preference to Central government public sector Undertaking shall be allowed as per Government instructions in vogue.

34 COMPENSATION FOR EXTENDED STAY – NOT APPLICABLE

[F] – AWARD OF CONTRACT

35 AWARD

Godavari Gas Private Limited shall award the Contract to the successful Bidder whose Bid has been determined to be substantially responsive and has been determined as the lowest is determined to be qualified to satisfactorily perform the Contract.

36 EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

GGPL reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids, at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligations to inform the affected Bidder or Bidders of the ground for GGPL's action.



37 NOTIFICATION OF AWARD / FAX OF ACCEPTANCE

37.1 Prior to the expiry of 'Period of Bid Validity', Godavari Gas Private Limited will notify the successful Bidder in writing, in the form of "Notification of Award" / "Fax of Acceptance [FOA]", through fax/e-mail, that his Bid has been accepted. In response, the successful Bidder will be required to confirm acceptance of the "Fax of Intent [FOI]/ Fax of Acceptance [FOA]".

37.2 'Time Period' shall be commenced from the date of "Notification of Award" or as may be mentioned in the "Letter of Acceptance [LOA]/ "Fax of Acceptance [FOA]". The "Letter of Acceptance [LOA]" will constitute the formation of a Contract, until the Contract has been affected pursuant to signing of Contract". Upon the successful Bidder's / Contractor's furnishing of 'Contract Performance Security / Security Deposit', pursuant to "ITB, GGPL will promptly notify each successful Bidder and will discharge his 'Earnest Money / Bid Security', pursuant to "ITB.

38 CORRUPT OR FRAUDULENT PRACTICES

38.1 GGPL requires that Contractor(s) observes the highest standard of ethics during the execution of the Contract. In pursuance of this policy, the Employer:

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- (a) Defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "Corrupt practice" means the offering, giving or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution; and
 - (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract to the detriment of the Employer, and includes collusive practice among Bidders [prior to or after Bid submission] designed to establish Bid prices at artificial noncompetitive levels and to deprive the Employer of the benefits of free and open competition.
- (b) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the Contract in question;
- (c) Will declare a Firm ineligible and put on Holiday, either indefinitely or for a stated period of time if it at any time determines that the Firm has engaged in corrupt/fraudulent practices in competing for, or in executing a Contract.

39 SUBMISSION OF FORGED DOCUMENTS:



39.1 Bidder is required to furnish the complete and correct information / documents required for evaluation of their bids. If the information / documents forming basis of evaluation is found to be false / forged, the same shall be considered adequate ground for rejection of the Bids.

In case, the information / document furnished by the vendor/contractor forming basis of evaluation of his bid is found to be false /forged after the award of the contract, GGPL shall have full right to terminate the contract and get the remaining job executed at the risk & cost of such vendor/contractor without any prejudice to other rights available to GGPL under the contract such as withholding of payment etc.



Incase this issue of submission of false document comes to the notice after execution of work, GGPL shall have full right to forfeit any amount due to the vendor/contractor.

Further, such bidder/vendor/contractor shall be put on Blacklist/Holiday List of APGDC/HPCL/GGPL debarring them from future business with GGPL.

===== X =====

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SECTION-III
GENERAL CONDITIONS OF CONTRACT
[GCC - GOODS]

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General Conditions of Contract-GOODS

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General Conditions of Contract (Goods)

1. Definitions

In this document, General Conditions of Contract (GCC-Goods), the following terms shall have the following respective meanings:

1.0 BIDDER : Designates the individual or legal entity which has made a proposal, a tender or a bid with the aim of concluding a Contract with the PURCHASER.

1.1 CONSULTANT [if engaged] shall mean M/s.having its registered office at..... The term consultant includes successors, assigns of M/s.

1.2 CONTRACT shall mean Purchase Order/Contract and all attached exhibits and documents referred to therein and all terms and conditions thereof together with any subsequent modifications thereto.

1.3 CONTRACT PRICE shall mean the price payable to the Seller under the Contract for the full and proper performance of his contractual obligations.

1.4 COMPLETION DATE shall mean the date on which the goods are successfully commissioned by the Seller and handed over to the PURCHASER.

1.5 COMMERCIAL OPERATION shall mean the condition of the operation in which the complete equipment covered under the Contract is officially declared by the PURCHASER to be available for continuous operation at different loads up to and including rated capacity.

1.6 DELIVERY terms shall be interpreted as per INCO TERMS 2000 in case of Contract with a foreign Bidder and as the date of LR/GR in the case of a contract with an Indian Bidder.

1.7 DRAWINGS shall mean and include Engineering drawings, sketches showing plans, sections and elevations in relation to the Contract together with modifications and/or revisions thereto.



1.8 ENGINEER or Engineer-in-Charge of the Project SITE shall mean the person designated from time to time by PURCHASER/CONSULTANT at SITE and shall include those who are expressly authorized by him to act for and on his behalf for operation of this CONTRACT.

1.9 FINAL ACCEPTANCE shall mean the PURCHASER's written acceptance of the Works performed under the Contract after successful completion of performance and guarantee test.

1.10 GOODS shall mean articles, materials, equipment, design and drawings, data and other property to be supplied by Seller to complete the contract.

1.11 INSPECTOR shall mean any person or outside Agency nominated by PURCHASER/CONSULTANT through CONSULTANT to inspect equipment, stagewise as well as final, before dispatch, at SELLER's works and on receipt at SITE as per terms of the CONTRACT.

1.12 INITIAL OPERATION shall mean the first integral operation of the complete equipment covered under the Contract with sub-systems and supporting equipment in service or available for service.

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1.13 PURCHASER shall mean GGPL (GGPL) having its registered office at 16, BHIKAJI CAMA PLACE, R.K.PURAM, HYDERABAD-110066 (INDIA). The term PURCHASER includes successors, assigns of GGPL.

1.14 PERFORMANCE AND GUARANTEE TESTS shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency and operating characteristics as specified in the Contract documents.

PROJECT designates the aggregate of the Goods and/or Services to be provided by one or more Contractors.

Quantities – Bills of quantities

Bills of quantities

Designate the quantity calculations to be taken into account when these calculations are made from detailed or construction drawings, or from work actually performed, and presented according to a jointly agreed breakdown of the Goods and/or Services.

1.15 SELLER shall mean the person, firm or company with whom PURCHASE ORDER/CONTRACT is placed/ entered into by PURCHASER for supply of equipment, materials and services. The term Seller includes its successors and assigns.

1.16 SERVICE shall mean erection, installation, testing, commissioning, provision of technical assistance, training and other such obligations of the Seller covered under the Contract.



1.17 SITE designates the land and/or any other premises on, under, in or across which the Goods and/or Services have to be supplied, erected, assembled, adjusted, arranged and/or commissioned.

1.18 SPECIFICATIONS shall mean and include schedules, details, description, statement of technical data, performance characteristics, standards (Indian as well as International) as applicable and specified in the Contract.

1.19 SUB-CONTRACT shall mean order placed by the Seller, for any portion of the contracted work, after necessary consent and approval of PURCHASER.

1.20 SUB-CONTRACTOR shall mean the person named in the CONTRACT for any part of the work or any person to whom any part of the CONTRACT has been sub-let by the SELLER with the consent in writing of the CONSULTANT/PURCHASER and will include the legal representatives, successors, and permitted assigns of such person.

1.21 START-UP shall mean the time period required to bring the equipments covered under the Contract from an inactive condition, when construction is essentially complete to the state of readiness for trial operation. The start-up period shall include preliminary inspection and check out of equipment and supporting subsystems, initial operation of the complete equipments covered under the Contract to obtain necessary pre-trial operation data, perform calibration and corrective action, shutdown inspection and adjustment prior to the trial operation period.

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1.22 TESTS shall mean such process or processes to be carried out by the Seller as are prescribed in the Contract or considered necessary by PURCHASER or his representative in order to ascertain quality, workmanship, performance and efficiency of equipment or part thereof.

1.23 TESTS ON COMPLETION shall mean such tests as prescribed in the Contract to be performed by the Seller before the Works are taken over by the PURCHASER.

2. Seller To Inform

2.1 The Seller shall be deemed to have carefully examined all contract documents to his entire satisfaction. Any lack of information shall not in any way relieve the Seller of his responsibility to fulfill his obligation under the Contract.

3. Application

3.1 These General Conditions of Contract (GCC-Goods) shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

4. Country of Origin

4.1 For purposes of this Clause “origin” means the place where the Goods were mined, grown or produced, or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.



5. Scope of Contract

5.1 Scope of the CONTRACT shall be as defined in the PURCHASE ORDER/CONTRACT specifications, drawings and Annexure thereto.

5.2 Completeness of the EQUIPMENT shall be the responsibility of the SELLER. Any equipment, fittings and accessories which may not be specifically mentioned in the specifications or drawings, but which are usual or necessary for the satisfactory functioning of the equipment (successful operation and functioning of the EQUIPMENT being SELLER’s responsibility) shall be provided by SELLER without any extra cost.

5.3 The SELLER shall follow the best modern practices in the manufacture of high grade EQUIPMENT notwithstanding any omission in the specifications. The true intent and meaning of these documents is that SELLER shall in all respects, design, engineer, manufacture and supply the equipment in a thorough workmanlike manner and supply the same in prescribed time to the entire satisfaction of PURCHASER.

5.4 The SELLER shall furnish twelve (12) copies in English language of Technical documents, final drawings, preservation instructions, operation and maintenance

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manuals, test certificates, spare parts catalogues for all equipments to the PURCHASER.

5.5 The documents once submitted by the SELLER shall be firm and final and not subject to subsequent changes. The SELLER shall be responsible for any loss to the PURCHASER/CONSULTANT consequent to furnishing of incorrect data/drawings.

5.6 All dimensions and weight should be in metric system.

5.7 All equipment to be supplied and work to be carried out under the CONTRACT shall conform to and comply with the provisions of relevant regulations/Acts(State Government or Central Government) as may be applicable to the type of equipment/work carried out and necessary certificates shall be furnished.

5.8 The Seller shall provide cross sectional drawings, wherever applicable, to identify the spare part numbers and their location. The size of bearings, their make and number shall be furnished.

5.9 Specifications, design and drawings issued to the SELLER alongwith RFQ and CONTRACT are not sold or given but loaned. These remain property of PURCHASER/CONSULTANT or its assigns and are subject to recall by PURCHASER/CONSULTANT. The SELLER and his employees shall not make use of the drawings, specifications and technical information for any purpose at any time except for manufacture against the CONTRACT and shall not disclose the same to any person, firm or corporate body, without written permission of PURCHASER/CONSULTANT. All such details shall be kept confidential.

5.10 SELLER shall pack, protect, mark and arrange for despatch of EQUIPMENT as per instructions given in the CONTRACT.

6. Standards



6.1 The GOODS supplied under the CONTRACT shall conform to the standards mentioned in the Technical Specifications, or such other standards which ensure equal or higher quality, and when no applicable standard is mentioned, to the authoritative standard appropriate to the GOODS' country of origin and such standards shall be the latest issued by the concerned institution.

7. Instructions, Direction & Correspondence

7.1 The materials described in the CONTRACT are to be supplied according to the standards, data sheets, tables, specifications and drawings attached thereto and/or enclosed with the CONTRACT, itself and according to all conditions, both general and specific enclosed with the contract, unless any or all of them have been modified or cancelled in writing as a whole or in part.

a. All instructions and orders to SELLER shall, excepting what is herein provided, be given by PURCHASER/CONSULTANT.

b. All the work shall be carried out under the direction of and to the satisfaction of PURCHASER/CONSULTANT.

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c. All communications including technical/commercial clarifications and/or comments shall be addressed to CONSULTANT in quintuplicate with a copy to PURCHASER and shall always bear reference to the CONTRACT.

d. Invoices for payment against CONTRACT shall be addressed to PURCHASER.

e. The CONTRACT number shall be shown on all invoices, communications, packing lists, containers and bills of lading, etc.

8. Contract Obligations

8.1 If after award of the contract, the Seller does not acknowledge the receipt of award or fails to furnish the performance guarantee within the prescribed time limit, the PURCHASER reserves the right to cancel the contract and apply all remedies available to him under the terms and conditions of this contract.

8.2 Once a contract is confirmed and signed, the terms and conditions contained therein shall take precedence over the Seller's bid and all previous correspondence.

9. Modification In Contract



9.1 All modifications leading to changes in the CONTRACT with respect to technical and/or commercial aspects including terms of delivery, shall be considered valid only when accepted in writing by PURCHASER/CONSULTANT by issuing amendment to the CONTRACT. Issuance of acceptance or otherwise in such cases shall not be any ground for extension of agreed delivery date and also shall not affect the performance of contract in any manner except to the extent mutually agreed through a modification of contract.

9.2 PURCHASER/CONSULTANT shall not be bound by any printed conditions or provisions in the SELLER's Bid Forms or acknowledgment of CONTRACT, invoices, packing list and other documents which purport to impose any conditions at variance with or supplemental to CONTRACT.

10. Use of Contract Documents & Information

10.1 The Seller shall not, without the PURCHASER's/ CONSULTANT's prior written consent, disclose the CONTRACT or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the PURCHASER in connection therewith, to any person other than a person employed by the SELLER in the performance of the CONTRACT. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purpose of such performance.

10.2 The SELLER shall not, without the PURCHASER's prior written consent, make use of any document or information enumerated in Article 10.1. except for purpose of performing the CONTRACT.

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11. Patent Rights, Liability & Compliance of Regulations

11.1 SELLER hereby warrants that the use or sale of the materials delivered hereunder will not infringe claims of any patent covering such material and SELLER agrees to be responsible for and to defend at his sole expense all suits and proceedings against PURCHASER based on any such alleged patent infringement and to pay all costs, expenses and damages which PURCHASER and/or CONSULTANT may have to pay or incur by reason of any such suit or proceedings.

11.2 The SELLER shall indemnify the PURCHASER against all third party claims of infringement of patent, trade mark or industrial design rights arising from use of the GOODS or any part thereof in the PURCHASER's country.

11.3 SELLER shall also protect and fully indemnify the PURCHASER from any claims from SELLER'S workmen/employees or their heirs, dependants, representatives, etc. or from any other person/persons or bodies/companies etc. for any acts of commissions or omission while executing the CONTRACT.

11.4 SELLER shall be responsible for compliance with all requirements under the laws and shall protect and indemnify completely the PURCHASER from any claims/penalties arising out of any infringements.

12. Performance Guarantee

12.1 Within 15 days after the SELLER's receipt of notification of award of the CONTRACT, the SELLER shall furnish Performance Guarantee in the form of Bank Guarantee/irrevocable Letter of Credit to the PURCHASER, in the form provided in the Bidding Documents, for an amount equivalent to 10% of the total value of the CONTRACT.



12.2 The proceeds of Performance Guarantee shall be appropriated by the PURCHASER as compensation for any loss resulting from the SELLER's failure to complete his obligations under the CONTRACT without prejudice to any of the rights or remedies the PURCHASER may be entitled to as per terms and conditions of CONTRACT. The proceeds of this Performance Guarantee shall also govern the successful performance of Goods and Services during the entire period of Contractual Warrantee/Guarantee.

12.3 The performance guarantee shall be denominated in the currency of the CONTRACT.

12.4 The Performance Guarantee shall be valid for the duration of 90 days beyond the expiry of Warrantee/Guarantee period. The Bank Guarantee will be discharged by PURCHASER not later than 6 months from the date of expiration of the Seller's entire obligations, including any warrantee obligations, under the CONTRACT.

13. Inspection, Testing & Expediting

13.1 The PURCHASER or its representative shall have the right to inspect and/or to test the GOODS to confirm their conformity to the CONTRACT specifications.

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The special conditions of CONTRACT and/or the Technical Specifications shall specify what inspections and tests the PURCHASER requires and where they are to be conducted. The PURCHASER shall notify the SELLER in writing the identity of any representative(s) retained for these purposes.

13.2 The inspections and tests may be conducted on the premises of the SELLER or his sub-contractor(s), at point of DELIVERY and/or at the GOODS' final destination, When conducted on the premises of the SELLER or his sub-contractor (s), all reasonable facilities and assistance including access to the drawings and production data shall be furnished to the inspectors at no charge to the PURCHASER.

13.3 Should any inspected or tested GOODS fail to conform to the specifications, the PURCHASER may reject them and the SELLER shall either replace the rejected GOODS or make all alterations necessary to meet Specifications' requirements, free of cost to the PURCHASER.

13.4 The PURCHASER's right to inspect, test and where necessary reject the GOODS after the GOODS' arrival in the PURCHASER's country shall in no way be limited or waived by reason of the GOODS having previously been inspected, tested and passed by the PURCHASER, or their representative prior to the GOODS shipment from the country of origin.

13.5 The INSPECTOR shall follow the progress of the manufacture of the GOODS under the CONTRACT to ensure that the requirements outlined in the CONTRACT are not being deviated with respect to schedule and quality.



13.6 SELLER shall allow the INSPECTOR to visit, during working hours, the workshops relevant for execution of the CONTRACT during the entire period of CONTRACT validity.

13.7 In order to enable PURCHASER's representatives to obtain entry visas in time, SELLER shall notify PURCHASER two months before assembly, testing and packing of main EQUIPMENT. If requested, SELLER shall assist PURCHASER's representatives in getting visas in the shortest possible time (applicable only in case of foreign order).

13.8 SELLER shall place at the disposal of the INSPECTOR, free of charge, all tools, instruments, and other apparatus necessary for the inspection and/or testing of the GOODS. The INSPECTOR is entitled to prohibit the use and dispatch of GOODS and/or materials which have failed to comply with the characteristics required for the GOODS during tests and inspections.

13.9 SELLER shall advise in writing of any delay in the inspection program at the earliest, describing in detail the reasons for delay and the proposed corrective action.

13.10 ALL TESTS and trials in general, including those to be carried out for materials not manufactured by SELLER shall be witnessed by the INSPECTOR. Therefore, SELLER shall confirm to PURCHASER by fax or e-mail about the exact date of inspection with at least 30 days notice. SELLER shall specify the GOODS and quantities ready for testing and indicate whether a preliminary or final test is to be carried out.

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13.11 If on receipt of this notice, PURCHASER should waive the right to witness the test, timely information will be given accordingly.

13.12 Any and all expenses incurred in connection with tests, preparation of reports and analysis made by qualified laboratories, necessary technical documents, testing documents and drawings shall be at SELLER's cost. The technical documents shall include the reference and numbers of the standards used in the construction and, wherever deemed practical by the INSPECTOR, copy of such standards.

13.13 Nothing in Article-13 shall in any way release the SELLER from any warrantee or other obligations under this CONTRACT.

13.14 Arrangements for all inspections required by Indian Statutory Authorities and as specified in technical specifications shall be made by SELLER.

13.15 Inspection & Rejection of Materials by consignees

When materials are rejected by the consignee, the supplier shall be intimated with the details of such rejected materials, as well as the reasons for their rejection, also giving location where such materials are lying at the risk and cost of the contractor/supplier. The supplier will be called upon either to remove the materials or to give instructions as to their disposal within 14 days and in the case of dangerous, infected and perishable materials within 48 hours, failing which the consignee will either return the materials to the contractor freight to pay or otherwise dispose them off at the contractor's risk and cost. The PURCHASER shall also be entitled to recover handling and storage charges for the period, during which the rejected materials are not removed @ 5% of the value of materials for each month or part of a month till the rejected materials are finally disposed off.

14. Time Schedule & Progress Reporting

14.1 Time Schedule Network/Bar Chart

14.1.1 Together with the Contract confirmation, SELLER shall submit to PURCHASER, his time schedule regarding the documentation, manufacture, testing, supply, erection and commissioning of the GOODS.

14.1.2 The time schedule will be in the form of a network or a bar chart clearly indicating all main or key events regarding documentation, supply of raw materials, manufacturing, testing, delivery, erection and commissioning.



14.1.3 The original issue and subsequent revisions of SELLER's time schedule shall be sent to PURCHASER.

14.1.4 The time schedule network/bar chart shall be updated at least every second month.

14.2 Progress Trend Chart/Monthly Report

14.2.1 SELLER shall report monthly to PURCHASER, on the progress of the execution of CONTRACT and achievement of targets set out in time bar chart.

14.2.2 The progress will be expressed in percentages as shown in the progress trend chart attached to the Time Schedule specification.

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14.2.3 The first issue of the Progress Trend Chart will be forwarded together with the time bar chart alongwith CONTRACT confirmation.

14.3.1 PURCHASER's/CONSULTANT's representatives shall have the right to inspect SELLER's premises with a view to evaluating the actual progress of work on the basis of SELLER's time schedule documentation.

14.3.2 Irrespective of such inspection, SELLER shall advise CONSULTANT, with copy to PURCHASER, at the earliest possible date of any anticipated delay in the progress.

14.4 Notwithstanding the above, in case progress on the execution of contract at various stages is not as per phased time schedule and is not satisfactory in the opinion of the PURCHASER/CONSULTANT which shall be conclusive or SELLER shall neglect to execute the CONTRACT with due diligence and expedition or shall contravene the provisions of the CONTRACT, PURCHASER/CONSULTANT may give notice of the same in writing to the SELLER calling upon him to make good the failure, neglect or contravention complained of. Should SELLER fail to comply with such notice within the period considered reasonable by PURCHASER/CONSULTANT, the PURCHASER/CONSULTANT shall have the option and be at liberty to take the CONTRACT wholly or in part out of the SELLER's hand and make alternative arrangements to obtain the requirements and completion of CONTRACT at the SELLER's risk and cost and recover from the SELLER, all extra cost incurred by the PURCHASER on this account. In such event PURCHASER/CONSULTANT shall not be responsible for any loss that the SELLER may incur and SELLER shall not be entitled to any gain. PURCHASER/CONSULTANT shall, in addition, have the right to encash Performance Guarantee in full or part.

15. Delivery & Documents

15.1 Delivery of the GOODS shall be made by the SELLER in accordance with terms specified in the CONTRACT, and the goods shall remain at the risk of the SELLER until delivery has been completed.



15.2 Delivery shall be deemed to have been made :

a) In the case of FOB, CFR & CIF Contracts, when the Goods have been put on board the ship, at the specified port of loading and a clean Bill of Lading is obtained. The date of Bill of Lading shall be considered as the delivery date.

b) In case of FOT despatch point contract (For Indian bidder), on evidence that the goods have been loaded on the carrier and a negotiable copy of the GOODS receipt obtained. The date of LR/GR shall be considered as the date of delivery.

c) In case of FOT site (for Indian bidders) on receipt of goods by PURCHASER/Consultant at the designated site(s).

15.3 The delivery terms are binding and essential and consequently, no delay is allowed without the written approval of PURCHASER/CONSULTANT. Any request concerning delay will be void unless accepted by PURCHASER/CONSULTANT through a modification to the CONTRACT.

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15.4 Delivery time shall include time for submission of drawings for approval, incorporation of comments, if any, and final approval of drawings by PURCHASER/CONSULTANT.

15.5 In the event of delay in delivery, Price Reduction Schedule as stipulated in Article – 26 shall apply.

15.6 The documentation, in English Language, shall be delivered in due time, in proper form and in the required number of copies as specified in the contract.

15.7 The additional copies of final drawings and instructions will be included in the package of goods, properly enveloped and protected.

15.8 The SELLER should comply with the Packing, Marking and Shipping Documentation Specifications enclosed.

16. Transit Risk Insurance

All goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

17. Transportation

17.1 Where the SELLER is required under the CONTRACT to deliver the GOODS on FOT Site basis which is including all costs and Transit Insurance and the cost thereof shall be included in the Contract price.

18. Incidental Services

18.1 The Seller may be required to provide any or all of the following services:

18.1.1 Performance or supervision of onsite assembly and/or start-up of the supplied Goods:



18.1.2 Furnishing tools required for assembly and/or maintenance of the supplied Goods:

18.1.3 Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Seller of any warranty/guarantee obligations under the Contract.

18.1.4 Training of the Purchaser's personnel at the Seller's plant and/or at Site, in assembly, start-up operation, maintenance and/or repair of the supplied Goods at no extra cost. However, Purchaser will bear boarding, lodging & personal expenses of Trainees.

18.2 Prices charged by the Seller for the preceding incidental services, shall not exceed the prevailing rates charged to other parties by the Seller for similar services.

18.3 When required, Seller shall depute necessary personnel for supervision and/or erection of the Equipment at site for duration to be specified by Purchaser on mutually agreed terms. Seller's personnel shall be available at Site within

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seven days for emergency action and twenty-one days for medium and long-term assistance, from the date of notice given by Purchaser.

18.4 The cost of incidental services shall not be included in the quoted prices. The cost of applicable incidental services should be shown separately in the price schedules.

19. Spare Parts, Maintenance Tools, Lubricants

19.1 Seller may be required to provide any or all of the following materials and notification pertaining to spare parts manufactured or distributed by the Seller.

19.1.1 Such spare parts as the Purchaser may opt to purchase from the Seller, provided that his option shall not relieve the Seller of any warranty obligations under the Contract, and

19.1.2 In the event of termination of production of the spare parts:

i) Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements, and

ii) Following such termination, furnishing at no cost to the Purchaser, the blue prints, drawings and specifications of the spare parts, if any when requested.

19.2 Seller shall supply item wise list with value of each item of spare parts and maintenance tools requirements,

along with full details of manufacturers/vendors for such spares/maintenance tools for :

19.2.1 The construction, execution and commissioning.

19.2.2 Two years operation and maintenance.

19.3 Spare parts shall be new and of first class quality as per engineering standards/ codes, free of any defects (even concealed), deficiency in design, materials and workmanship and also shall be completely interchangeable with the corresponding parts.

19.4 Type and sizes of bearings shall be clearly indicated.



19.5 Spare parts shall be packed for long storage under tropical climatic conditions in suitable cases, clearly marked as to intended purpose.

19.6 A list of special tools and gauges required for normal maintenance and special handling and lifting appliances, if any, for the Goods shall be submitted to Purchaser.

19.7 Bidders should note that if they do not comply with Clause 19.2 above, their quotation may be rejected.

19.8 Lubricants

19.8.1 Whenever lubricants are required, Seller shall indicate the quantity of lubricants required for the first filling, the frequency of changing, the quantity of lubricants required for the one year's continuous operation and the types of recommended lubricants indicating the commercial name (trade-mark), quality and grade.

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19.8.2 If Seller is unable to recommend specific oil, basic recommended characteristics of the lubricants shall be given.

19.8.3 Seller shall indicate various equivalent lubricants available in India.

20. Guarantee



20.1 All Goods or Materials shall be supplied strictly in accordance with the specifications, drawings, data sheets, other attachments and conditions stated in the Contract.

No deviation from such specifications or alterations or of these conditions shall be made without PURCHASER'S /CONSULTANT'S agreement in writing which must be obtained before any work against the order is commenced. All materials supplied by the SELLER pursuant to the Contract (irrespective of whether engineering, design data or other information has been furnished, reviewed or approved by PURCHASER/CONSULTANT) are guaranteed to be of the best quality of their respective kinds (unless otherwise specifically authorised in writing by PURCHASER/CONSULTANT) and shall be free from faulty design, workmanship and materials, and to be of sufficient size and capacity and of proper materials so as to fulfill in all respects all operating conditions, if any, specified in the Contract.

If any trouble or defect, originating with the design, material, workmanship or operating characteristics of any materials, arises at any time prior to twelve(12) months from the date of the first commercial operation of the Plant for which the materials supplied under the Contract form a part thereof, or twenty four (24) months from the date of last shipment whichever period shall first expire, and the SELLER is notified thereof, SELLER shall, at his own expense and as promptly as possible, make such alterations, repairs and replacements as may necessary to permit the materials to function in accordance with the specifications and to fulfil the foregoing guarantees.

PURCHASER/CONSULTANT may, at his option, remove such defective materials, at SELLER'S expense in which event SELLER shall, without cost to PURCHASER/CONSULTANT and as promptly as possible, furnish and install proper materials. Repaired or replaced materials shall be similarly guaranteed by the SELLER for a period of no less than twelve (12) months from the date of replacement/repair.

In the event that the materials supplied do not meet the specifications and/or not in accordance with the drawings data sheets or the terms of the Contract and rectification is required at site, PURCHASER/ CONSULTANT shall notify the SELLER giving full details of differences. The SELLER shall attend the site within seven (7) days of receipt of such notice to meet and agree with representatives of PURCHASER/ CONSULTANT, the action required to correct the deficiency. Should the SELLER fail to attend meeting at Site within the time specified above, PURCHASER/ CONSULTANT shall immediately rectify the work/ materials and SELLER shall reimburse PURCHASER all costs and expenses incurred in connection with such trouble or defect.

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20.2 PERFORMANCE GUARANTEE OF EQUIPMENT

20.2.1 SELLER shall guarantee that the performance of the EQUIPMENT supplied under the CONTRACT shall be strictly in conformity with the specifications and shall perform the duties specified under the CONTRACT.

20.2.2 If the SELLER fails to prove the guaranteed performance of the EQUIPMENT set forth in the specification, the SELLER shall investigate the causes and carry out necessary rectifications/modifications to achieve the guaranteed performance. In case the SELLER fails to do so within a reasonable period, the SELLER shall replace the EQUIPMENT and prove guaranteed performance of the new equipment without any extra cost to PURCHASER.

20.2.3 If the SELLER fails to prove the guarantee within a reasonable period, PURCHASER/CONSULTANT shall

have the option to take over the EQUIPMENT and rectify, if possible, the EQUIPMENT to fulfil the guarantees and/or to make necessary additions to make up the deficiency at Seller's risk and cost. All expenditure incurred by the PURCHASER/ CONSULTANT in this regard shall be to SELLER's account.

21. Terms of Payment

21.1 The method of payment to be made to the SELLER under this CONTRACT shall be specified in the Special Conditions of Contract.



21.2 The type(s) of payment to be made to the SELLER under this CONTRACT shall be specified in the Special Conditions of Contract.

21.3 The SELLER's request(s) for payment shall be made to the PURCHASER in writing accompanied by an invoice describing, as appropriate, the Goods delivered and services performed, and by shipping documents submitted, and upon fulfillment of other obligations stipulated in the Contract.

21.5 Payment will be made in the currency or currencies in which the Contract Price has been stated in the SELLER's bid, as well as in other currencies in which the SELLER had indicated in his bid that he intends to incur expenditure in the performance of the Contract and wishes to be paid. If the requirements are stated as a percentage of the bid price along with exchange rates used in such calculations these exchange rates shall be maintained.

General Notes:

i) All foreign currency payments to foreign bidder shall be released through an irrevocable Letter of Credit, which shall be opened through Government of India Nationalised Bank and hence shall not be confirmed. In case any bidder insists on confirmation, charges towards confirmation shall be borne by him. L/C shall be established within 30 days after receipt of unconditional acceptance of Letter/Fax of Intent together with Performance Guarantee for 10% of total order/Contract value.

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ii) For dispatches on FOT dispatch point (in India) basis, the payment shall be through PURCHASER's bank. Payment through Bank, wherever applicable, shall be released as per normal banking procedures.

iii) Payment shall be released within 30 days after receipt of relevant documents complete in all respects.

iv) All bank charges incurred in connection with payments shall be to Seller's account in case of

Indian bidders and to respective accounts in case of Foreign bidder.

v) Unless otherwise specifically stated in bid document, all payments shall be made in the currency quoted.

vi) No interest charges for delay in payments, if any, shall be payable by PURCHASER.

vii) In case of Indian bidder, variation, if any, on account of customs duty on their built-in- import content, as per terms of bid document, shall be claimed separately by bidder after receipt of goods at site (s). However, any price benefits to the PURCHASER, on account of such variation as per terms specified in the bid document, shall be passed on to the PURCHASER along with invoicing itself.

viii) Agency commission, if any, to Indian agent for Foreign bidders, indicated in prices, shall be paid to the agent in equivalent Indian Rupees on receipt and acceptance of material at site.

22. Prices

22.1 Prices charged by the SELLER for Goods delivered and services performed under the CONTRACT shall not, with the exception of any price adjustments authorized by the Contract vary from the prices quoted by the SELLER in his bid.

23. Subletting & Assignment



23.1 The contractor shall not without previous consent in writing of the PURCHASER authority, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever. Provided, nevertheless, that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.

24. Time As Essence of Contract

24.1 The time and date of delivery/completion of the GOODS/SERVICES as stipulated in the Contract shall be deemed to be the essence of the Contract.

25. Delays In The Seller's Performance

25.1 If the specified delivery schedule is not adhered to or the progress of manufacture or supply of the items is not satisfactory or is not in accordance with the progress schedule the PURCHASER has the right to:

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i) hire for period of delay from elsewhere goods which in PURCHASER's opinion will meet the same purpose as the goods which are delayed and SELLER shall be liable without limitation for the hire charges; or

ii) cancel the CONTRACT in whole or in part without liability for cancellation charges. In that event, PURCHASER may procure from elsewhere goods which PURCHASER's opinion would meet the same purpose as the goods for which is cancelled and SELLER shall be liable without limitations for the difference between the cost of such substitution and the price set forth in the CONTRACT for the goods involved; or

iii) hire the substitute goods vide (I) above and if the ordered goods continue to remain undelivered thereafter, cancel the order in part or in full vide (ii) above.

25.2 Any unexcusable delay by the SELLER or his sub-contractor shall render the SELLER liable, without prejudice to any other terms of the Contract, to any or all of the following sanctions: forfeiture of Contract performance guarantee, imposition of price reduction for delay in delivery and termination of the contract for default.

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.

26.2 In case of delay in delivery on the part of Seller, the invoice/document value shall be reduced proportionately for the delay and payment shall be released accordingly.

26.3 In the event the invoice value is not reduced proportionately for the delay, the PURCHASER may deduct the amount so payable by SELLER, from any amount falling due to the SELLER or by recovery against the Performance Guarantee.

Both seller and PURCHASER agree that the above percentages of price reduction are genuine pre estimates of the loss/damage which the PURCHASER would have suffered on account of delay/breach on the part of the SELLER and the said amount will be payable on demand without there being any proof of the actual loss/or damage caused by such breach/delay. A decision of the PURCHASER in the matter of applicability of price reduction shall be final and binding.

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27. Rejections, Removal of Rejected Equipment & Replacement

27.1 Preliminary inspection at SELLER's works by INSPECTOR shall not prejudice PURCHASER's/ CONSULTANT's claim for rejection of the EQUIPMENT on final inspection at SITE or claims under warranty provisions.

27.2 If the EQUIPMENTS are not of specification or fail to perform specified duties or are otherwise not satisfactory the PURCHASER/CONSULTANT shall be entitled to reject the EQUIPMENT/MATERIAL or part thereof and ask free replacement within reasonable time failing which obtain his requirements from elsewhere at SELLER's cost and risk.

27.3 Nothing in this clause shall be deemed to deprive the PURCHASER AND/OR AFFECT ANY rights under the Contract which it may otherwise have in respect of such defects or deficiencies or in any way relieve the SELLER of his obligations under the Contract.

27.4 EQUIPMENT rejected by the PURCHASER/ CONSULTANT shall be removed by the Seller at his cost within 14 days of notice after repaying the amounts received against the SUPPLY. The PURCHASER shall in no way be responsible for any deterioration or damage to the EQUIPMENT under any circumstances whatsoever.

27.5 In case of rejection of EQUIPMENT, PURCHASER shall have the right to recover the amounts, if any, from any of CONTRACTOR'S invoices pending with PURCHASER or by alternative method(s).

28. Termination of Contract

28.1 Termination for Default

28.1.1 The PURCHASER may, without prejudice to any other remedy for breach of CONTRACT, by written notice of default sent to the SELLER, terminate the CONTRACT in whole or in part:

A) If the SELLER fails to deliver any or all of the GOODS within the time period(s) specified in the CONTRACT; or



B) If the SELLER fails to perform any other obligation(s) under the CONTRACT, and

C) If the SELLER, in either of the above circumstances, does not cure his failure within a period of 30 days (or such longer period as the PURCHASER may authorize in writing) after receipt of the default notice from the PURCHASER.

28.1.2 In the event the PURCHASER terminates the CONTRACT in whole or in part, pursuant to Article 28.1.1, the PURCHASER may procure, upon such terms and in such manner as it deems appropriate, goods similar to those undelivered and the SELLER shall be liable to the PURCHASER for any excess costs for such similar GOODS. However, the SELLER shall continue performance of the CONTRACT to the extent not terminated.

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General Conditions of Contract (Goods)

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28.1.3 In case of termination of CONTRACT herein set forth (under clause 28) except under conditions of Force Majeure and termination after expiry of contract, the VENDOR shall be put under holiday [i.e. neither any enquiry will be issued to the party by GGPL Against any type of tender nor their offer will be considered by GGPL against any ongoing tender (s) where contract between GGPL and that particular VENDOR (as a bidder) has not been finalized] for three years from the date of termination by GGPL to such VENDOR.

28.2 Termination for Insolvency

28.2.1 The PURCHASER, may at any time, terminate the CONTRACT by giving written notice to the SELLER, without compensation to the SELLER, if the SELLER becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the PURCHASER.

28.3 Termination for Convenience

28.3.1 The PURCHASER may, by written notice sent to the SELLER, terminate the CONTRACT, in whole or part, at any time for his convenience. The notice of termination shall specify that termination is for the PURCHASER's convenience, the extent to which performance of work under the CONTRACT is terminated and the date upon which such termination becomes effective.

28.3.2 The GOODS that are complete and ready for shipment within 30 days after the SELLER's receipt of notice of termination shall be purchased by the PURCHASER at the CONTRACT terms and prices. For the remaining GOODS, the PURCHASER may opt:

- a) to have any portion completed and delivered at the CONTRACT terms and prices, and /or
- b) to cancel the remainder and pay to the SELLER an agreed amount for partially completed GOODS and for materials and parts previously procured by the SELLER.



29. Force Majeure

29.1 Shall mean and be limited to the following:

- a) War/hostilities
- b) Riot or Civil commotion
- c) Earthquake, flood, tempest, lightening or other natural physical disaster.
- d) Restrictions imposed by the Government or other Statutory bodies which prevents or delays the execution of the Contract by the SELLER.

The SELLER shall advise PURCHASER/ CONSULTANT by a registered letter duly certified by the local Chamber of Commerce or statutory authorities, the beginning and end of the above causes of delay

within seven (7) days of the occurrence and cessation of such Force Majeure Conditions. In the event of delay lasting over one month, if arising out of causes of Force Majeure, PURCHASER/CONSULTANT reserves the right to cancel the

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Contract and the provisions governing termination stated under Article 28.0 shall apply.

For delays arising out of Force Majeure, the SELLER shall not claim extension in completion date for a period exceeding the period of delay attributable to the causes of Force Majeure and neither PURCHASER/CONSULTANT nor SELLER shall be liable to pay extra costs provided it is mutually established that Force Majeure Conditions did actually exist.

SELLER shall categorically specify the extent of Force Majeure Conditions prevalent in their works at the time of submitting their bid and whether the same have been taken into consideration or not in their quotations. In the event of any force majeure cause, the SELLER or the PURCHASER shall not be liable for delays in performing their obligations under this order and the delivery dates will be extended to the SELLER without being subject to price reduction for delayed deliveries, as stated elsewhere.

30 Resolution of Disputes/Arbitration

30.1 The PURCHASER and the SELLER shall make every effort to resolve amicably by direct informal negotiations any disagreement or dispute arising between them under or in connection with the contract.

30.2 If, after thirty days from the commencement of such informal negotiations, the PURCHASER and the SELLER have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanism as specified hereunder.



30.3 Legal Construction

The Contract shall be, in all respects be construed and operated as an Indian Contract and in accordance with Indian Laws as in force for the time being and is subject to and referred to the Court of Law situated within Union Territory of Hyderabad.

30.4 Arbitration

All disputes, controversies, or claims between the parties (except in matters where the decision of the Engineer-in-Charge is deemed to be final and binding) which cannot be mutually resolved within a reasonable time shall be referred to Arbitration by a sole arbitrator.

The PURCHASER (GGPL) shall suggest a panel of three independent and distinguished persons to the Seller to select any one among them to act as the sole Arbitrator. In the event of failure of the Seller to select the Sole Arbitrator within 30 days from the receipt of the communication suggesting the panel of arbitrators, the right of selection of Sole Arbitrator by the other party shall stand forfeited and the PURCHASER shall have discretion to proceed with the appointment of the Sole Arbitrator. The decision of the PURCHASER on the appointment of Sole Arbitrator shall be final and binding on the parties.

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The award of the Sole Arbitrator shall be final and binding on the parties and unless directed/awarded otherwise by the Sole Arbitrator, the cost of arbitration proceedings shall be shared equally by the parties. The arbitration proceeding shall be in English language and the venue shall be at Hyderabad, India.

Subject to the above, the provisions of (Indian) Arbitration & Conciliation Act, 1996 and the rules framed thereunder shall be applicable. All matters relating to this contract are subject to the exclusive jurisdiction of the Courts situated in the State of Delhi (India). Seller may please note that the Arbitration & Conciliation Act 1996 was enacted by the Indian Parliament and is based on United Nations Commission on International Trade Law (UNCITRAL model law), which were prepared after extensive consultation with Arbitral Institutions and centers of International Commercial Arbitration. The United Nations General Assembly vide resolution 31/98 adopted the UNCITRAL Arbitration rules on 15 December 1996.

The WORK under the CONTRACT shall, however, continue during the Arbitration proceedings and no payment due or payable to the Seller shall be withheld on account of such proceedings.

31. Governing Language

31.1 The Contract shall be written in English language as specified by the PURCHASER/CONSULTANT in the Instruction to Bidders. All literature, correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in English language. Printed literature in other language shall only be considered, if it is accompanied by an English translation. For the purposes of interpretation, English translation shall govern and be binding on all parties.

32. Notices

32.1 Any notice given by one party to the other pursuant to the Contract shall be sent in writing or by telegram or fax, telex/cable confirmed in writing.

32.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.



33. Taxes & Duties

33.1 A foreign Seller shall be entirely responsible for all taxes, stamp duties, licence fees, and other such levies imposed outside the PURCHASER's country.

33.2 A domestic Seller shall be entirely responsible for all taxes, duties, licence fees etc. incurred until the delivery of the contracted goods to the PURCHASER. However, Sales Tax and Excise duty on finished products shall be reimbursed by PURCHASER.

33.3 Customs duty payable in India for imported goods ordered by PURCHASER on foreign Seller shall be borne and paid by PURCHASER.

33.4 Any income tax payable in respect of supervisory services rendered by foreign Seller under the Contract shall be as per the Indian Income Tax Act and

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shall be borne by SELLER. It is upto the bidder/seller to ascertain the amount of these taxes and to include them in his bid price.

34. Books & Records

34.1 SELLER shall maintain adequate books and records in connection with Contract and shall make them available for inspection and audit by PURCHASER/ CONSULTANT or their authorized agents or representatives during the terms of Contract until expiry of the performance guarantee. Fixed price (lumpsum or unit price) Contract will not be subject to audit as to cost except for cost reimbursable items, such as escalation and termination claims, transportation and comparable requirements.

35. Permits & Certificates

35.1 SELLER shall procure, at his expense, all necessary permits, certificates and licences required by virtue of all applicable laws, regulations, ordinances and other rules in effect at the place where any of the work is to be performed, and SELLER further agrees to hold PURCHASER and/or CONSULTANT harmless from liability or penalty which might be imposed by reason of any asserted or established violation of such laws, regulations, ordinances or other rules. PURCHASER will provide necessary permits for SELLER's personnel to undertake any work in India in connection with Contract.

36. General

36.1 In the event that terms and conditions stipulated in the General Conditions of Contract should deviate from terms and conditions stipulated in the Contract, the latter shall prevail.



36.2 Losses due to non-compliance of Instructions

Losses or damages occurring to the PURCHASER owing to the SELLER's failure to adhere to any of the instructions given by the PURCHASER/CONSULTANT in connection with the contract execution shall be recoverable from the SELLER.

36.3 Recovery of sums due

All costs, damages or expenses which the PURCHASER/CONSULTANT may have paid, for which under the CONTRACT SELLER is liable, may be recovered by the PURCHASER(he is hereby irrevocably authorized to do so) from any money due to or becoming due to the SELLER under this Contract or other Contracts and/or may be recovered by action at law or otherwise. If the same due to the SELLER be not sufficient to recover the recoverable amount, the SELLER shall pay to the PURCHASER, on demand, the balance amount.

36.4 Payments, etc. not to affect rights of the PURCHASER

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No sum paid on account by the PURCHASER nor any extension of the date for completion granted by the PURCHASER/CONSULTANT shall affect or prejudice the rights of the PURCHASER against the SELLER or relieve the SELLER of his obligation for the due fulfillment of the CONTRACT.

36.5 Cut-off Dates

No claims or correspondence on this Contract shall be entertained by the PURCHASER/Consultant after 90 days after expiry of the performance guarantee (from the date of final extension, if any).

36.6 Paragraph heading

The paragraph heading in these conditions shall not affect the construction thereof.

37. Import License

37.1 No import license is required for the imports covered under this document.

38. Fall Clause



38.1 The price charged for the materials supplied under the order by the supplier shall in no event exceed the lowest price at which the supplier or his agent/principal/dealer, as the case may be, sells the materials of identical description to any Persons/Organizations including the Purchaser or any Department of the Central Govt. or any Department of a State Govt. or any Statutory Undertaking of the Central or State Govt. as the case may be, during the currency of the order.

38.2 If at any time during the said period, the supplier or his agent/principal/dealer, as the case may be, reduces the sale price, sells or offers to sell such materials to any persons/organizations including the Purchaser or any Deptt. Of Central Govt. or State Govt. as the case may be, at a price lower than the price chargeable under the order, he shall forthwith notify such reduction or sale or offer of sale to the Purchase Authority who has issued this order and the price payable under the order for the materials supplied after the date of coming into force of such reduction or sale or offer of sale shall stand correspondingly reduced.

The above stipulation will, however, not apply to:

- a) Exports by the Contractor/Supplier or
- b) Sale of goods as original equipment at prices lower than the prices charged for normal replacement
- c) Sale of goods such as drugs which have expiry dates.

38.3 The supplier shall furnish the following certificate to the concerned Paying Authority along with each bill for payment for supplies made against this order:-

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“I/We certify that there has been no reduction in sale price of the items/goods/materials of description identical to those supplied to the GGPL under the order herein and such items/goods/materials have not been offered/sold by me/us to any person/organizations including the Purchaser or any Deptt. of Central Govt. or any Deptt. of State Govt. or any Statutory Undertaking of the Central or State Govt. as the case may be upto the date of bill/during the currency of the order whichever is later, at a price lower than the price charged to the GGPL under the order”.

Such a certificate shall be obtained, except for quantity of items/goods/materials categories under sub-clause (a), (b) & (c) of sub-para 38.2 above, of which details shall be furnished by the supplier.

39. Publicity & Advertising



39.1 Seller shall not without the written permission of PURCHASER/CONSULTANT make a reference to PURCHASER/CONSULTANT or any Company affiliated with PURCHASER/CONSULTANT or to the destination or the description of goods or services supplied under the contract in any publication, publicity or advertising media.

40. Repeat Order



40.1 PURCHASER reserves the right, within 6 months of order to place repeat order upto 50% of the total order value without any change in unit price or other terms and conditions.

41. Limitation of Liability

41.1 Notwithstanding anything contrary contained herein, the aggregate total liability of Seller under the Agreement or otherwise shall be limited to 100% of Agreement / Order price. However, neither party shall be liable to the other party for any indirect and consequential damages, loss of profits or loss of production.

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SECTION-IV
SPECIAL CONDITIONS OF CONTRACT

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SPECIAL CONDITIONS OF CONTRACT

1. Special Conditions of Contract shall be read in Conjunction with the General Conditions of Contract, Specification of work, Drawing and any other documents forming part of this Contract wherever the context so require.

Notwithstanding the sub-division of the documents into these separate sections and volumes every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read within the Contract so far as it may be practicable to do so.

Where any portion of the General Conditions of Contract is repugnant to or at variance with any provisions of the Special Conditions of Contract, unless a different intention appears, the provisions of the Special Conditions of Contract of Contract shall be deemed to over-ride the provisions of the General Conditions of Contract and shall be the extent of such repugnancy, or variations, prevail.

2. DURATION OF CONTRACT AND DELIVERY SCHEDULE

The duration of contract shall be for a period of one year from the date of issue of Fax of Acceptance. Delivery is the essence of contract. Sub-CNG Booster Compressors shall be delivered within **16 Weeks** from the date of issue Sub-Purchase Order(s).



- a) The date of LR shall be considered as the date of delivery for PRS calculations.
- b) Installation, Commissioning & Testing for each CNG Booster Compressors to be done within 7 days of intimation by GGPL
- c) Spares shall be delivered within 8 weeks of issue of Delivery order'.

3. Place of Delivery

Material shall be delivered as per the instructions of EIC in the stores of GGPL at the designated site in East/West Godavari District of Andhra Pradesh.

4. Payment Terms:

- A) For Supply: 90% (Ninety Percent), along with Taxes and duties will be paid on receipt of material at the delivery Site and submission of Cenvatable /vatable Invoice in Triplicate (within 30 days) along with:
 1. Original Lorry Receipt
 2. Packing List
 3. Insurance Cover note covering Transit Insurance
 4. Inspection Release Note issued by GGPL's Consultant/Third Party Inspection Agency;

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5. Certificate from Manufacturer that all items/equipment under supply including its component or raw material used with manufacturing are new and conform to the tender requirement.
6. Final Technical File as per bid document including all test certificates.
7. Document related to CENVAT credit to be claimed by Owner, if applicable.

B) Balance 10% will be released within 30 days from the date of receipt of ordered materials' receipt and acceptance at Site by the Engineer-In-Charge of GGPL.

C) Invoice shall be made after adjusting the Price Reduction Schedule pursuant to General Conditions of Contract (Goods).



5. **Performance Bank Guarantee:**

Pursuant to General Conditions of Contract (Goods), within 15 days of receipt of notification of award from GGPL, the supplier shall submit Contract Performance Guarantee for 10% of Total Contract Price valid till 90 days beyond the expiry period of the Guarantee.

6. Evaluation shall be done and on FOT site basis. GGPL reserves the right to place order on one party or multiple parties at its own discretion.
7. Upon placement of order, GGPL shall nominate Engineer-in-charge for this supply/work.
8. Any Statutory Variation in Taxes and Duties during the currency of contract shall be to owner's account.
9. All BEC documents need to be notarized.



10. **New Tax/Duty/Levy**

Any new tax & duties if imposed by Govt of India on output services after the Bid Due Date but before the contractual delivery/completion shall be reimbursed to the contractor on submission of documentary evidence for proof of payment to Govt. authorities and after ascertaining its applicability with reference to the contract. However, if such new taxes etc. is in substitution of existing taxes same will be considered on merit of each case.

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SECTION-V

MATERIAL REQUISITION FOR CNG BOOSTER GAS COMPRESSOR PACKAGES

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1.0 INTRODUCTION



1.1 PROJECT OVERVIEW

Godavari Gas Private Limited (GGPL) is a Joint Venture of Andhra Pradesh Gas Distribution Corporation Limited (APGDC) and Hindustan Petroleum Corporation Limited (HPCL). Godavari Gas Private Limited (GGPL) plans to execute City Gas Distribution (CGD) Projects to supply Natural Gas to Domestic, Commercial, Industrial and Automobile Consumers in East and West Godavari district of Andhra Pradesh. The objective is to supply Natural Gas to both Domestic and Commercial Customers, and to provide compressed natural gas (CNG) as a fuel for vehicles.

To meet this objective, in the initial phase it is proposed to put up three (3) numbers of City Gas Distribution cum CNG Mother Stations and seven (7) numbers of Daughter Booster CNG stations to supply Compressed Natural Gas to CNG vehicles in East & West Godavari Districts.



The following specification is intended to give the bidder the technical and operating conditions the CNG Booster compressors must fulfill. Features other than those indicated which calls for an improved design, increase in efficiency, enhanced reliability, optimization etc. may be accepted subject to GGPL's approval and to be indicated separately describing all advantages. The scope shall include design, engineering, manufacturing, assembly, testing, supply , supervision of erection & commissioning at site of CNG Booster compressors.

The equipment shall be designed to maximise safe and reliable operation, fit for the purpose in compliance with codes, standards and specifications.



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2.0 SCOPE OF SUPPLY

Item No.	Description	Quantity	Remarks
a	<p><u>ELECTRIC MOTOR DRIVEN RECIPROCATING VARIABLE SUCTION / ON-LINE GAS COMPRESSOR PACKAGES</u> Design, Procurement, Manufacture, Inspection, Testing, Supply, Transportation, loading & unloading at GGPL's site/store, Installation supervision, Commissioning & Field performance test at GGPL site of 250 SCMh capacity Motor driven Reciprocating CNG variable suction / online compressor package including AMC in warranty period as defined in the technical specification (Inclusive of erection & commissioning spares) complete in all respects.</p>	2 Nos.	
a.1	Special tools & tackles	2 Nos.	
a.2	Mandatory spares parts for mechanical reciprocating compressor package as per the list provided in the Technical Specification.	2 Nos.	
a.3	Design, Engineering, Manufacturing, Supply (including packaging and forwarding, insurance, custom clearance, handling and unloading at port as well as at GGPL's stores / site) of air compressor of capacity approx 1.5 kW, discharge pressure approx 7 kg/cm ² g , 100 water litre capacity air receiver and air dryer along with all accessories and auxiliaries.	2 Nos.	
a.4	Lump sum comprehensive Annual operation, Repair & maintenance charges per Compressor Package including air compressor for first year i.e. after warranty period inclusive of all manpower, spare, oil, consumables and spares, etc	2 Nos.	
a.5	Lump sum comprehensive Annual operation, Repair & maintenance charges per Compressor Package including air compressor for second year i.e. after warranty period and second year of ARMC inclusive of all manpower, spare, oil, consumables and spares , etc	2 Nos.	
b	<p><u>ELECTRIC MOTOR DRIVEN HYDRAULIC BOOSTER COMPRESSOR PACKAGES</u> Design, Procurement, Manufacture, Inspection, Testing, Supply, Transportation, loading & unloading at GGPL's site/store, , Installation supervision, Commissioning & Field performance test at GGPL site of 250 SCMh capacity Motor driven Hydraulic CNG Booster compressor package including AMC in warranty period as defined in the technical specification (Inclusive of erection & commissioning spares) complete in all respects.</p>	5 Nos.	



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Item No.	Description	Quantity	Remarks
b.1	Special tools & tackles	5 Nos.	
b.2	Mandatory spares parts for hydraulic reciprocating compressor package as per the list provided in the Technical Specification	5 Nos.	
b.3	Design, Engineering, Manufacturing, Supply (including packaging and forwarding, insurance, custom clearance, handling and unloading at port as well as at GGPL's stores / site) of air compressor of capacity approx 1.5 kW, discharge pressure approx 7 kg/cm ² g , 100 water litre capacity air receiver and air dryer along with all accessories and auxiliaries.	5 Nos.	
b.4	Lump sum comprehensive Annual operation, Repair & maintenance charges per Compressor Package including air compressor for first year i.e. after warranty period inclusive of all manpower, spare, oil, consumables and spares etc.,	5 Nos.	
b.5	Lump sum comprehensive Annual operation, Repair & maintenance charges per Compressor Package including air compressor for second year i.e. after warranty period and second year of ARMC inclusive of all manpower, spare, oil, consumables and spares etc.,	5 Nos.	

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SECTION-VI

**TECHNICAL SPECIFICATION FOR
ELECTRIC MOTOR DRIVEN RECIPROCATING VARIABLE
SUCTION / ON-LINE GAS COMPRESSOR PACKAGES &
DATA SHEET**



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1.0 GENERAL

Godavari Gas Private Limited (GGPL) is a Joint Venture of Andhra Pradesh Gas Distribution Corporation Limited (APGDC) and Hindustan Petroleum Corporation Limited (HPCL). Godavari Gas Private Limited (GGPL) plans to execute City Gas Distribution (CGD) Projects to supply Natural Gas to Domestic, Commercial, Industrial and Automobile Consumers in East and West Godavari district of Andhra Pradesh.

1.1 SCOPE OF WORK

- 1.1.1 This specification along with applicable codes as referred describe the minimum requirements for Design, engineering, manufacturing, inspection, testing, packaging, supply, erection & commissioning including Field Performance Test at site along with Two year maintenance for "ELECTRIC MOTOR DRIVEN RECIPROCATING VARIABLE SUCTION / ON-LINE GAS COMPRESSOR PACKAGES" as required for dispensing CNG to vehicles at various locations in East and West Godavari district of Andhra Pradesh. The purchaser at his sole discretion may order all the packages on one bidder or split the order among two or more bidders. The packages ordered on one bidder shall be identical in all technical aspects. Various parts of this specification shall be read in conjunction with each other and in case where the different parts of this specification differ the more stringent requirement shall govern.
- 1.1.2 The variable suction Compressor have to be installed at the CNG outlets of GGPL and Oil and Marketing Company (OMC) retail Outlets located in East and West Godavari district of Andhra Pradesh for dispensing in vehicles. The suction of the compressor will be from Light Commercial Vehicle (LCV) mounted mobile cascades provided by GGPL/ On-line natural gas supply from pipeline and the compressed natural gas (CNG) will be dispensed in vehicles by the dispensers installed by GGPL.
- 1.1.3 **The compressor package shall be designed in order to be converted to on-line compressor capable of taking suction from gas lines when available within the range of 12 to 19 kg/cm²g without major modifications.**
- 1.1.4 Bidder shall be responsible for supply, erection, commissioning, and field trial run. Noise level test and performance test of all packages at sites. The field trial run of the Variable Suction Compressor will be for minimum of 04 hours in which satisfactory performance of the package together with all accessories auxiliaries and controls shall be established for satisfactory performance for specified operating conditions.
- 1.1.5 The bidder has to maintain the compressors (including air compressor) for two year from the date of field performance test during warranty period of 2 year. The bidder has to keep the compressors operational round the clock and all the expenditures including manpower, spares and consumables, oil, lubricant etc. to make the compressors operational shall have to be borne by the bidder. The power required to run the compressors will be provided by GGPL. The contractor shall maintain the compressors in sound mechanical condition at all times. The contractor shall rectify the defects notified by GGPL immediately and should submit all the history log sheets and spares availability status along with the report in the format mutually agreed between GGPL and the bidder.

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The bidder shall depute adequate numbers of qualified, experienced and competent persons and supervisors for smooth maintenance of the compressors. The maintenance staffs have to be available round the clock daily throughout the year.

Periodic inspections of Safety Valves. Transmitters. Pressure vessel gauge and any other equipment as per statutory norms of AP Factory Rules 1950. SMPV and Gas Cylinder Rules shall have to be carried out by the bidder at his own cost during the period of maintenance by the bidder. The inspections have to be carried out by competent persons as per advice of Engineer-in-Charge and certificates have to be submitted to GGPL.

1.2 SCOPE OF SERVICES AT SITE

Transportation of equipment from store to site including loading and unloading.

Grouting of equipment including grouting material (as required)

Preparation of GRV, visual inspection of equipment.

Field trial run and performance test .

Erection, inspection, testing & commissioning .

Two year O&M service during guarantee period.

2 year post guarantee period O&M services if required.

2.0 CODES & STANDARD AND PRECEDENCE



2.1 CODES & STANDARD

The design, construction, manufacture, supply, testing and other general requirements of the compressor package equipment shall be strictly in accordance with the data sheets, applicable Codes, and shall comply fully with relevant National/ International standards.

Any modification suggested by the statutory bodies either during drawing approval or during inspection, if any shall be carried out by the bidder without any additional cost and delivery implications.

The following codes and standards (versions/revisions valid on the date of order) are referenced to & made part of specification:

- NFPA-37, OISD 179, NFPA-52: 1992
 - NFPA-12, IS: 6382, Gas Cylinder Rule-2004
 - IS: 5571, IS: 5572, IS: 5580, IS 325
 - ANSI, ASTM, NEC, NEMA
 - Indian Electricity Rules, Indian Explosives Act, AP Factory Rules,1950
-

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2.2 PRECEDENCE

In case of any conflict among the various documents, the most stringent norm shall govern:

1. Data sheets/drawings
2. This Technical Specification
3. International standards/codes as applicable
4. Indian Standards / codes applicable



Compliance with this specification shall not relieve the bidder of the responsibility of furnishing equipment and accessories of proper design, material and workmanship to meet the specified operating conditions.

No deviations to the technical requirements and to the scope of supply specified in this enquiry document shall normally be accepted and offers not in compliance to the same shall be rejected summarily. In case a deviation is required due to inherent design of the equipment offered, the bidder shall list all such deviations at one place giving reasons thereon.

3.0 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE

The scope of work/services to be provided by the bidder shall be inclusive of but not limited to:

- Design, Engineering, Manufacture, assembly, testing at manufacturer's works, field trial runs, Equipment performance test along with associated electricals, instrumentation etc. as per bid document.
 - Instrumentation and control system as specified on data sheets, P&ID including Local panel, Console/Local gauge boards, PLC.
 - Common structural steel skid for the compressor- Motor combination and for all auxiliary systems
 - Air-cooled heat exchanger for interstage and discharge gas.
 - 4 line (3 bank) Priority Panel at Package Discharge.
 - All interconnecting oil, gas, water, air piping, cables within the compressor package.
 - All cable glands within the package and for incoming main power cable shall be supplied by vendor. Cable glands shall be of flame proof type.
 - Impulse and pneumatic piping/Tubing for all valves, fittings as specified & required for mounting the instruments. Block and bleed valves to be provided for Pressure gauges and pressure Transmitters.
 - Separate junction boxes for different type of signals like intrinsically safe signals, alarm, shutdowns, thermocouples, RTDs etc. for interfacing to local panel.
-



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- NRV at final discharge.
- CNG compressors shall have the inbuilt gas and fire detectors inside the enclosure.
- Structural supports within the compressor package for all piping, instruments etc.
- One no. relief valve at each stage discharge, first (1st) stage suction and Blow Down Vessel.
- 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.
- Coupling/V-belts/pulleys.
- Acoustic enclosure for Compressor package , with one number L.E.L detectors and one UV detectors in the enclosure.
- Common CO2 extinguishing system consisting of two cylinders, piping, valves and control systems
- Inlet and outlet manual and automatic isolating valves for maintenance & emergency.
- Field Performance test at site
- Supply of all essential spares as specified, erection & commissioning spares.
- One set of priced spare parts catalogue along with the priced bid, as built drawings and Operation & Maintenance catalogue with each compressor package.
- Training of six engineers in three batches at Packager's works. The travelling, boarding and lodging of GGPL's engineers shall be born by GGPL. Each training module shall span for one week and shall cover the equipment constructional features, operational and maintenance procedures, practical hands on experience on assembling, dismantling etc.

3.1 EXCLUSIONS

The following are excluded from the scope of the bidder:

- All civil works and foundation design, however the bidder shall furnish all the relevant data for design of any pedestal if required.
 - All piping beyond battery limits except from air compressor & air piping for air and piping from CO2 cylinders up to the enclosure.
 - Three banks 3000 Water Litre capacity Cascades.
 - CNG Dispensers and Interconnected SS tubes & fittings.
 - Incoming main power cable to starter cum local control panel.
-



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4.0 SAFETY

- a) All controls shall operate in a fail-safe mode i.e. failure of any control shall not lead to running of equipment in unsafe mode.
- b) The hazardous area classification Class-I, Division I, Group D as per NEC or Zone I, Group II A/ II B as per IS/ IEC. Certificate from recognized agency to the effect that equipment supplied and/or installed conform to above area classification. All Devices shall meet the requirement for the specified area classification in which they are installed, including instrumentation leads.
- c) All exposed rotating parts shall be provided with adequate guards of non-sparking type.
- d) Driver belt if used shall be of anti-static and fire resistant type.
- e) Piping shall be arranged in a manner so as to provide clear headroom and accessibility within the package. Adequate clearances shall be provided for all the engineered components.
- f) Each package ENCLOSURE shall have two nos. (2) LEL detectors (IR Type) and two nos. (2) Ultra Violet (UV) fire detectors to cover the enclosure effectively as already spelt in the scope of supply.
- g) All material used in the package shall be flame retardant.
- h) 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 of API-11P.All vented to common relief valve header.



4.1 CO2 FLOODING SYSTEM:

- a) The package shall be protected by automatically operated CO2 flooding system designed as per NFPA-12 which should have minimum following features: -
 - b) Gas Detection by installation of hydrocarbon gas detector (IR type) with self check function and transmitter with adjustable alarm levels (0-100%) with preset of 10%, 20% and 50%.
 - c) Installation of flame detector (UV-IR type) with self check function and transmitter, alarm on detection of flame.
 - d) CO2 flooding system will consist of 2 nos. of adequately sized CO2 cylinders. One cylinder will act as main cylinder & other as stand by, which shall have identical arrangement and connected to the system. The cylinders shall be placed in a shed to protect from weather and direct sunrays as per Gas Cylinder Rules, 2004. Cylinders shall be fitted with automatic actuated Valves, Solenoid valves etc. No extra utility as air, inert Gas shall be made available by GGPL/used by the supplier to operate the system .
 - e) The System shall be designed to operate on 24 V DC supply. FRLS (Fire resistant low smoke) cables shall be used for the wiring of the system.
-

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- f) Interlock of CO2 Flooding system with compressor as per following sequence:
- g) Compressor shall trip on detection of gas at preset level.
- h) Compressor shall trip on detection of flame at preset level and automatic discharge of CO2 gas shall take place from the main cylinder simultaneously.
- i) Compressor shall not start if the CO2 Flooding System is faulty, not working, SWITCHED OFF etc. The compressor shall be able to start only when the CO2 Flooding System is in healthy working condition.
- j) Maintenance Override Switch shall be provided to keep the system off during maintenance.
- k) Selector switch shall be provided to put Main/Stand by Cylinder in line at the turn of a switch as per requirement.
- l) Alarm panel for CO2 Flooding System shall be integral with the main compressor panel. Necessary displays as system ON, OFF, FAULT, RESET, Gas/ Flame indication, Remote actuation of solenoid valve, distinguished hooter etc., shall be provided for CO2 flooding system.
- m) CO2 Cylinders shall be provided outside the package at a safe place, minimum 4.5 meters away (aerial distance), where it is not exposed to fire in case of fire in the compressor. Facility shall be made to operate the system both manually from remote with the help of a switch/ call point and with help of pull down lever on cylinders.
- n) Suitable online weight (CO2) loss monitoring/ indication device to be provided to ascertain the health of the CO2 flooding system
- o) All installation shall be compatible for hazardous area Class 1, Division 1, Group-D for Methane Gas.
- p) The system designed by the supplier shall be duly approved by GGPL.
- q) Technical specifications, Operation and Maintenance Manual, CCOE Certificate, Approval/ Manufacturing certificates for cylinders and cylinder valves, gas detectors, flame detectors, solenoid valves etc. shall be furnished by the supplier along with system. Software and hardware, calibration procedure shall be provided by the supplier along with the supply sufficient enough to handle the system independently. Necessary tools (1 set) shall be provided with the system.
- r) System shall be offered for testing to GGPL by the supplier after commissioning at site by creating actual Gas leak and Gas fire situations and actual discharge of CO2 Gas from the Cylinders. This shall form a part of performance test and thereby acceptance of the package. The cylinders have to be refilled by the vendor at no extra cost to GGPL after performance test. If the system fails during testing, subsequent testing and refilling would be at vendor's cost.
- s) Warning and Operating instructions to be displayed at equipments as per the statutory/ safety regulations.

Following warning and caution signage shall be marked on the housing/package:

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- 1) "No Smoking"
- 2) Caution notice "This Machine may automatically start at any time".
- 3) "Flammable Gas"

5.0 UTILITIES & BATTERY LIMITS

5.1 UTILITIES

- Bidder shall make his own provision for Instrument air if required with an electric motor driven air compressor with a suitably sized receiver system. Air Compressor motor should be 415 V squirrel cage motor DOL starter having overload protection, single phase preventer.
- Cooling water is not available as utility and the package shall be provided with self sufficient cooling water system for Compressor, as required, with make up tank.
- All electrical and instrumentation terminals shall be as specified.
- Purchaser shall provide 415 V, 3Ph, 50Hz, 3 wire electric power to starter panel to feed the compressor motor..
- Purchaser shall provide the 240V, 50Hz, 1Ph UPS supply for LCP.

5.2 BATTERY LIMITS

- All customer interface connections (i.e. Gas Inlet & Gas Outlet) shall be brought out to the package edge. Gas inlet shall be terminated in nozzles with isolation valves having flange connections and Gas outlet (priority panel outlet connection) shall be terminated through high pressure ." full flow ball valves with ." end connectors.
- 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 at package roof.
- All drains from different process equipments, 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.



6.0 DESIGN DATA

6.1 DESIGN LIFE

The design life of the CNG booster station facilities shall be 30 years as minimum.

6.2 ENVIRONMENTAL CONDITIONS

Ambient Air Temperature (Min./Max.)	:	18 °C /48 °C
Relative Humidity	:	97%

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6.3 GAS COMPOSITION

The expected gas composition is given below,
Table 6.3-1 Feed Gas Composition

Component	Normal Gas Composition Range (Mol %)	Design Case Composition Range (Mol %)
Methane	82.0 – 99.0	95.21
Ethane	7.5 – 0.9	1.82
Propane	3.5 – 0.0	0.57
i-Butane	0.75 – 0.0	0.20
n-Butane	0.75 – 0.0	0.13
i-Pentane	0.15 – 0.0	0.06
n-Pentane	0.15 – 0.0	0.05
Hexanes	0.25 – 0.0	0.21
Carbondioxide	4.9 – 0.0	1.46
Nitrogen	0.08 – 0.0	0.29
H ₂ S	0.00001	0.00001
Total	100.0	100.0

6.4 CNG SPECIFICATION



The CNG specification should meet the IS 15403:2000 (E) natural gas quality designation for use as a compressed fuel for vehicles.

The proposed specification of the CNG is as follows:

Gas Temperature	:	-10 °C to 70 °C
Oil Content	:	10 ppm
Particulate matter	:	< 5 microns
Odorant	:	≤10 mg/sm ³ (Ethyl Mercaptan)

6.4.1 DAUGHTER BOOSTER STATION

Suction Pressure	:	30 to 210 kg/cm ² g (Note-1)
Outlet Pressure	:	210 – 255 kg/cm ² g

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Design Pressure	:	280 kg/cm ² g
Design Temperature	:	65 °C
Compressor Capacity	:	250 SCMh
Stationary Cascade Capacity	:	3000 Litre of water

Notes:

- The electric motor driven reciprocating daughter booster compressor is designed for suction pressure of 30-210 kg/cm²g. The electric motor driven reciprocating compressor package shall be designed in order to be converted to on-line compressor capable of taking suction from gas lines when available with the pressure of 12 - 19 kg/cm²g without major modifications.**

6.5 AREA CLASSIFICATION

All electrical and electronic components shall be suitable for hazardous area CLASS I DIVISION I Group D or Zone -1 Group IIA/II as per IS/IEC.

7.0 TECHNICAL SPECIFICATIONS

7.1 GENERAL - MECHANICAL RECIPROCATING COMPRESSOR

To increase the dispensing speed & reduce waiting time for filling at daughter booster station and better utilization of cascade capacity, one reciprocating type electric motor driven compressor of capacity 250 SCMh at suction pressure of 30 kg/cm²g has been envisaged at daughter booster station.

Two (2) daughter booster station compressor to be designed for variable suction pressure from 30 - 210 kg/cm²g to a discharge pressure of 255 kg/cm²g with capacity of 250 SCMh, when DBS receives CNG from mother station via LCV mobile cascade. In addition, these compressor shall be designed to handle constant suction pressure of 12 - 19 kg/cm²g, When these DBS are converted to online CNG station in future.



3-Stage reciprocating type compressor with console type air cooling and safety relief valve at each stage, after cooler at final discharge along with all services lines, tubing, valves, instrument and auxiliaries.

The pistons / cylinders are actuated by connecting rod and suitable for low suction pressure.

Following specification is intended to give the bidder the technical and operating conditions the compressor must fulfill.

The bidder shall meet all applicable statutory codes, national law and local regulation for safety and environment protection.

Offered package shall be complete with compressor, electric motor, piping, cooling system, suction and discharge filters, priority fill system, control panel safety and control devices and other accessories required for automatic and safe operation of the system.

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The supply shall include all interconnecting piping/tubing/cables. Cooling system shall be of closed circuit type. Ultimate cooling shall be by air only.

The compressor package control system shall be designed for unattended safe operation in automatic mode and shall unload, start, load, stop safely. The compressor shall start in auto in case high bank storage pressure falls below 210 kg/cm²g and stop once the pressure in all three banks of storage cascade reaches 255 kg/cm²g.

4 line (3 bank) priority fill system to be provided. The priority fill system shall ensure filling as per following sequence:

- CNG Vehicle
- High bank of storage cascade.
- Medium bank of storage cascade
- Low bank of storage cascade
- The priority fill system shall ensure that in any case CNG vehicle shall be given first priority.

The Variable Suction Compressor shall be suitable for continuous operation on variable suction pressure from 210 kg/cm²g to 30 kg/cm²g, supplied through LCV mounted CNG storage cascade/ On line Supply of natural gas through pipeline and discharge pressure of 255 kg/cm²g.

The compressor shall be designed in order to be converted to on-line compressor capable of taking suction from gas lines when available, with the pressure of 12-19 kg/cm²g without major modifications.



Compressor shall be designed to ensure flow capacity as follows:

S No	Suction Pressure	Flow Capacity
1	Average flow capacity (overfull range of suction pressure from 210 kg/cm ² g to 30 kg/cm ² g varying on continuous basis)	250 sm ³ /hr
2	Minimum flow capacity corresponding to suction pressure of 30 kg/cm ² g	250 sm ³ /hr
3	Minimum flow capacity as on-line compressor at suction pressure of 12-19 kg/cm ² g	250 sm ³ /hr

Maximum BkW = As per bidders design

Motor Rating = To be indicated by the Bidder

Maximum power requirement including the accessories to be indicated by the bidder and shall be minimum for the requested performance.

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Noise level shall not exceed 75 dBA at 1m from the compressor package enclosure.

Framework shall be mounted on a suitable skid type base, external-lifting lugs shall be provided at each corner. Package shall not be larger than 2.9mx2.5mx2.2m size (length, breadth, height))

The compressor package control system shall be so designed that the first item to go into alarm condition shall "Lock out" to indicate the cause of the trip though the cause of the trip may have disappeared. The lock out condition shall be manually reset.

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.



The compressor shall be designed to work for full suction pressure range of 210 kg/cm²g to 30 kg/cm²g. However designing for the throttling of gas at inlet of compressor to be done by the respective bidder.

8.0 ELECTRICS

Prime mover (Electric Motor)

The motor shall be flame proof/ explosion proof and confirm to IS: 2148 suitable for zone 1 group IIA and T3 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 star-delta 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.

a) Type of drive	Totally enclosed fan cooled (TEFC) high efficiency as per IEEEMA standard-19-2000
b) Protection Explosion proof	IP.55
c) Insulation	Class "F" with Class "B" temperature rise
d) Mounting	As per system requirements
e) Specification Standard	IS - 325
f) Supply Voltage (assumed)	415 ± 10% volt, 3 phase, 50 ± 5%Hz
g) Synchronous Speed	By bidder
h) Motor rating	By bidder
i) Motor efficiency %	By bidder
j) Power factor	By bidder

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- k) Speed of motors By bidder
- l) Nos. of hot starts of motors 4 per hours
- m) Coupling direct/flexible By bidder

➤ **Motor accessories as required**

Bidder to include as per package requirement.

➤ **Electrical supply parameters :**

All electrical shall be suitable for the following supply conditions.

Electrical operating voltage : AC, 3 phase, 415 V, 50 Hz

Electrical control voltage : 240 VAC, 50 Hz (under supplier 's scope)

Tolerance of voltage : $\pm 10\%$

Tolerance of frequency : $\pm 5\%$

➤ **Electric Specification**

All electrical equipment of compressor package shall be installed in accordance with Zone 1, Gas group IIA, T3, IS 5571 and shall have approval of a recognized certifying authority.



GGPL shall provide $415 \pm 10\%$ volts, 3 phase and $50 \pm 3\%$ Hz electrical connection at CNG station electrical panel only.

Vendor shall supply the starter cum local control panel and the same shall be flame proof construction with IP 54. Certificate from recognized agency to the effect that equipment supplied and or installed conform to above area classification. All devices shall meet the requirement for the specified area classification in which they are installed, including instrumentation leads.

Vendor shall supply all the cable within the package.

The power & control cables rated low voltage shall be designed for a system voltage of up to and including 1100V. The conductor shall be either annealed copper or aluminium for power cables and annealed copper for control cables. Conductors 6mm² and larger shall be stranded. Conductors below 6mm² may be stranded or solid as per IS 8130.

The cables shall be suitable for use where combination of ambient temperature and temperature rise due to load and short circuit condition results in conductor temperature not exceeding the following.

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Type of Insulation	Continuous operation	Short circuit condition
General purpose PVC	70°C	160°C
XLPE	90°C	250°C

The insulation shall be of cross linked polyethylene conforming to the requirements given in Table-1 of IS: 7098 Part-1. The average thickness of insulation shall be not less than nominal value specified in Table-3 of IS: 7098 Part-1. The Filler and Inner sheath shall be of extruded PVC conforming to the requirements of Type-ST2 of IS: 5831 for XLPE cable. The thickness of inner sheath shall be as given in Table-5 of IS: 7098 Part-1.

Armour shall be Galvanized steel round wires/strip for multi-core cables and Aluminum for single core as per IS 3975.

Outer sheath shall be Extruded FRLS (flame Retardant, Low smoke), Type ST2 PVC of IS 5831 for XLPE cables, colored BLACK.

All the above cables are intended to be used in hazardous gas areas. The cable shall accordingly be identified on outer sheath as per IS. The resistance of the armour shall not exceed that of the conductor as specified in IS 8130 by more than 33%.

Cable entry

Control Panels : Bottom

Cable Glands and Cable sealing

Cable gland shall be Ex 'de' type with suitable size double compression type Nickel Plated brass glands are to be supplied for all cables. For entries in to Ex'd' enclosures, barrier type (or compound filled) glands are provided. All cable glands and adaptors are to be type tested and certified by appropriate authorities for use in specified hazardous area.



Earthing System

The design & installation of earthing system shall be as per IS 3043 or equivalent international specification. The design and installation of earthing within the package shall be vendor scope. Vendor to provide provision for skid earthing. One or more no of earth plates with provision of inter connection to main earth grid shall be provided.

Phase sequence preventer (Current based) shall be provided

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.

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9.0 INSTRUMENTATION & CONTROLS

All the instruments and control shall be suitable for area Class I, Group D, Division1

All package mounted transmitters & temperature elements, solenoid valves, switches and related junction boxes shall be flame proof 'd' as per IEC 79-1. Other special equipment / instrument, shall be flame proof/ explosion proof as per IEC 79-1. All pressure gauges shall have an accuracy of + 1% of FSD and 100mm dial size. Pressure sensing elements shall be minimum of SS316 and movement of SS316. All pressure gauges on process lines having range more than 40kg / cm²g.

The temperature gauge shall be generally bimetallic type. The gauge shall have an accuracy of +1% FSD and 100mm dial size. For dial thermometers the selectable range is the normal operating temperature, shall be within the middle one-third (1/3) of the scale (0-100 deg C).

The compressor package instrumentation & control is to be configured for manual as well fully automatic control system including starting, shutdown as applicable for unattended operation.

All the instrumentation shall be capable or operating for full range of operation.

Separate junction boxes shall be provided for each type of signal i.e. analog, digital, solenoids RTD, thermocouple, F&G and for power supply. No cable shall share power & signal.



Suitable bypass for interlocks shall be provided for start-up.

Compressor package shall be provided with the following indicators:

- Pressure indicator each stage suction and discharge.
- Temperature indicator each stage suction and discharge
- Oil pressure indicator on each pressure lubrication system
- Oil levels indicator, field mounted
- Hour meter
- Non- resettable electromechanical hour meter on local control panel.
- Compressor jacket water coolant temperature indicator on local gauge panel
- Hydraulic oil cooler inlet & outlet temperature on local gauge panel (if required)
- Hydraulic oil pressures each stage on local gauge panel (if required)

The Compressor package shall be provided with the following trip devices:

- Low oil level protection devices
 - High oil temperature devices
-

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- Low suction pressure protection devices
- High discharge temperature protection device
- Coolant flow low devices
- Flame detection
- Gas detection
- Emergency stop devices

The compressor package shall be furnished with the following trip logic that shall stop the compressor and suction of compressor shall be isolated:

- On low oil level
- On high oil temperature
- On low suction gas pressure
- On high discharge pressure
- On high discharge gas temperature
- On coolant flow low
- On fire detection
- On gas detection
- On pressing manual stop button at local control panel
- On pressing emergency stop devices



Compressor package shall be furnished with following tripping circuit (the motor shall stop and suction of compressor shall be isolated)

- On actuation of gas detector alarm.
- On actuation of flame detection alarm.
- On pressing of manual stop button at compressor package
- On pushing of emergency stop device

Each compressor package shall be provided with an audible and visual alarm system for annunciation on compressor abnormalities.

Junction box shall be of explosion proof type with 10-20% extra terminal strip & cable gland shall be of double compression type.

Gas detectors and flame detectors should be mounted with the canopy.

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ESD button should be provided in safe area as well as locally mounted at package.

All instrument shall be of Internationally reputed manufacturer

Emergency shutdown devices

The emergency shut down (ESD) system is also in scope of vendor. This shall be in accordance with NZS 5425. A fail safe system shall be designed and incorporated to isolate cascades storage from dispensers, stop compressor isolate the compressor suction storage line and cut off power supply on activation of ESD switch. This ESD switch shall have to be manually reset to restart the compressor package again.

Local Control Panel

- PLC based logic circuits shall be used for control & interlock of the compressor package with RS485 SCADA Connectivity as per details in Annexure-IX.
- Local control panel shall be furnished with annunciation window alarm of individual protection device and a common hooter for audible alarm.
- Local panel should have separate push button for start, stop, emergency stop, alarm acknowledge, alarm rest & test button for checking healthiness of annunciation system.

10.0 PRIORITY FILL SYSTEM

Contractor shall supply 3-bank (4line) 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 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 255 kg/cm²g. Compressor shall start on pressing of manual start push button & automatically when the cascade storage high bank pressure of compressor falls to 210 kg/cm²g and shutdown automatically when all 3 stages of stationery cascade are filled to a pressure of 255 kg/cm²g.



The priority panel shall ensure the filing of vehicle and storage cascades in correct sequence. Design of priority fill system shall be aimed to achieve maximum flow rate through combined flow from compressor and cascade arrangement. All priorities shall be with full bore ball valves having high CV. All tubing and valves shall be ¾" size for 250 SCMh compressor.

11.0 ENCLOSURE OF CNG COMPRESSOR PACKAGE

Each compressor module shall be housed within a purpose built aluminium / cold rolled carbon steel (CRCS) acoustic compressor enclosure. The units shall incorporate a rigid frame work with a combination of fixed and removable panels.

Enclosures shall be designed to include cooling fan, radiator and other accessories to reduce the sound levels. The maximum rise in temperature within the enclosure shall be limited to 2.5 - 3 Deg. C. above ambient temperature.

Enclosure shall provide a degree of protection equivalent to IP 54 as defined in AS 1939.

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Enclosures shall be engineered to give a noise level of maximum 65 dBA measured at 1 meter as standard, utilizing aluminium or steel with mineral wool infill and perforated steel inner face. Materials shall be non-combustible to deter spread of flame requirements. Any compressor auxiliary motors installed externally to the enclosure shall be considered as part of the compressor package for meeting the noise level requirement. Bidder shall get it checked by any of the Third Party Inspection Agencies like BVIS/DNV/LRIS/SGS at the site and submit the test certificate.

Radiator and cooling fan shall be placed inside the Enclosure to reduce the noise levels.

The enclosure shall be designed for ease of access to the equipment within and has suitable entry doors.

To prevent the discharge of gas into the enclosure, all safety relief valves within to be connected to a manifold. From this connection a single pipe passes through the enclosure roof to a vent stack to allow satisfactory dispersion of gas at a safe height above ground level.

A viewing window at operating level to be fitted to allow monitoring of gauges, etc. without entering the enclosure.

The enclosure shall be finished in a weatherproof paint finish, external colour supplied to customer requirements. The external surfaces of the enclosure shall be painted. The paint shall be chosen, primed and applied as to have a service life of ten years. The exterior of the equipments piping, enclosure, hinges, locks, handles etc. is required to be corrosion free from ten years and to have fade free lift without oxidation of paint surface for five years in an environment of bright sun light with an intense UV content and tropical climatic conditions. The interconnecting radiator piping shall also be painted as per above specification. Bidder to give details of painting in unpriced bid.

External emergency stop push button shall be fitted to wall of enclosure close to main access door. Also the emergency shut off push buttons, 2 nos., one to be provided at dispensing area and other in the control / sales room. Bidder to assume that the sales / control room and dispensing area, each will be 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 and of 1.1 KV grade copper armoured. Any utilized cables shall be returned to GGPL with no extra cost.

Enclosure gas detection system consisting of 1 no. infrared type LEL detectors and 1 no. flame detector (UV type) shall be provided. The detectors shall be recalibrated at site during commissioning. Also the performance of the detectors shall be demonstrated at the time of commissioning.

Adequate fixed flameproof lighting (minimum at 2 locations) shall be provided inside the enclosure.

Suitable gradient shall be provided on the enclosure roof for rain drainage and to avoid water pockets. Enclosures shall be designed with proper rain protection in the ducting or any other cut out to protect the inside equipment from rain water.

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

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arrangement i.e chain pulley block shall be removable type, which can be disassembled and shifted onto the other machines. 1 No. shall be provided for tendered quantity of compressors.

The compressor package shall consist of single enclosure for Compressor and motor.

The enclosures shall have doors for normal access and removable wall panels for ease of maintenance.

All the pressure, temperature, gas flow meter, oil level, lube oil pressure, coolant temperature, coolant level indicators shall be visible from outside of enclosures.

Components such as pressure gauges, temperature and pressure switches etc., which require in-situ adjustment and reading, shall be easily accessible.

Conduits and tubing shall be arranged in orderly and systematic manner and shall be routed neatly to enter the back of display or monitoring panels

Items which must be operated & monitored during operation shall be readily accessible without opening the door.

The compressor package shall consist of single enclosure for Compressor and Electric Motor. The equipment shall be mounted on one common skid. The Enclosure to restrict maximum noise level to 65 dB(A) at 1 meter from the enclosure.



The Compressor shall be located inside an acoustic enclosure at Grade Level. All accessory and auxiliary system along with interconnecting piping shall be inside an enclosure. Enough headroom shall be made available for easy access and maintenance of all equipment.

12.0 PIPING & APPURTENANCES

The materials for gas piping shall be seamless carbon steel of ASTM A-106 Grade B. The piping / tubing at the outlet of the compressor and of priority fill system shall be of seamless stainless steel of proper pressure rating and specifications as under.

SS TUBING SPECIFICATIONS

- Seamless SS Tubing
 - Material of construction Stainless Steel 316L
 - Tube hardness shall be less than 80 RB
 - Make : Sandvik / FAE
 - Sizes : Metric system (inch)
 - Max Working Pressure : 350 kg/cm²g S S FITTINGS & VALVES SPECIFICATIONS
 - Material of construction Stainless Steel 316
 - Make : Swagelok / Parker / ABAC only
-

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- Sizes : Metric system (inch)
- End connections : Double ferrule Compression type / NPT
- Max Working Pressure : 350 kg/cm²g
- PSV Vent Line to be extended above the package to safe height.
- Priority system should be designed so that the gas flow from mobile cascade to dispenser is possible even with the Compressor shutdown & de-energized
- Dedicated Air compressor of adequate capacity

13.0 COOLING SYSTEM

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.

14.0 OIL FILTER

The ingress of oil into CNG adversely effects vehicle emission and storage system; hence in case of lubricated cylinders vendor shall supply oil separators after cooler at each stage

with automatic and manual drain. The maximum permissible oil content in CNG is 5 PPM.

In case of lubricated cylinders contractor to supply a proven, maintenance free oil removal system after after-cooler to remove oil from compressed gas. The offered oil mist removal system shall restrict the oil to less than 5PPM in discharge of compressor.



15.0 GAS RECOVERY SYSTEM

If required the contractor shall provide gas recovery system with gas recovery vessel. The gas recovery vessel shall be provided with pressure relief valve and necessary instrumentation to avoid cold flaring of gas. Gas recovery vessel shall be ASME/IBR code designed.

16.0 INSPECTION AND TESTING

16.1 GENERAL

- a) For all the shop inspection & tests specified to be witnessed by GGPL or GGPL's authorized representative. The bidder has to provide 15 days advance notice prior to said inspection & test. The bidder shall be responsible of all sub bidders of specified inspection & testing requirements.
 - b) Bidder shall keep following data available for at least 5 years for examination by purchaser.
 - c) All necessary certification of materials, such as mill test reports.
 - d) Purchaser specification for all items on bills of materials.
-

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- e) Test data to verify that requirement of the specification have been met
- f) Result of quality control test.
- g) Pressure retaining parts including auxiliaries shall be hydrostatically tested with water at following minimum test pressure for a minimum period of 1 hour.
- h) Cylinder: 1-1/2 times maximum allowable working pressure.
- i) Cylinder cooling jacket & packing case 1-1/2 times coolant pressure but not less than 8 kg/cm²g effective.

16.2 MECHANICAL RUNNING TEST (MRT)



- a) These tests shall have mechanical operation of compressor, driver, and accessories. Instruments, control system and the coolers.
- b) The MRT for the each variable suction compressor shall be carried out in presence of GGPL or GGPL's representatives with job or shop driver including complete job driving system i.e., job driven V belts pulleys etc, for 4 hour continuously at shop of compressor manufactures. The compressor need not be pressure loaded for MRT test.

During this test following shall be recorded at agreed intervals.

- Vibration levels measured on cylinders and frame
 - Noise level at 1-m distance from equipment
 - Bearing temp
 - Hydraulic oil temperatures
- c) Subsequent to satisfactory operation during test the compressor shall be examined as per standard procedure for such operation and following shall be examined:
- Bore & other parts by opening a valve
 - Piston & cylinder clearance
 - Visual condition of exposed parts without dismantling.
- d) If any of these parts are found damaged, all similar components shall be stripped for inspection. The MRT test shall be repeated after replacement of such parts.

16.3 FIT UP TEST

The compressor electric monitor cooler and other auxiliaries including inter connection piping etc. are to be assembled for demonstration of fit up to GGPL or GGPL's representatives at shop of packager.

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16.4 ERECTION TESTING & COMMISSIONING AT SITE

The bidder shall be responsible for erection, commissioning performance test and noise level test of all packages at site. Commissioning of various equipment and systems shall be carried out by the bidder as per the accepted procedures and as per the instruction of the manufactures of the equipment. The units will be considered commissioned only after the successful performance tests are carried out by the bidder.

16.5 FIELD TRIAL RUN

Bidder shall conduct a field trial run of each variable suction compressor package for minimum four hrs in which satisfactory operation of complete package together with all accessories controls shall be established for specified operation conditions, In case of any detect, discrepancies under specified site conditions., bidder shall first rectify the same and repeat the field trial run. The bidder shall record data of field trial run.

16.6 NOISE LEVEL TEST

During the field trial run, noise level test shall be carried out and bidder shall demonstrate /achieve the granted noise level. All necessary instruments /accessories required for fields trial run and noise level test shall be arranged by the bidder.

16.7 PERFORMANCE TEST

Before conducting performance test Bidder is required to clear all punch points (if any) raised by GGPL.



Compressor Package Performance test at sites shall be carried out as per ASME PTC9. All necessary instruments/accessories required for this test at site shall be arranged by the bidder and repatriated after successful performance test by the bidder.

All such instrument shall be pre-calibrated. In case any defect/deficiency is noticed under the specified site conditions bidder shall first rectify the same and repeat the performance test. Bidder to quote for performance test per compressor package separately at site inclusive of boarding, lodging office space, local transport for bidder personnel and hiring ;of local contractor, crane etc. bidder shall be liable to pay all local taxes, levies applicable and strictly comply with rules, laws prevailing in India.

17.0 SPARE PARTS, SPECIAL TOOLS AND TACKLES

All spare parts, special tools & tackles for erection and commissioning and one year operation and maintenance of compressor package shall be supplied by the packager and shall form his scope of supply.

A brand new separate set of special tools and tackles as required for Normal maintenance beyond the warranty period shall be supplied by the Bidder, which shall form the property of GGPL.

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18.0 DOCUMENTS/DATA REQUIRED ALONG WITH BID



Bidder shall necessarily furnish the following along with the bid without which the offer shall be considered incomplete:

- a. Completely filled in Data Sheets of compressor, Electric motors
- b. Deviations if any to this Technical Specification
- c. Tentative Lay out / key plan/ General Arrangement indicating size of the package indicating overall dimension.
- d. Utilities requirements
- e. Electrical Load summary
- f. Catalogues of compressor, electric motor , instrumentation items.
- g. P&I diagram
- h. Full technical details of the compressor
- i. Cross sectional drawings of the compressor unit.
- j. Flow v/s suction pressure and power v/s suction pressure graph or full range suction pressure I.e. 250 kg/cm²g to 30 kg/cm²g.
- k. Safety code for CNG application
- l. Electrical line diagram,
- m. O&M manuals of compressor.

Any other document required over and above aforesaid documents during engineering stage after placement of order shall be supplied by bidder. Bidder shall also supply above data in editable soft copy.

19.0 GUARANTEED PARAMETERS ELECTRIC MOTOR DRIVEN COMPRESSOR

Sr No	Description	Bidder to indicate
1	Average flow capacity (overfull range of suction pressure from 210 kg/cm ² g to 30 kg/cm ² g varying on continous basis	
2	Minimum Flow capacity corresponding to suction pressure of 12-19 kg/cm ² g. (required 250 SM3/Hr)	
3	Minimum flow capacity as on-line compressor at suction pressure of 22.5 kg/cm ² g (required 250 sm3/hr)	

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4	Compressor BKW in KW @ Rated Conditions (No +ve tolerance)	
5	Net of all auxiliaries/package ventilation loads in KW	
6	Noise level 75 dBA @ 1 meter from enclosure (required 75 dBA max)	

20.0 MANDATORY SPARES PARTS FOR MECHANICAL RECIPROCATING COMPRESSOR PACKAGE

- Price of mandatory spares shall be loaded for evaluation purpose.
- 1 Set means the quantity installed in one compressor package. Details items in the set will be as per OEM's spare parts & maintenance manual. Successful Supplier will furnish details of set with part nos. If a supplier fails to indicate the price and details of the part no, they have to supply the parts as per O&M manual without any additional cost.
- In technical bid, the list of spares and quantity shall be submitted without price.
- For O&M during the warranty period No Spare part shall be used from those supplied as Mandatory spares.

LIST OF MANDATORY SPARES:

Sr.no	Part number	Qty. Required by GGPL per package	Unit Price	Total Price
1	All compressor bearings / bushes (main, connecting rod big end. Connecting Rod small end, Cross Head etc.)	1 set		
2	Crosshead shoes	1 set		
3	Piston rings/Rider Ring (sealing wear rings) for all cylinders	1 set		
4	Piston Rods	1 set		
5	Piston for all stages	1 set		
6	Complete valve assembly, suction, for all stages	1 set		
7	Complete valve assembly, discharge, for all stages	1 set		
8	Valve internals consisting of valve springs, valve plates etc.	2 sets		
9	Replaceable parts of main packing, partition packing, oil scraper ring, o-rings, gaskets etc.	1 set		
10	Complete Lubricator assembly	1 set		
11	Digital No Flow Transmitter, if applicable	1 set		

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12	Complete coupling / pulley	1 set		
13	Idler pulley, if applicable	1 set		
14	Belt, if applicable	2 sets		
15	Cooling fan bearing	2 sets		
16	Cooling fan shaft	1 set		
17	Cooling fan blades with hub	1 set		
18	Suction gas filter	1 no.		
19	Discharge gas filter	1 no.		
20	Lube oil filter	1 no.		
21	NRV	1 no.		
22	Pressure Relief Valves	1 no.		
ELECTRIC MOTOR				
23	Set of bearings (DE + NDE)	1 set		
24	Set of cooling fans	1 set		
25	Contactors	1 no.		
26	Barriers	1 no.		
27	Fuses	1 no.		
28	MCCB	1 no.		
29	Relays	1 no.		
INSTRUMENTATION				
30	Display (Pressure & Temperature gauge)	1 set		
31	PLC (CPU/PS/interface Card/others)	1 set		
32	Isolators	1 set		
33	Pressure Transducer	1 set		
34	Temperature Transducer	1 set		

The list given above is the minimum requirement. Bidder can add to this list, if they feel that additional spares are required in addition to the spares listed above.

Bidder shall furnish in his bid the complete itemized list of recommended spare parts for two year of trouble free operation after warrantee period.

21.0 APPROVED VENDOR LIST

S.NO	VENDOR NAME	REMARKS
AIR FILTER REGULATORS		
1.	ASEA BROWN BOVERI LTD.	
2.	BLUE STAR LTD	
3.	DIVYA CONTROL ELECMENTS PVT. LTD.	





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4.	MICROMECHANICA	
5.	JANATICS INDIA PVT. LTD.	
6.	P.RAI AND COMPANY	
7.	PLACKA INSTRUMENTS & CONTROLS PVT. LTD	
8.	SHAH PNEUMATICS	
9.	SHAVO NORGREN (I) PVT. LTD	
10.	V AUTOMAT & INSTRUMENTS PVT. LTD.	
11.	VELJAN HYDRAIR PVT. LTD.	
FIELD INSTRUMENTS (P, DP, F,L,T)		
1.	ABB AUTOMATION LTD.	
2.	BROWN BOVERT LTD.	
3.	ASCHROFT	
4.	MURPHY	
5.	CCS	
6.	WAREE	
7.	FISHER ROSEMOUNT INDIA LIMITED	
8.	FISHER ROSEMOUNT SINGAPORE PTE LTD.	
9.	FUJI ELECTRIC CO. LTD.	
10.		
11.	HONEYWELL INC.	
12.	TATA HONEYWELL	
13.	YOKOGAWA ELECTRIC CORPORATION	
14.	YOKOGAWA BLUE STAR LTD.	
15.	WIKA	
16.	DRUCK	
PRESSURE GAUGES		
1.	AN INSTRUMENTS PVT. LTD.	
2.	BADOTHERM PROCESS INSTRUMENTS B. V.	
3.	BOURDON HAENNI S.A	
4.		
6.	BRITISH ROTOTHERM CO. LTD	
7.	BUDENBERG GAUGE CO. LTD.	

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8.	DRESSER INC.	
9.	GENERAL INSTRUMENTS CONSORTIUM	
10.	MANOMETER (INDIA) PVT. LTD.	
11.	NAGANO KEIKI SEISAKUSHO LTD.	
12.	WAAREE INSTRUMENTS LIMITED	
13.	WALCHANDNAGER INDUSTRIES LTD.	
14.	WIKA ALEXANDER WIEGAND & CO GMBH	
15.	WIKA INSTRUMENTS INDIA PVT. LTD.	
16.	DRUCK	
PRESSURE RELIEF VALVE		
1.	ALSTHOM FLUIDS SAPAG	
2.	ANDERSON GREENWOOD CROSBY	
3.	BHEL (TRICHY)	
4.	ASPRO	
5.	DRESSER INC.	
6.	FUKUI SEISAKUSHO CO. LTD.	
7.	INSTRUMENTATION LTD. (PALGHAT)	
8.	NAKAKITA SEISAKUSHO CO LTD.	
9.	NUOVO PIGNONE SPA (ITALY)	
10.	PARCOL SPA	
11.	SAFETY SYSTEMS UR LTD.	
12.	SARASIN RSBD	
13.	SEBIN VALVES INDIA PVT. LTD.	
14.	TAI MILANO SPA	
15.	TYCO SANMAR LTD.	
16.	TYCO VALVES & CONTROLS INDIA PVT. LTD	
SELF ACTUATED PRESSURE CONTROL VALVE		
1.	DANIEL INDUSTRIES INC	
2.	DRESSER PRODUITS INDUSTRIES	
3.	ASPRO	





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4.	ESME VALVES LTD.	
5.	FISHER ROSEMOUNT SINGAPORE PTE LTD.	
6.	FISHER EXMOX SANMAR LIMITED	
7.	GORTER CONTROLS B.V.	
8.	INSTROMET INTERNATIONAL NV	
9.	KEYE & MACDONALD INC	
10.	NUOVO PIGNONE SPA (ITALY)	
11.	PIETRO FIORENTINI SPA	
12.	RICHARDS INDUSTRIES (FORMERLY TRELOAR)	
13.	RMG REGEL + MESSTECHNIK GMBH	
SOLENOID VALVES		
1.	ALCON ALEXANDER CONTROLS LIMITED	
2.	ASCO (INDIA) LIMITED	
3.	JEFFERSONS	
4.	ASCO JOUCOMATIC LTD.	
5.	ASCO JOUCOMATIC SA	
6.	AVCON CONTROLS PVT. LTD.	
7.	BARKSDALE INC.	
8.	BLUE STAR LTD.	
9.	HERION WERKE	
10.	SCHRADER SCOVILL DUNCAN LIMITED	
SPECIAL CONTROL VALVES		
1.	FISHER ROSEMOUNT SIGAPORE PTE. LTD.	
2.	FLOWERVE PTE. LTD. (FORMERLY DURIRON)	
3.	HOPKINSONS LIMITED	
4.	METSO AUTOMATION PTE LTD. (FORMERLY NELES)	
5.	NUOVO PIGNONE SPA (ITALY)	
6.	SPX VALVES & CONTROLS (FORMERLY DEXURIK)	
FLAME DETECTOR		
1.	MEGGITT AVIONICS	



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2.	SPECTREX	
3.	DETRONICS	
4.	HONEYWELL	
GAS DETECTOR (IR TYPE)		
1.	CROWCON	
2.	DETRONICS	
PLC		
1.	SIEMENS	
2.	ALLAN BRADLEY, ROCKWELL	
3.	ABB	
4.	GE FENUC	
5.	HONEYWELL	
ELECTRIC MOTOR		
1.	CROMPTON GREAVES	
2.	SIEMENS	
3.	WEG	

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SECTION-VII

**TECHNICAL SPECIFICATION FOR
ELECTRIC MOTOR DRIVEN HYDRAULIC BOOSTER
COMPRESSOR PACKAGES & DATA SHEET**

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1.0 GENERAL

Godavari Gas Private Limited (GGPL) is a Joint Venture of Andhra Pradesh Gas Distribution Corporation Limited (APGDC) and Hindustan Petroleum Corporation Limited (HPCL). Godavari Gas Private Limited (GGPL) plans to execute City Gas Distribution (CGD) Projects to supply Natural Gas to Domestic, Commercial, Industrial and Automobile Consumers in East and West Godavari district of Andhra Pradesh.

1.1 SCOPE OF WORK

1.1.1 This specification along with applicable codes as referred, describe the minimum requirements for design, engineering, manufacturing, inspection, testing, supply including packaging, forwarding, insurance, custom clearance, handling and unloading as well as at PURCHASER stores, package performance test (FAT) at Bidder 's shop and Site Acceptance Test (SAT) of " HYDRAULIC TYPE ELECTRIC MOTOR DRIVEN RECIPROCATING CNG VARIABLE SUCTION BOOSTER COMPRESSOR PACKAGES" as required for dispensing CNG to vehicles at various locations described in this tender. Hydraulic type CNG Booster Compressor is designed to handle a flow rate of 250 SCMH from a variable suction pressure of 30 – 210 kg/cm²g to a discharge pressure of 255 kg/cm²g. GGPL requires five (5) numbers of Hydraulic Booster Compressor for setting up CNG Daughter Booster Stations at 5 different locations in East and West Godavari Districts.

1.1.2 Offered package shall be complete with compressor, electric motor, hydraulic pump and piping, cooling system, suction and discharge filters, control panel safety and control devices and other accessories required for automatic and safe operation of the system.



1.1.3 The Compressor Packages shall be identical in all technical respects. Various parts of this specification shall be read in conjunction with each other and in case where the different parts of this specification differs the more stringent requirement shall govern.

1.1.4 Any additional work/equipment or technical requirement not mentioned in the specification but required to make the offered system complete in accordance with the specification and for safe and proper operation, shall be deemed to be included in the scope of work by the Bidder .

2.0 CODES & STANDARD AND PRECEDENCE

2.1 CODES & STANDARD

The design, construction, manufacture, supply, testing and other general requirements of the compressor package equipment shall be strictly in accordance with the data sheets, applicable API codes, and shall comply fully with relevant National/ International standards, Indian Electricity Act, Indian Electricity Rules, regulations of Insurance Association of India and Factories Act while carrying out work as per this specification.

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Any modification suggested by the statutory bodies either during drawing approval or during inspection, if any, shall be carried out by the Bidder without any additional cost and delivery implications.

The following codes and standards or equivalent (versions/ revisions valid on the date of order) are referenced to & made part of specification:

- API-11P, Second edition, API 618
- NFPA-37, OISD 179, NFPA-52: 2006, NFPA -496, NFPA -68, NFPA-70, IS 325
- ANSI, ASTM, NEC, NEMA
- Indian Electricity Rules, Indian Explosives Act.
- EUROPEAN NORM P.E.D., Italian NORM D.P.R. 547/55
- EUROPEAN NORM P.E.D., D.M. 24.5.02 - D.M. 28.6.02
- D.M 24.11.84 parte prima - sez. II°, D.M. 24.5.02 - D.M. 28.6.02, DIN 2413, SAE J 514
- EUROPEAN NORMS, CEI EN 60079-10/CEI EN 60079-14/CEI, EN 60204-1/ CEI EN 60439-1, ATEX STANDARD



2.2 PRECEDENCE

In case of any conflict among the various documents, the most stringent norm shall govern:

1. Data sheets/drawings
2. This Technical Specification
3. International standards/codes as applicable
4. Indian Standards / codes applicable

Compliance with this specification shall not relieve the bidder of the responsibility of furnishing equipment and accessories of proper design, material and workmanship to meet the specified operating conditions.

No deviations to the technical requirements and to the scope of supply specified in this enquiry document shall normally be accepted and offers not in compliance to the same shall be rejected summarily. In case a deviation is required due to inherent design of the equipment offered, the bidder shall list all such deviations at one place giving reasons thereon.

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3.0 SCOPE OF SERVICES

- Procurement of raw materials etc. from sub-vendors.
- Preparation of documentation for design approval by Purchaser/consultant.
- Inspection and Testing as per T.S.
- Surface preparation, protective coating and painting as per T.S.
- Packaging for transportation to site and supply.
- Field trial run and performance test at site.
- Post Commissioning Operation and Maintenance during Warranty Period with all spares, consumables, lubricants and manpower etc., except electricity.



4.0 SCOPE OF SUPPLY FOR EACH COMPRESSOR PACKAGE

Each Hydraulic type motor driven reciprocating CNG booster compressor Packages shall be complete with:

- Offered package shall be complete with compressor, electric motor, hydraulic pump and piping, cooling system, suction and discharge filters, control panel safety and control devices and other accessories required for automatic and safe operation of the system.
 - Cooling system shall be of closed circuit type. Ultimate cooling shall be by air only.
 - The compressor package control system shall be designed for unattended safe operation in automatic mode and shall unload, start, load, stop safely. The compressor shall start in auto in case high bank pressure in dispenser fall below 210 kg/cm²g and stop once the pressure in all three banks reaches 255 kg/cm²g.
 - Compressor shall be suitable for continuously variable suction pressure from 210 kg/cm²g to 30 kg/cm²g, supplied through LCV mounted CNG storage cascade.
 - The ingress of oil into CNG adversely effects vehicle emission and storage system. Hence in case of lubricated cylinders, vendor shall supply a proven, maintenance free oil removal system with automatic and manual drain after after-cooler to remove oil from removal system shall restrict the oil less compressed gas. The offered oil mist that 5 PPM in discharge of compressor.
 - Hydraulic booster Compressor with lube oil system and cooling system as required.
 - Electric motor as Compressor Driver.
 - For metering of natural gas, 1 No. Coriolis type Mass Flowmeter of Micromotion Make shall be provided at the inlet of Compressor Package.
 - Instrumentation and control system as specified in the tender. Instrument Air Compressor as required for operation of complete package.
-

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- Suitable Priority Fill System with compressor top-up facility inclusive of regulating valves, by pass valve & liquid filled pressure gauges as specified in technical specifications.
 - Electrical equipment / Instruments being requested in the Compressor package.
 - Separate junction boxes for different type of signals like analog, digital signals, alarm, shutdowns, and thermocouples, RTDs etc. for interfacing to local panel as per requirement.
 - Main incoming cable from owners PDB to main control panel of the compressor (a distance of 50 meter is to be considered) through GI conduit/trenches, Cable from owner's electronic earth pit (EE) for electronic circuit in control panel, cable from owner's main earthing ring to control panel body earth and all inter connecting cables including complete erection accessories like double compression cable gland, cable tags, lugs etc as required.
 - Common structural steel skid for the compressor- electric motor and for all auxiliary systems.
 - Structural supports within the compressor package for all piping, electrical and instruments etc
 - Inter-stage and discharge gas, air cooled heat exchangers as required.
 - All interconnecting oil, gas, water, air piping, cables within the compressor package.
 - All cable glands within the package and for incoming main power cable shall be supplied by vendor. Cable glands shall be of flame proof type.
 - Impulse and pneumatic piping/Tubing for all valves, fittings as specified & required for mounting the instruments.
 - NRV as required for smooth operation.
 - Y- type strainers, valves, sight flow indicators, check valves, manual drain/traps etc. as required for various auxiliary systems i.e. lubrication system, cooling water systems etc.
 - Coupling/V-belt/pulleys as required.
 - Single Acoustic enclosure for both Compressor and electric motor as specified.
 - CO2 extinguishing system consisting of two cylinders, piping and valves.
 - Fire and Gas detection system integrated with compressor instrument panel.
 - Inlet and outlet manual isolating valves.
 - Operation and Maintenance during the warrantee period along with spares, consumables, lubricants and manpower, etc., except electricity.
 - Piping from air compressor and CO2 cylinders up to enclosures in the scope of bidder.
-

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- Special tools and tackles along with Tool Box (List to be submitted with bid)

Bidder may outsource auxiliaries equipment from domestic market from reputed manufacturer approved by PURCHASER. However, the overall guarantee shall lie with the bidder.

5.0 EXCLUSIONS

- All civil works and foundation design. However the Bidder shall furnish all the relevant data for design of pedestal/ foundation. Bidder to note that Grouting of equipment including supply of material is a part of erection and hence in bidders scope.
- CNG Storage Cascade and CNG Dispensers.
- All piping beyond battery limits. Piping from Booster Compressor to Air Compressor, to CO2 Cylinders and to cooling water Skid are in bidder's Scope.
- Incoming main power cable to starter cum local control panel.

6.0 UTILITIES & BATTERY LIMITS

6.1 UTILITIES

Bidder shall make his own provision for Instrument air with an electric motor driven air compressor, receiver and air dryer system.

Air compressor along with 1.5 KW electric motor having discharge pressure of 7 kg/cm² with dryer shall be supplied by the bidder. Air receiver of 100 water liter capacities shall be provided. Air dryer suitable for automatic operation shall also be supplied along with all accessories. Air compressor, drier and air receiver for instrument air, shall be kept off the package in safe area or client's building. Piping, electrical & instrumentation cabling shall be in bidders scope. Necessary FR unit shall be provided as per requirement. Manual drains and automatic moisture traps shall be provided in the system. Air receiver shall be provided with SRV, pressure switch, pressure gauge and drains. Pressure switch and pressure gauge shall have isolation valve. Air dryer shall be with bypass arrangement.



Two Number Tapping from air receiver and dryer shall be provided as follows:

- a) For dispenser: One tapping with isolation valve from air receiver.
- b) For booster compressor: One tapping with isolation valve from air receivers.

Cooling water is not available as utility and the package shall be provided with self sufficient cooling water system for Compressor, as required, with makeup tank. However cooling water for makeup tank is available. All the electrical equipments in this system shall be suitable for area classification of Hazardous area CLASS-1, DIVISION-1, GROUP-D of NFPA.

All electrical and instrumentation terminals shall be as specified.

Electric power shall be made available by Owner.

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For running the compressor and illumination 415 Volt ($\pm 10\%$) 3-phases 3 Wire, 50 Hz ($\pm 5\%$) shall be provided to starter panel to feed the compressor motor. Bidder shall indicate power/ Feeder (KW/Amp) requirement in the offer.

Purchaser shall provide UPS (240 $\pm 1\%$ V, 50 $\pm 1\%$ Hz) for LCP. Bidder shall indicate power/ feeder (KW/Amp) requirement in the offer. Bidder to make arrangement for conditioning of power supply beyond above limit.

6.2 BATTERY LIMITS

All customer interface connections, gas Inlet shall be brought out to the package edge and terminated with $\frac{3}{4}$ " OD SS-Tube.

As and where specified on the data sheets all vents (i.e. Relief valve, distance piece and packing) shall be manifolded and terminated at skid edge outside the enclosure and vented to safe height of 2.5m at package roof with proper support.

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.

UPS and Non UPS power shall be made available from power distribution board (PDB) in the electrical room. Supply, Erection and termination of all cables and accessories from feeder in electrical room (50 mtrs distance to be considered) shall be in the bidder's scope.

Electrical earth pit shall be made available at a distance of about 5 mt. from compressor package. Electrical Earthing Cable from this earth pit shall be in the bidder's scope shall be terminated to dedicated earth provided in the panel through proper size of glands. Owner's earthing main ring shall be made available at compressor foundation for equipment earthing. Electrical earthing for motor shall be done through Cable and the body earthing to be done through GI strip of 25 x 3 inside the compressor package shall be in the bidder's scope.



7.0 DESIGN DATA

7.1 DESIGN LIFE

The design life of the CNG booster station facilities shall be 30 years as minimum.

7.2 ENVIRONMENTAL CONDITIONS

Ambient Air Temperature (Min./Max.)	:	18 °C /48 °C
Relative Humidity	:	97%

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7.3 GAS COMPOSITION

The expected gas composition is given below,

Feed Gas Composition



Component	Normal Gas Composition Range (Mol %)	Design Case Composition Range (Mol %)
Methane	82.0 – 99.0	95.21
Ethane	7.5 – 0.9	1.82
Propane	3.5 – 0.0	0.57
i-Butane	0.75 – 0.0	0.20
n-Butane	0.75 – 0.0	0.13
i-Pentane	0.15 – 0.0	0.06
n-Pentane	0.15 – 0.0	0.05
Hexanes	0.25 – 0.0	0.21
Carbondioxide	4.9 – 0.0	1.46
Nitrogen	0.08 – 0.0	0.29
H ₂ S	0.00001	0.00001
Total	100.0	100.0

7.4 CNG SPECIFICATION

The CNG specification should meet the IS 15403:2000 (E) natural gas quality designation for use as a compressed fuel for vehicles.

The proposed specification of the CNG is as follows:

Gas Temperature	: -10 °C to 70 °C
Oil Content	: 10 ppm
Particulate matter	: < 5 microns
Odorant	: ≤10 mg/sm ³ (Ethyl Mercaptan)

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7.5 DAUGHTER BOOSTER STATION

Suction Pressure	:	30 to 210 kg/cm ² g (Note-1)
Outlet Pressure	:	210 – 255 kg/cm ² g
Design Pressure	:	280 kg/cm ² g
Design Temperature	:	65 °C
Compressor Capacity	:	250 SCMh
Stationary Cascade Capacity	:	3000 Litre of water

Notes:

- The hydraulic type motor driven reciprocating type booster compressor is designed for suction pressure of 30-210 kg/cm²g.**

8.0 AREA CLASSIFICATION

All electrical and electronic components shall be suitable for hazardous area CLASS I DIVISION I Group D or Zone -1 Group IIA/II as per IS/IEC.

9.0 SAFETY

All controls shall operate in fail-safe mode i.e. failure of any control shall not lead to running of equipment in unsafe condition. Fail-safe control shall be available through hardware for all trips and also in software if PLC is used for controlling.

All electrical and electronic devices shall meet the requirement of specified area classification in which they are installed.

All exposed rotating parts shall be provided with adequate guards of non-sparking anti static type.



Drive belt, if used, shall be anti-static type, fire resistant.

Piping shall be arranged in a manner so as to provide clear headroom and accessibility within the package. Adequate clearances shall be provided for all the engineered components for O&M point of view.

The compressor system shall be designed to prevent air ingress in the system during startup, operation and shutdown. Necessary instrumentation shall be provided.

Package enclosures shall have one IR-L.E.L detectors and one Ultra Violet (UV/IR) fire detectors in each enclosure to cover the enclosures effectively.

All material used in the package shall be flame retardant.

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Relief Valves shall be provided at suction and discharge of compressor with setting as per cl. 7.20.3 of API – 11P with R.V. venting as per Cl. 7.20.4 of API-11P. All vented to common relief valve header.

Modular type DCP fire extinguisher (10Kg Capacity) shall be provided with compressor package.



Warning and Operating instructions to be displayed at equipments as per the statutory/ safety regulations including following warning and caution signage:

- a. "No Smoking" Sign on the package.
- b. Caution notice " This Machine may automatically start at any time"
- c. "Stop Motor".
- d. "Flammable Gas".
- e. Instructions on "Emergency Shut Down System"
- f. Instructions on "Operating Instructions for CO2 System"
- g. Instructions on "Package Operation"

10.0 CO2 FLOODING SYSTEM:

The package shall be protected by automatically operated CO2 flooding system designed as per NFPA-12, which should have minimum following features: -

- a) Minimum One No. Gas Detector IR type which have self check function to generate fault alarm and have 4 to 20 MA transmitter for 0 to 100% LEL shall be provided. Bidder shall provide suitable comparator like trip amplifier of MTL/phoenix /P&F make to generate alarm signal at 20 % LEL and trip signal at 50% LEL. Indication lamp shall be provided for fault, alarm and trip signal in LCP.
- b) Minimum One No. Flame Detector (UV-IR type) with self-check function and transmitter, alarm on detection of flame shall be provided. Package should have atleast one no. flame detectors. self check function to generate fault alarm and trip alarm in case of flame detection Indication lamp shall be provided for fault and trip signal in LCP.
- c) CO2 flooding system shall consist of 2 Nos. equally sized CO2 Cylinders, size of the cylinder shall be as per compressor enclosure size. The bidder shall submit necessary calculation during detailed engineering. One cylinder will act as main cylinder & other as stand by, which shall have identical arrangement and connected to the system. The cylinders shall be protected from weather and direct sunrays as per Gas Cylinder Rules, 2004. Cylinders shall be fitted with actuated Valves, Solenoid valves etc. for automatic actuation. Control philosophy shall be such that in case main cylinder fails the standby cylinder shall discharge automatically. For this the vendor shall provide suitable device such as pressure switch to detect the failure of main cylinders failure. One manual switch / call point shall be provided to operate the CO2 cylinder from remote control

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room. Pull down lever/ Manual Valve shall be provided for manual operation of CO2 System shall be provided.

- d) The System shall be designed to operate on 24 V DC supply.
- e) Interlock of CO2 Flooding system with compressor as per following sequence: -
 - i. Compressor shall trip on detection of gas at preset level.
 - ii. Compressor shall trip on detection of flame at preset level and automatic discharge of CO2 gas shall take place from the main cylinder simultaneously.
 - iii. Maintenance Override Switch shall be provided to keep the system off during maintenance.
 - iv. Compressor shall not start if the CO2 Flooding System is faulty, not working, switched OFF during maintenance etc.
 - v. Selector switch shall be provided to put Main/Stand by Cylinder in line at the turn of a switch as per requirement.
- f) CO2 Cylinders shall be provided outside the package at a safe place, minimum 4.5 meters away (aerial distance), where it is not exposed to fire in case of fire in the compressor. Facility shall be made to operate the system both manually from remote with the help of a switch/ call point and with help of pull down lever on cylinders.
- g) All installation shall be compatible for hazardous area Class 1, Division 1, Group-D for Methane Gas.
- h) Technical specifications, Operation and Maintenance Manual, CCoE Certificate, Approval/ Manufacturing certificates for cylinders and cylinder valves, Calibration Certificates of Mass Flow Meter, gas detectors, flame detectors, solenoid valves etc. shall be furnished by the Bidder along with system. Software and hardware, calibration procedure shall be provided by the Bidder along with the supply sufficient enough to handle the system independently.
- i) System shall be tested by the Bidder after commissioning at site by creating fire signal and actual discharge of CO2 Gas from the Cylinders. The cylinders have to be refilled by the vendor at no extra cost to purchaser after testing. If the system fails during testing, subsequent testing and refilling would be at vendor's cost.

11.0 TECHNICAL SPECIFICATIONS

11.1 GENERAL - HYDRAULIC RECIPROCATING COMPRESSOR

- a) To increase the dispensing speed & reduce waiting time for filling at daughter booster station and better utilization of cascade capacity, hydraulic type motor driven reciprocating CNG variable suction booster compressor of capacity 250 SCM³/H at suction pressure of 30 kg/cm²g has been envisaged at daughter booster station.
- b) Hydraulic type reciprocating compressor with electric motor, hydraulic pump and piping, cooling system, suction and discharge filters, control panel safety and



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control devices, tubing, valves, instrument and other accessories required for automatic and safe operation of the system.

- c) The pistons / cylinders are actuated by hydraulic fluid instead of connecting rod. The hydraulic compressors are suitable for high suction pressure and for relatively low volume filling. The CNG gas shall be totally oil free, hence the membranes are inserted for positive separation.
- d) Following specifications are intended to give the Bidder the technical and operating conditions the compressor must fulfil.
- e) The Bidder shall meet all applicable statutory codes, National law and Local regulation for safety and environment protection.
- f) Cooling system shall be of closed circuit type. Ultimate cooling shall be by air only.
- g) Bidder shall include all interconnecting piping tubing/cables.
- h) Hydraulic type CNG Booster Compressor is designed to handle a flow rate of 250 SCMh from a variable suction pressure of 30 – 210 kg/cm²g to a discharge pressure of 255 kg/cm²g.
- i) The compressor package control system shall be designed for unattended safe operation in automatic mode and shall unload, start, load, stop safely. The compressor shall start in auto in case high bank pressure in dispenser fall below 210 kg/cm²g and stop once the pressure in all three banks reaches 255 kg/cm²g.
- j) The priority fill system will ensure maximum flow rate by filling of vehicle and storage cascade.
- k) Compressor shall be designed to ensure flow capacity as indicated in data sheet.

11.2 COOLING SYSTEM

Each compressor package shall be complete with its own cooling system. The cooler shall be air cooled heat exchanger. The gas temperature after-cooler shall not exceed 50 Degree C. For calculating the surface area of the cooler the ambient air temperature of 42 Degree C and 80% RH shall be considered. Cooler design shall be based on 20% extra load corresponding to max severe operating conditions based on the thermal duty. Cooling system to be preferably installed on same skid along with compressor due to space constraint. Therefore all electrical and instrumentation equipment installed shall be as CLASS-1, DIVISION 1, GROUP D of NFPA or ZONE-1, GROUP IIA/IIB, IS/EIC

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11.3 ELECTRICS

Prime mover (Electric Motor)

The motor shall be flame proof/ explosion proof and confirm to IS: 2148 suitable for zone 1 group IIA and T3 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 star-delta 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.

a) Type of drive	Totally enclosed fan cooled (TEFC) high efficiency as per IEEEMA standard-19-2000
b) Protection Explosion proof	IP.55
c) Insulation	Class "F" with Class "B" temperature rise
d) Mounting	As per system requirements
e) Specification Standard	IS-325
f) Supply Voltage (assumed)	415 ± 10% volt, 3 phase, 50 ± 5%Hz
g) Synchronous Speed	By bidder
h) Motor rating	By bidder
i) Motor efficiency %	By bidder
j) Power factor	By bidder
k) Speed of motors	By bidder
l) Nos. of hot starts of motors	4 per hours
m) Coupling direct/flexible	By bidder

➤ Motor accessories as required

Bidder to include as per package requirement.



➤ Electrical supply parameters :

All electrical shall be suitable for the following supply conditions.

Electrical operating voltage : AC, 3 phase, 415 V, 50 Hz

Electrical control voltage : 240 VAC, 50 Hz (under supplier 's scope)

Tolerance of voltage : ± 10%

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Tolerance of frequency : $\pm 5\%$

➤ **Electric Specification**

All electrical equipment of compressor package shall be installed in accordance with Zone 1, Gas group IIA, T3, IS 5571 and shall have approval of a recognized certifying authority.

GGPL shall provide $415 \pm 10\%$ volts, 3 phase and $50 \pm 3\%$ Hz electrical connection at CNG station electrical panel only.

Vendor shall supply the starter cum local control panel and the same shall be flame proof construction with IP 54. Certificate from recognized agency to the effect that equipment supplied and or installed conform to above area classification. All devices shall meet the requirement for the specified area classification in which they are installed, including instrumentation leads.

Vendor shall supply all the cable within the package.

The power & control cables rated low voltage shall be designed for a system voltage of up to and including 1100V. The conductor shall be either annealed copper or aluminium for power cables and annealed copper for control cables. Conductors 6mm² and larger shall be stranded. Conductors below 6mm² may be stranded or solid as per IS 8130.

The cables shall be suitable for use where combination of ambient temperature and temperature rise due to load and short circuit condition results in conductor temperature not exceeding the following.



Type of Insulation	Continuous operation	Short circuit condition
General purpose PVC	70°C	160°C
XLPE	90°C	250°C

The insulation shall be of cross linked polyethylene conforming to the requirements given in Table-1 of IS: 7098 Part-1. The average thickness of insulation shall be not less than nominal value specified in Table-3 of IS: 7098 Part-1. The Filler and Inner sheath shall be of extruded PVC conforming to the requirements of Type-ST2 of IS: 5831 for XLPE cable. The thickness of inner sheath shall be as given in Table-5 of IS: 7098 Part-1.

Armour shall be Galvanized steel round wires/strip for multi-core cables and Aluminum for single core as per IS 3975.

Outer sheath shall be Extruded FRLS (flame Retardant, Low smoke), Type ST2 PVC of IS 5831 for XLPE cables, colored BLACK.

All the above cables are intended to be used in hazardous gas areas. The cable shall accordingly be identified on outer sheath as per IS. The resistance of the armour shall not exceed that of the conductor as specified in IS 8130 by more than 33%.

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Cable entry

Control Panels : Bottom

Cable Glands and Cable sealing

Cable gland shall be Ex 'de' type with suitable size double compression type Nickel Plated brass glands are to be supplied for all cables. For entries in to Ex'd' enclosures, barrier type (or compound filled) glands are provided. All cable glands and adaptors are to be type tested and certified by appropriate authorities for use in specified hazardous area.

Earthing System

The design & installation of earthing system shall be as per IS 3043 or equivalent international specification. The design and installation of earthing within the package shall be vendor scope. Vendor to provide provision for skid earthing. One or more no of earth plates with provision of inter connection to main earth grid shall be provided.

Phase sequence preventer (Current based) shall be provided

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.

11.4 INSTRUMENTATION & CONTROLS

All the instruments and control shall be suitable for area Class I, Group D, Division I.

All package mounted transmitters & temperature elements, solenoid valves, switches and related junction boxes shall be flame proof 'd' as per IEC 79-1. Other special equipment / instrument, shall be flame proof/explosion proof as per IEC 79-1.



The compressor package instrumentation & control is to be configured for manual as well fully automatic control system including starting, shutdown as applicable for unattended operation.

Suitable barriers may be used for safety

All the instrumentation shall be capable or operating for full range of operation.

Separate junction boxes shall be provided for each type of signal/control/power cables. All Signal, control and RTD cables shall be of 250V grade made of copper conductor of min 1.5 mm², PVC insulated, PVC Shredded and armoured.

Suitable bypass for interlocks shall be provided for startup.

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Emergency shut down (ESD) System is also in scope of vendor. This shall be in accordance with NZS-5425. A fail-safe system shall be designed and incorporated to isolate cascades storage from dispensers, stop compressor isolate the compressor suction and cut off power supply on activation of ESD switch. This ESD switch shall have to be manually reset to restart the compressor package again. To isolate dispensers actuators of dispensers may be used.

Compressor package shall be provided with following instruments:

1. All tripping shall be with lamp indication and annunciation.
2. Temperature indicator: each stage discharge and after- after cooler
3. Pressure indication: final stage discharge, high & med bank; Pressure switch final stage discharge, high & med bank
4. Hydraulic oil tank: Level switch, temp indication & switch ; Pump Pressure indication.
5. Coolant: Temp & pr indication & switch and temp indication after cooler.
6. Hour meter.
7. One no. Pressure Switch/Transmitter shall be installed in the inlet line to compressor.
8. One no. Coriolis mass flow meter with integral local display with transmitter shall be installed for metering of gas.

11.5 PRIORITY FILL SYSTEM



Vendor shall supply a suitable priority fill system with compressor top-up facility inclusive of regulating valves, by pass valve & liquid filled pressure gauges all mounted in a stainless steel structural. The Priority fill system shall ensure that vehicle filling takes precedence over cascade filling.

Tubing and valves from LCV cascade and stationary cascade to compressor shall be ¾" SS 316 OD and other tubing and valves shall be minimum ½" size. End connections shall be ¾" size pipe OD.

Suitable priority along with valves (for example 3-way Valve) shall be provided so that compressor can take suction either from LCV cascade or from stationary cascade as described following:

Case –I: Suction from LCV Cascade

- a) If the LCV Cascade pressure is more than 210 kg/cm²g, the gas dispensing should take place directly from LCV to dispenser bypassing booster compressor.
- b) Compressor shall start on pressing of manual start push button when the LCV cascade pressure falls below 210 kg/cm²g. The priority of filling shall be as follows:
 - i) First priority: Priority panel shall first fill the vehicle through dispenser.

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ii) Second priority: If no vehicle is to be fuelled, priority panel shall fill the stationary cascade. The compressor shall shutdown automatically when either all stages of stationary cascade are filled to a pressure of 255 kg/cm²g or pressure in mobile cascade is less than 30 kg/cm²g.

Case –II: Suction from stationary cascade

a) Dispensing shall be done through stationary cascade without compressor running, if stationary cascade pressure is more than 210 kg/cm²g.

b) Compressor shall start on pressing of manual start push button if stationary cascade pressure is less than 210 kg/cm²g. Dispensing into the vehicle should take place as usual. Compressor shall trip if either there is no vehicle.

11.6 ENCLOSURE OF CNG COMPRESSOR PACKAGE

The maximum ambient temperature within the enclosure shall be limited to 50 Degree C based on the ambient temperature of 47 Degree C. Adequate ventilation fans shall be provided to meet the above and also to account for heat dissipation of the coolers.

The compressor package shall consist of single enclosure for Compressor and Electric Motor. The equipment shall be mounted on one common skid. The Enclosure to restrict maximum noise level to 70 DB(A) at 1 meter from the enclosure.

Enclosures shall be provide with a degree of protection equivalent to IP 55 as defined in AS 1939, shall be flame proof.

All the pressure, temperature, gas flow meter, oil level, lube oil pressure, coolant temperature, coolant level indicators shall be preferably visible from outside of enclosures.

Enclosures shall have internal flame proof lighting arrangement. For handling of all heavy parts for maintenance purpose lifting arrangement i.e. beam fitted with chain hoist shall be provide inside enclosure.



The Compressor shall be located inside an acoustic enclosure at Grade Level. All accessory and auxiliary system along with interconnecting piping shall be inside an enclosure, Enough headroom shall be made available for easy access and maintenance of all equipment.

Components such as pressure gauges, temperature and pressure switches etc., which require in-situ adjustment and reading, shall be easily accessible.

Conduits and tubing shall be arranged in orderly and systematic manner and shall be routed neatly to enter the back of display or monitoring panels.

Routine service item such as, but not limited to, oil filters, gas filters and drive belt shall be located to facilitate easy one-man servicing.

Items which must be operated & monitored during operation shall be readily accessible without opening the enclosure door. For which, if required, separate partition with door must be provided.

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Suitable gradients shall be provided on the enclosure roof for rain drainage and to avoid water pockets.

11.7 PIPING AND TUBING

All rigid piping, tubing & other components of compressor package shall be designed for full range of pressure & temperature and loading to which they may be subjected with a factor of safety of at least 4 based on minimum specified tensile strength at specified ambient temperature. Compressed air header and water piping shall be GI or seamless steel. The instrument air tubing material shall be SS-316/SS304. All lube oil piping down stream of filter shall be series 300 Stainless Steel. Mercapton/THT dosing is envisaged hence all materials coming in contact with gas shall be compatible to such gas with Mercapton/THT dosing and be of compressor manufacturer's standard. The use of SA 515 material is prohibited.

All gas piping/ tubing, valves, fittings etc. from Suction of the 1st stage (right from interface) through final discharge from the compressor (upto interface) shall be SS-316 material with double compression ferrule fittings.

11.8 PRESSURE VESSELS:

All pressure vessels shall be designed as per ASME VIII Div 1 or equivalent with 3 mm corrosion allowance and shall be fully (100%) radio-graphed as per ASME VIII-UW (a) or equivalent.



11.9 INSPECTION AND TESTING

11.9.1 General

- a) Inspection and Test Requirements shall be as per approved QAP
- b) Bidder shall confirm compliance to all inspection and testing requirements stipulated therein and included the inspection charges in the lump sum cost.
- c) All Inspection and testing shall be witnessed by Third Party Inspection Agency at the bidders cost. Approved Third Party Inspection Agencies are Bureau Veritas Industrial Services (BVIS), Lloyds Register of Shipping (LRIS) ,SGS or DNV.
- d) GGPL may witness tests as per data sheet and this specification. The bidder shall notify the timing of such inspection and testing at least 15 days in advance to GGPL. GGPL may depute their representative for witnessing the tests.
- e) Bidder shall submit detailed Test Procedure for Approval of the GGPL one months in advance of the actual date of conducting each test.

11.9.2 Mechanical running test (MRT)

The MRT for the each compressor shall be carried out in presence of Purchaser or their representatives along with third party as arranged by Vendor with job or shop driver including complete job driving system for 4 hours continuously at shop of compressor

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manufacturer. The compressor need not be pressure loaded for MRT test. During this test following shall be recorded at agreed intervals.

- Vibration levels measured on cylinders and frame
- Oil cooler inlet and outlet temp
- Electric Current of each drive

Bidder shall submit test procedure for approval. Dispatch clearance shall be given after reviewing all test certificates/documents and completeness of the equipment.

11.9.3 PACKAGE PERFORMANCE Test

Bidder shall assemble the complete package including auxiliary systems, instrumentation, safety devices within the enclosure at his shop/site and dispatch. The machine shall be accepted after the performance test at site. Complete package shall be performance tested as a module along with electric motor & compressor performance Bidder shall demonstrate all controls, shutdown, trips / alarms etc.

The test shall be the basis of acceptance / rejection of the package thereon. Bidder shall submit the detail test procedure for the same, which shall be approved by PURCHASER. The test for the package shall be witnessed by PURCHASER or their representatives. All guaranteed and other critical parameters shall be demonstrated by the Bidder. In PG test minimum following shall be recorded.



- ✓ Compressor capacity average
- ✓ Sound level
- ✓ Vibration levels measured on cylinders and frame
- ✓ Bearing Temp
- ✓ Oil cooler inlet and outlet temp
- ✓ Electric current of each drive.

Bidder shall arrange a Mass flow meter at Discharge of Compressor package to measure the flow for Performance Guarantee test. Duration of test shall be approximately 4 hours which may be in steps in consultation with purchaser.

Formal Test procedure shall be submitted for approval of the purchaser before conducting the test.

11.10 SPARE PARTS, SPECIAL TOOLS AND TACKLES

1. All spare parts, special tools & tackles for erection and commissioning shall be supplied and shall form his scope of supply.
2. A brand new Separate set of special tools and tackles along with Tool Box as required for Normal maintenance after warranty period shall be supplied by the bidder,

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which shall form the property of Purchaser. Bidder shall submit a list of all such tools and tackles with the unpriced bid.

11.11 DOCUMENTS/DATA REQUIRED ALONG WITH BID



Bidder shall necessarily furnish the following along with the bid without which the offer shall be considered incomplete:

- a. Completely filled in Data Sheets of Compressor, Electric motors
- b. Deviations if any to this Technical Specification
- c. Tentative Layout/ keyplan/ General Arrangement indicating size of the skids, Centre distance between skid & space required along with maintenance requirements.
- d. Checklist duly filled in with regards to scope of supply
- e. Proven track record format duly filled in
- f. Utilities requirements
- g. Electrical Load summary
- h. Catalogues of compressor, electric motor, instrumentation items, etc.

Any other document required over and above aforesaid documents during engineering stage after placement of order shall be supplied by bidder. Bidder shall also supply above data in editable soft copy.

11.12 GUARANTEED PARAMETERS

Sl No	Description	Bidder to indicate
1	Average flow capacity (overfull range of suction pressure from 210 kg/cm ² g to 30 kg/cm ² varying on continuous basis) required min 250 Sm ³ /hr	
2	Minimum flow capacity corresponding to suction Pressure of 210 kg/cm ² g	
3	Minimum flow capacity corresponding to suction Pressure of 30 kg/cm ²	
4	Minimum flow capacity corresponding to suction Pressure of 50 kg/cm ² ; required min 250 Sm ³ /hr	
5	Sound level of enclosure (required Max 70 DBA)	

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6	Power consumption of the package (inclusive of all auxiliaries) corresponding to suction pressure 30 kg/cm ² g and discharge at 255 kg/cm ² g	
---	---	--

Note to Sl no 6 : Power loading shall be done on the basis of lowest power consumption quoted. In case of difference between the indicated power consumption in the bid and actual power consumption observed during performance guarantee test, penalty shall be levied for the differential unit. The above price loading and penalty shall be calculated based on the following:

$$E (\text{Rs.}) = (E_d) \times R_e \times 6570 \times D_f$$

E = Amount of penalty or price loading in INR

E_d = Difference of units with the Lowest (for loading) with the indicated KW (for penalty)

R_e = Unit rate of electricity which is Rs. 6/- per unit

6570 = 18 hrs per day for 365 days



D_f = 3.274 (Discounting factor based on 5 years of operation)

11.13 MANDATORY SPARES PARTS FOR HYDRAULIC RECIPROCATING COMPRESSOR PACKAGE

1. Price of mandatory spares shall be loaded for evaluation purpose.
2. 1 Set means the quantity installed in one compressor package. Details items in the set will be as per OEM's spare parts & maintenance manual. Successful Supplier will furnish details of set with part nos. If a supplier fails to indicate the price and details of the part no, they have to supply the parts as per O&M manual without any additional cost.
3. In technical bid, the list of spares and quantity shall be submitted without price.
4. For O&M during the warranty period No Spare part shall be used from those supplied as Mandatory spares.

LIST OF MANDATORY SPARES:

Sr.no	Part number	Qty. Required by GGPL per package	Unit Price	Cost of spares for 1 year post warranty O&M
1	Set of piston rings/seal, set of seal oil & water.	1 Set		
2	Set of Gas filter cartridge	1 Set		
3	Set of Oil filter cartridge	1 Set		

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4	Gas solenoid valves	01 nos		
5	Transducer board	01 nos		
6	Pressure Transducer	01 nos		
7	Zener Barrier with filter	03 nos		
8	Bearing/bushes for all motors, fans and gas compressor	1 Set		
9	Oil hose set	1 Set		
10	Any other Recommended Spares	1 Set		
11	Pressure Gauges	01 nos		
12	Cylinder liners (if required)	01 nos		
13	Special parts	01 nos		
14	Total Cost			



The list given above is the minimum requirement. Bidder can add to this list, if they feel that additional spares are required in addition to the spares listed above.

Bidder shall furnish in his bid the complete itemized list of recommended spare parts for two year of trouble free operation beyond 1st year warrantee period.

11.14 RECOMMENDED MAKE

Preferred makes of electrical equipments shall be as follows

- | | |
|--|---|
| a) FLP motors | - ABB/ Crompton greaves/ Kirloskar/ Siemens/ Bharat Bijlee |
| b) FLP Switchgear | - Baliga/ FCG/ FPE/ Sterling/ Flexpro/ Sudhir |
| c) Switches/fuses/contractors | - L&T/ GEC/ Siemens/ BCH/ Telemechanique |
| d) PLC | - Allen Bradley, GE Fanuc, Siemens |
| e) IR Gas detectors | - General Monitors / Crowcon / Tata/ Sieger/ Honeywell / Any other CCoE approved make |
| f) UV Flame detectors | - General Monitors / Crowcon / Tata/ Any other CCoE approved make |
| g) Air Compressor(for instrument air)- IR/ KPCL/ Elgi/ CP make | |
-

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11.15 OPERATION AND MAINTENANCE SERVICES DURING WARRANTY

The bidder must follow the OPERATION AND MAINTENANCE REQUIREMENT as stated below but not limited to and ensure to provide trouble free services to the satisfaction of the owner.

11.15.1 Accommodation / Transportation / Medical

The Bidder shall make his own arrangement for the accommodation of his personnel at respective locations and subsequent transportation arrangement for them from their place of residence to work place or any other place as required and company shall have no obligation in this respect. The company shall not be responsible for providing any medical assistance to the personnel.

11.15.2 Discipline

The Bidder shall be responsible for the discipline and good behaviour of all his personnel deployed in the services contracted out and should any complaint be received against any of his employee, he shall arrange to replace such persons within 24 hours of notice issued by the Engineer-in-charge. The decision of the Engineer-in-charge in this matter shall be final and binding on the contractor.

11.15.3 Gate pass/Identity Card

The contractor shall arrange to supply / renew identity card to his workforce at his own cost, if so required by PURCHASER for security or for any other reasons. Those contractor's personnel shall be required to carry their respective identity cards while on duty and produce on demand.

11.15.4 Right to get services carried out through other agencies



Nothing contained herein shall restrict PURCHASER from accepting similar service from other agencies, at its discretion and at the risk and cost of the contractor, if the contractor fails to provide the said services any time.

11.15.5 Sub-letting of Contract

No part of this contract nor any share or interest therein in any manner or extent, will be transferred or assigned or sub-let, directly or indirectly to any person/firm or organization without prior permission of purchaser.

11.15.6 Compliance of Laws

The Bidder deploying 20(twenty) or more workmen as contract labour shall have to obtain license from appropriate licensing authority, if required. The Bidder (which shall include the Contracting firm / company) shall be solely liable to obtain and to abide by all necessary licenses from the concerned authorities as provided under the

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various labour laws legislation's including labour license from the competent authority under the Contract labour ("Regulation & Abolition") Act 1970 and Acts made thereafter.

The Bidder shall be responsible for necessary contributions towards PF, Family Pension, ESIC or any other statutory payments to Government Agencies as applicable under the laws in respect of the contract and personnel deployed by the Bidder for rendering services to PURCHASER and shall deposit the required amount with the concerned statutory authorities on or before due dates. The Bidder shall obtain a separate PF number from the concerned Regional Provident Fund Commissioner and submit necessary proof of having deposited the employees as well as the employer's contribution to the Provident Fund.

The Bidder shall not engage / deploy any person of less than 18 years under this contract and the persons to be deployed should be physically and mentally fit. The installation where job is to be carried out are alive and have hydrocarbon environment. Bidder shall comply with all safety and security rules and regulations and other rules laid down by PURCHASER for its operation. It shall be the duty/responsibility of the Bidder to ensure the compliance of fire, safety, security and other operational rules and regulations by his personnel. Disregard to these rules by the contractor's personnel will lead to the termination of the contract in all respects and shall face penal/legal consequences.

The Bidder shall arrange for insurance of all workers engaged on the job as per the relevant Acts, rules and regulations, etc. In case by virtue of provisions of worker's compensation Act, 1923 or any other law in force. PURCHASER has to pay compensation for a workman employed by the due to any cause whatsoever the amount so paid shall be recovered from the dues payable to the and / or security deposit.



11.15.7 Officer in Charge

The officer in charge shall have power to

- i) Issue the Bidder from time to time during WARRANTY such further instructions as shall be necessary for the purpose of proper and trouble free operation of equipments.
- ii) Order the Bidder to remove or replace any workman whom the company considers incompetent or unsuitable and opinion of the company representative as to the competence of any workman engaged by the shall be final and binding on the contractor.

11.15.8 Repatriation and Termination

PURCHASER shall reserves the right at any time during the period, to terminate the services by giving 30 days notice to bidder, and upon expiry of such notice period the bidder shall vacate the site/office occupied by him immediately.

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11.15.9 Indemnity Agreement

Bidder shall exclusively be liable for non-compliance of the provision of any act, laws rules and regulations having bearing over engagement of workers directly or indirectly for execution of work and the hereby undertake to indemnify the company against all actions, suits, proceedings, claims, damages demands, losses, etc. which may arise under minimum wages act, payment of wages act, workman compensation act, personnel injury (compensation insurance) act ESI Act, Employees Provident Fund Act, Family Pension and deposit Linked Insurance Scheme or any other act or statutes not herein specifically mentioned but having direct or indirect application for the persons engaged under this contract. (A certificate to this effect shall be submitted by the immediately on receipt of LOA)

11.15.10 Compensation for non-fulfillment of obligation under Warranty

During the warranty period, the Bidder must ensure that the compressor is available for a minimum of 18 continuous hours a day and 365 days a year for performing the required services as defined in the tender document. The timing of 18 hours will be decided by client. If the Bidder fails to provide the required services for any day, the Bidder shall compensate the owner @ Rs 200/- per hr for compressor for the default period. For calculation of default period will be recorded jointly by the Bidder and the owner on daily basis. However, compensation will be on monthly cumulative basis rounded to nearest hour. During 6 hours, Bidder can carryout cleaning and preventive maintenance. Bidder in consultation with owner can club these 6 hours for two consecutive days for two times a month only without any penalty. In addition to above, Bidder shall also be allowed downtime for the compressor package cumulative upto 18 hours per month to carry out the periodic / scheduled / breakdown maintenance / routine checking of compressor package. In case Bidder has utilized less down time of the compressor package than that allowed, they can carry forward only max unutilized 9 hours downtime to immediate next month. The max penalty per month shall not be more than 50% of per month charge against O&M quoted by the Bidder.

11.15.11 Contractor's Responsibility



The Bidder shall depute his Supervisor for supervision of the services to receive instructions from Engineer-in-charge or his representative.

11.15.12 Employment Liability of Contractor

The Bidder shall ensure and will be solely responsible for payment of wages and other dues latest by 7th of the following month to the personnel deployed by him in the presence of company's representative.

The Bidder shall be directly responsible and indemnify the company against all charges, claims, dues etc. arising out of disputes relating to the dues and employment of personnel deployed by him.

The Bidder shall indemnify the company against all losses or damages caused to it on account of acts of the personnel deployed by the contractor. The Bidder shall ensure regular and effective supervision of the personnel deployed by him.

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The Bidder shall be liable for making good all damages/losses arising out of loss or theft of each handled, leakage pilferage of any office, furniture equipment fitting and fixtures what-so-ever as may be caused directly or indirectly by the engaged persons through him/work carried out by them.

11.15.13 General

The operation and maintenance services shall be provided in terms of shift pattern on the round the clock basis as mentioned in the tender document.

i) The Bidder shall deploy adequate number of technicians/ supervisors / Engineers / helpers as well as tools & equipment for smooth and proper operation & maintenance of the compressors supplied in terms of the contract.

In case required to meet operational requirements, the Bidder shall augment the same as per direction of Engineer-in-charge.

ii) The Bidder is required to carry out all services as mentioned in the Scope of Services on all the 365 days including Sunday and all Holiday & round the clock.

iii) The Bidder shall allow weekly rest and daily working hours to his workmen as per the relevant Act/Law/and Rule made there under. However, no work shall be left incomplete/unattended on any holiday/weekly rest.

Technician/operators provided shall have minimum qualification of ITI. Contract in person or his authorized representative shall provide the services on daily basis to interact with Engineer-in-charge and deployed workman.

iv) The work force deployed by the Bidder for O&M services at CNG installation shall be of sound relevant technical professional expertise which is otherwise also essential from the safety point of view of the personnel of the as well as for the installation.

v) Bidder has to ensure the safety of man and machine all the times. Damages of equipment due to negligence will be recovered as per the decision of Engineer-in-charge, which will be final.



vi) Regarding work completion, the decision of the Engineer-in-charge will be final and binding.

vii) The Bidder shall make his own arrangements to provide all facilities like boarding and transport etc. to his workmen.

viii) All personnel of the Bidder entering on work premises shall be properly and neatly dressed and shall wear uniform, badges while working on premises of the company including work sites.

ix) Bidder shall maintain proper record of his working employee's attendance and payment made to them.

x) The contractor's representative/supervisor shall report daily to the Shift-incharge for day to day working.

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xi) All the safety rules and regulations prevailing and applicable from time to time at the installations as directed by PURCHASER will be strictly adhered to by the contractor.

xii) The rates quoted by the Bidder must be inclusive of all the taxes, duties, services tax, work contract tax and any other levies, contractor's share of P.F. and insurance charges, contractor's profit and any other expenditure etc.

xiii) It will be the responsibility of the Bidder to pay as per the minimum wages of the appropriate government applicable under the Minimum Wage Act 1948.

xiv) The services shall provided in terms of shift pattern on the round the clock basis. The Bidder is responsible to provide effective and efficient services in all shifts and assure that there is no disruption in the services for want of any resources.

xv) The Bidder shall deploy adequate number of technicians/ supervisors/ engineers at various site offices in consultation with Engineer-in-charge to provide trouble free operation & maintenance of the compressors.

xvi) All arrangements for communication from control room to the contract person working on job under the services shall be the responsibility of the contractor, viz pagers / walky-talky/cell phone.

xvii) All the jobs mentioned under scope of services shall be carried out as per sound engineering practices, work procedure documentation, recommendation of the manufactures and as per the guidelines/direction of engineer-in-charge of authorized representative.

11.16 OPERATION AND MAINTENANCE OF COMPRESSOR PACKAGES DURING WARRANTY PERIOD.



11.16.1 SCOPE OF SUPPLY DURING WARRANTY PERIOD

All the Spares, consumables, lubricants, lubricating oil, coolant, sealant, manpower etc. required during the warranty period of the compressor packages for round-the-clock Operation and Maintenance shall be in scope of the Bidder and shall be kept in stock. Electricity shall be supplied free of cost to the Bidder.

11.16.2 SCOPE OF SERVICES DURING WARRANTY PERIOD:

The Bidder shall have to keep all the spares, consumables, lubricants, coolant, etc required for carrying out Round the Clock Operation and Maintenance of CNG Compressor Packages and Periodic, breakdown, emergency maintenance etc of the package to minimize the down time of the compressor. Non availability of compressor package for non-availability of spares shall be liable for Compensation.

All tools, tackles and fixtures required for carrying out the above maintenance of the compressor shall be in scope of the Bidder. The scope will also include handling equipment like crane, forklift, chain pulley block, etc required during any maintenance activity.

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Any expert services required from principal company or OEM shall be arranged by the Bidder or his agent at his own cost. All arrangements like phone, fax, computer, Internet etc required for correspondence with above personnel shall be arranged by the Bidder.

The Bidder shall provide the detailed Preventive maintenance schedule as per OEM recommendation along with Estimated down time required for each type of maintenance schedule.

- List of spares and their quantities required for each type of maintenance schedule per compressor.
- Type and number of man days required for each type of maintenance schedule per compressor.

The Bidder shall plan such maintenance during non-peak hours and in Consultation with Engineer In Charge (EIC) of PURCHASER. Any maintenance that needs to be taken up shall be well planned in advance with due approval of the EIC.

The Bidder shall use only OEM's certified spares during maintenance. In case, the schedule maintenance of the OEM manual recommends checking and replacing parts like valve spring, valve plates, piston rings etc. after certain time interval, it shall be replaced or used further only on approval from the PURCHASER representative. However, any untoward consequences for non-replacement of such parts shall be the responsibility of the Bidder.

The Bidder shall submit a copy of the daily/ weekly/ fortnightly/ monthly/ bimonthly/ quarterly and yearly performance report to the EIC in both soft and hard form. All stationery including the printed material shall be in scope of the Bidder.

All the maintenance / inspection job carried out by the Bidder shall be recorder and the report of the same shall be jointly signed by PURCHASER representative.



The EIC will be final authority to take decision with regards to maintenance or replacement of parts or any disagreement between the Bidder and PURCHASER, during the execution of the contract.

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 PURCHASER. Also yearly calibration of all instruments such as pressure gauges, transmitters, switches, mass flow meters etc shall be in the scope of the Bidder. In addition to the above all safety relief valves shall also be tested and calibrated every year.

Calibration shall be done from government-approved laboratories and shall be carried out at least 15 days prior to the calibration due date.

The Bidder shall carry out retesting of pressure vessels periodically as per Gas Cylinder rules 1981 or Static & Mobile Pressure Vessels Rules.

The periodic maintenance required to be done as per OEM recommendation shall be taken up promptly. The Bidder shall plan such maintenance during non-peak hours and in consultation with the Engineer In Charge (EIC) of Purchaser. Any maintenance that needs to be taken up shall be well planned in advance with due

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approval of the EIC. The scope shall include preparation of maintenance schedule for carrying out the maintenance during the contract period.

In case, the schedule maintenance of the OEM manual recommends checking and replacing parts like valve spring, valve plates, piston rings etc. after certain time interval, same shall replaced in the presence of PURCHASER representative.

11.17 CHECKLIST: SCOPE OF SUPPLY

Notes:

Bidder shall furnish all equipments, drivers, auxiliary systems, instruments, and controls and safety devices as per the enquiry document. Anything required over and above what is specified, for safe and satisfactory operations of the equipment package shall be included by the Bidder in his scope.

Bidder to write 'YES' or 'NO' against each item. Bidder is required to include complete scope, as such 'NO' is not warranted. However, in case for any of the items if Vendor's reply is 'NO' , Vendor should give reason for the same.

Bidder's scope of supply shall include but not be limited to the following:

SN	Description	Specified by Purchaser (YES/NO)	Included by Bidder (as annexure/ page)	Remarks
1	Each compressor package shall be complete with:			
2	Document required for equipment qualification criteria submitted along with User's certificate	Yes		
3	Area Classification: All electrical and electronic components as specified shall be suitable for hazardous area CLASS-1 DIVISION-1 GROUP-D as per NFPA 70 Article 500 or ZONE-1, GROUP IIA/IIB as per EIC/IS	Yes		
4	One no. Modular type DCP fire extinguisher capacity 10 Kg, shall be provided with each compressor in the enclosure.	Yes		
5	One LEL, one fire detector (UV) and one FLP Lamp shall be provided in the enclosure.	Yes		
6	One air compressor with air storage Vessel and air drier for utility air required. Gas shall not be allowed to operate instrumentation.	Yes		





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7	Cooling System at site is not available: It is required to have closed circuit radiators for cooling compressor and auxiliaries if needed which shall be in the scope of the Bidder.	Yes		
8	Safety relief valves on each stage of the compressor	Yes		
9	Minimum flow capacity corresponding at suction pressure of 30 Kg/cm ² and discharges at 255 Kg/cm ²	250 SCM/Hr		
10	Explosion proof Electrical panel to be installed in the hazardous area.	Yes		
11	Electrical equipments of cooling system to be explosion proof.	Yes		
12	All valves, tubing's, fittings, as specified and required within the compressor package shall be SS-316	Yes		
13	CO ₂ flooding system included as per specifications	Yes		
14	Instrumentations and control included as per specifications, including One No mass flowmeter.	Yes		
15	Acoustic enclosures for Motor & compressor for noise attenuation upto 70 dBA @ 1 metre distance.	Yes		
16	Priority Panel as specified at package discharge.	Yes		
17	Cabling with cable trays for all electrical & instrumentation cabling within the package	Yes		
18	All couplings and Guards	Yes		
19	Set of Special tools & tackles and Tool Box (along with list)	Yes		
20	Inspection and testing as specified on the data sheet and TS.	Yes		
21	Documents: All data and drawings as required as per TS	Yes		
22	Erection, commissioning and PG test at site of the complete package	Yes		
23	Foundation and anchor bolts is in the scope of the Bidder	Yes		
24	Grouting of equipment is in the scope of the Bidder	Yes		
25	Operation and Maintenance Services is as per TS.	Yes		

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SECTION-VIII
VENDOR DATA REQUIREMENT LIST

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1.0 VENDOR DATA REQUIREMENT LIST

S. NO	DESCRIPTION	PRINTS WITH BID	CERTIFIED INFORMATION REQUIRED AFTER PURCHASE ORDER	
			FOR REVIEW	FOR RECORDS
A	GENERAL			
1	PROJECT SCHEDULE	YES		
2	DULY FILLED-IN "CHECKLIST FOR COMPLETENESS OF BID"	YES		
3	DULY FILLED-IN "CHECKLIST FOR SCOPE OF SUPPLY"	YES		
4	DEVIATION LIST (IF ANY) TO THE APPLICABLE SPEC., DATASHEETS	YES		
5	UTILITIES REQUIREMENT SUMMARY	YES		YES
6	FLANGE DETAILS OF PIPING CONNECTION WITH CONNECTION AT BATTERY LIMIT		YES	
7	DULY FILLED IN EXPERIENCE RECORD PROFORMA	YES		
8	GUARANTEE PARAMETERS AS SPECIFIED	YES		YES
9	TENTATIVE LOAD DATA FOR FOUNDATION DESIGN			YES
10	LIST OF SUB-VENDORS FOR ALL BOUGHT OUT ITEMS INCLUDING ELECTRICAL & INSTRUMENTATION ITEMS		YES	
11	LEAFLET, CATALOGUES FOR ALL ITEMS	YES	YES	
12	O & M MANUAL		YES	
B	COMPRESSOR			
1	DATASHEETS FOR THE FOLLOWING	YES		YES
A	- COMPRESSOR	YES		YES
B	- HEAT EXCHANGERS	YES		YES



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C	- PRESSURE VESSELS	YES		YES
D	- ELECTRIC MOTOR	YES		YES
2	CATALOGUE FOR COMPRESSOR	YES		YES
3	TYPICAL CROSS SECTIONAL DRAWING AND LITERATURE TO FULLY DESCRIBE THE DETAILS OF OFFERING			YES
A	- COMPRESSOR			YES
B	- SUCTION VALVE			YES
C	- DISCHARGE VALVE			YES
D	- PISTON ROD GLAND PACKING & PISTON RINGS			YES
E	- LUBE OIL PUMP			YES
4	V-BELT & PULLEY WITH SELECTION CHART & CALCULATION			YES
5	COOLER DATA / DRG WITH THERMAL & MECH DESIGN CALCULATION		YES	
6	DESIGN CALCULATION, GA DRGS FOR PULSATION DAMPNER		YES	
7	PIPING & INSTRUMENTATION DIAGRAMS FOR THE FOLLOWING	YES	YES	
A	- PROCESS GAS	YES	YES	
B	- LUBE OIL	YES	YES	
C	- COOLING WATER	YES	YES	
8	TORQUE ANGLE DIAGRAM, PISTON ROD LOAD VS CRANK ANGLE		YES	
9	TORQUE SPEED CHARACTERISTICS		YES	
10	ACOUSTIC / MECHANICAL EVALUATION REPORT		YES	
11	ITEMIZED PRICE LIST OF ESSENTIAL SPARES	YES	YES	
12	ITEM LIST OF SPARES WITH PRICE FOR 5 YEARS	YES	YES	



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13	DRG. FOR TESTING ARRANGEMENT & TEST PROCEDURE TO BE ADOPTED		YES	
14	CERTIFICATE FOR FOLLOWING:		YES	
A	HYDRAULIC TESTING		YES	
B	NON DESTRUCTIVE TESTING		YES	
C	MATERIAL COMPOSITION & PHYSICAL PROPERTIES		YES	
D	LEAK PROOFNESS TEST OF FRAME		YES	
E	LUBE PUMP, FRAME OIL PUMP, HYD OIL PUMP		YES	
15	DESIGN / ACTUAL ASSEMBLY CLEARANCE CHART		YES	
16	TEST RECORDS OF FOLLOWING			
A	MECHANICAL RUNNING		YES	
B	PERFORMANCE TEST / PACKAGE TEST		YES	
C	NOISE LEVEL TEST		YES	
17	LIST OF SPECIAL TOOLS & TACKLES FOR INSTALLATION & MAINTENANCE	YES		YES
C	ELECTRIC MOTOR			
1	MOTOR DATA SHEET	YES	YES	
2	TECHNICAL LITERATURE / CATALOGUE, SELECTION CHARTS, NOMOGRAPHS ETC.	YES	YES	YES
3	GA DRAWING	YES	YES	
4	TERMINAL BOX ARRANGEMENT DRAWING		YES	
5	MOTOR CHARACTERISTIC CURVES		YES	
6	TORQUE SPEED CURVES		YES	
7	CURRENT TIME CURVES		YES	





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8	P.F AND EFFICIENCY		YES	
9	TYPE TEST CERTIFICATES		YES	
10	Certificate from the relevant statutory authority (based on the country of manufacture) for suitability of the offered motor for installation in the specified area classification		YES	
11	Pre-commissioning and Commissioning procedure		YES	
D	INSTRUMENTATION			
1	G.A. OF INSTRUMENT PANEL WITH BILL OF MATERIAL & WIRING DIG. FOR LCP		YES	
2	INSTRUMENT DATASHEET		YES	
3	LOGIC DIAGRAM / LADDER DIAGRAM / FUNCTIONAL DIAGRAM		YES	
4	LOOP SCHEMATIC		YES	
5	INTER CONNECTING DIAGRAM		YES	
6	OPERATING / CONTROL WRITE UP		YES	
7	ALARM / SHUT DOWN LIST		YES	
8	WIRING DIAGRAM / INTER CONNECTING PIPING		YES	
9	START UP AND SHUT DOWN WRITE UP	YES	YES	
10	START UP AND SHUT DOWN INLET LOCK DIAGRAM	YES	YES	
11	ALARM AND SHUTDOWN LIST WITH SET POINT	YES	YES	
12	LOAD CONTROL PANEL LAYOUT		YES	
13	TERMINATION DIAGRAM, PANEL WIRING DETAIL		YES	
14	LOOP SCHEMATIC		YES	
15	INTER CONNECTING DIAGRAM		YES	

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16	CABLE SCHEMATIC		YES	
17	BILL OF MATERIAL		YES	
18	TEST / INSPECTION CERTIFICATE		YES	
19	LIST OF RELIEF VALVES WITH SETTINGS		YES	
20	Certificate from the relevant statutory authority (based on the country of manufacture) for suitability of the offered instruments for installation in the specified area classification		YES	

Document Distribution Schedule

Documents and drawings under column no. 3 shall be submitted with each copy of the bid.

Documents listed under column 4 are to be submitted in 4 copies

Documents listed under column 5 are to be submitted in 4 copies.

Documents listed in column 6 are to be submitted as hard bound indexed book containing the following details in Twelve (12) copies & 2 transparencies and to be submitted within 4 weeks of release note/dispatch of materials/ equipment from vendor's works. All transparencies to be supplied in rolls (in two sets).



Details to be included in Final Documents Books

Copy of P.O. and all amendments.

Copy of Purchase Requisition and all amendments.

Manufacturing Data Book containing all test certificates of components, raw materials, stage manufacturing tests and inspections, final tests & inspection documents including welders' qualification & welding procedure qualification, repairs & reworking carried out in shops. All raw material test certificates must be correlated to the P.O. Item No. & component to which they relate by clear notings on the certificates.

Spares details including assembly drawings, part numbers, delivery, prices and ordering information.

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All design calculations carried out by the vendor.

Final Drawing Index and all as-built drawings reduced to A3/ A4 size and wherever reduction is not possible, full size copies duly folded and placed in plastic pockets.

Catalogues/leaflets of sub-vendors/suppliers of various bought out components highlighting the components actually supplied correlated to P.O. Item Numbers.

Operating and maintenance instructions including lubrication schedules with details of suppliers for procurement by OWNER for subsequent needs.

Release Note and Packing List.

Any other documents asked for in the Purchase Requisition.

All final drawings shall also be given to purchaser in digitized form on CD-ROM compatible to AUTOCAD software.

Special instructions for submission of Drawings / Documents:

Fold all prints to 216 MM x 279 MM size & roll transparencies.

Contractor to forward the drawings and documentation to GGPL (Attention vendor prints control department) clearly specifying purchasers Job no. & Req. No.



The drawing/Document no. with Rev. No. is essential. The number may be upto a maximum of 28 characters in length.

Each Drawing/Document submitted to GGPL must be checked and signed/stamped by contractor before it is submitted to GGPL.

Revision number must change during subsequent submission of vendor document.

Multi-sheet documents other than drawings must be submitted in their entirety in the event of a re-submission even if only a few sheets are revised.

Final submission in bound volumes shall necessarily have a cover page giving project title, Item name, P.O.No. particulars of owner & vendor and an index giving list of drawings & documents included (with revision no.).

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All vendor drawings to be provided with a blank space measuring 75 mm W x 38 mm H for marking of review codes etc. by GGPL.



The review of the vendor drawings shall be done by GGPL, as applicable, under the following review codes:

Review Code A	No comments
Review Code B	Proceed with manufacture/ fabrication as per commented drawings. Revise drawings required.
Review Code C	Document does not confirm to basic requirements.
Review Code D	For Information



Review of vendor drawings by GGPL would be only to check compatibility with basic designs & concepts & would in no way absolve the contractor/vendor of his responsibility to meet applicable codes, specifications & statutory rules/regulations.

Vendor shall submit within 10 days after placement of FOI, the complete list of drawings/ documents with submission dates against each. Critical drawings, only, the list of which will be agreed during kick-off meeting shall be reviewed jointly at GGPL's office.

Final documents including operation and maintenance manual should be submitted one copy per package plus one no. original.

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SECTION-IX
PACKING, MARKING, SHIPPING & DOCUMENTATION

	<p align="center">TENDER DOCUMENT FOR THE SUPPLY OF CNG BOOSTER COMPRESSOR PACKAGES FOR DAUGHTER BOOSTER STATION</p>	<p>Doc No : 16017-G-TB-0101 Rev : C Page : 125 of 153</p>
		

1.0 PACKING, MARKING, SHIPPING & DOCUMENTATION



The Packing, Marking, Shipping and Documentation for Goods shall be as follows:

- a. The SUPPLIER shall provide such Packing of GOODS as is required to prevent their damage or deterioration during transit to their final destination as indicated in the CONTRACT. The Packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the GOODS final destination and the absence of heavy handling facilities at all points in transit.
- b. The packing, markings and documentation within and outside the packages, shall comply strictly with such special requirements as shall be expressly provided for in the documents.
- c. SUPPLIER shall comply with all applicable prescriptions in the specifications. Lack of relevant information and/or documents shall not absolve the SUPPLIER of his responsibilities.



1.1 SPECIFICATIONS FOR GOODS TO BE OFFERED FROM WITHIN THE PURCHASER'S COUNTRY

PACKING

- The packing specifications incorporated herein are supplementary to the internal and external packing methods and standards as per current general rules of IRCA Goods Tariff Part I. All packaging shall be done in such a manner as to reduce volume as much as possible. Fragile articles should be packed with special packing materials depending on the type of materials.
 - Items shipped in bundles must be securely tied with steel wire or strapping. Steel reinforcing rods, bars, pipes, structural members etc. shall be bundled in uniform lengths and the weight shall be within the breaking strength of the securing wire or strapping.
-

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- All delicate surface on equipment/materials should be carefully protected and painted with protective paint/compound and wrapped to prevent rusting and damage.
 - All mechanical and electrical equipment and other heavy articles shall be securely fastened to the case bottom and shall be blocked and braced to avoid any displacement/shifting during transit.
 - Attachments and spare parts of equipment and all small pieces shall be packed separately in wooden cases with adequate protection inside the case and wherever possible should be sent along with the main equipment. Each item shall be suitably tagged with identification of main equipment, item denomination and reference number of respective assembly drawing. Each item of steel structure and furnaces shall be identified with two erection markings with minimum lettering height of 15 mm. Such markings will be followed by the connection number in indelible in/paint. A copy of the packing list shall accompany the material in each package.
 - All protrusions shall be suitably protected by providing a cover comprising of a tightly bolted wooden disc on the flanges.
 - Wherever required, equipment/materials/instruments shall be enveloped in polythene bags containing silica gel or similar dehydrating compound.
 - All pipes and tubes of stainless steel, copper, etc., shall be packed in wooden case or crates irrespective of their size.
 - Pipes with threaded or flanged ends shall be protected with suitable caps/covers, before packing.
 - Detailed packing list in waterproof envelope shall be inserted in the package together with equipment/material. One copy of the detailed packing list, shall be fastened outside of the package in waterproof envelope and covered by metal cover.
 - The supplier shall be held liable for all damages or breakages to the goods due to the defective or insufficient packing as well as for corrosion due to insufficient protection.
 - Packaged equipment or material showing damage, defects or shortages resulting from improper packaging material or packing procedures or having concealed damage or shortages, at the time of unpacking, shall be to the supplier's account.
-

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MARKING

- Each package shall be marked on three sides with proper paints/indelible waterproof ink as follows:

(OWNER)

PROJECT

(DESTINATION)

Purchase Order

No. _____

Net Wt. _____ Kgs. Gross

Wt. _____ Kgs.



Dimensions _____ X _____ X _____
_Cms.

Package No. (S. No. of total Packages)

Supplier's

name _____

- Additional marking such as 'HANDLE WITH CARE' 'THIS SIDE UP' 'FRAGILE' or any other additional indications for protection and safe handling shall be added depending on the type of material.
- Specific marking with white paint for 'SLINGING' and 'CENTRE OF GRAVITY' should be provided for all heavy lifts weighing 5 Tones and above.
- In case of bundles/bags or other packages, wherever marking cannot be stenciled, the same shall be embossed on metal or similar tag and wired securely at two convenient points.

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DESPATCH

- Despatch of materials shall be made in accordance with the relevant terms of the CONTRACT FORM. Any change in mode of transport shall be resorted to only after prior approval in writing. SUPPLIER shall ensure despatch of GOODS immediately after they are inspected and released and shall intimate status of despatch by Telex/Fax to PURCHASER.

- **DESPATCH BY ROAD**

- i. The SUPPLIER shall be responsible for despatch of materials through a reliable Bank approved transport company unless, otherwise, the transport company is named by PURCHASER.

- ii. The SUPPLIER shall be responsible for despatch of materials through a reliable Bank approved transport company unless, otherwise, the transport company is named by PURCHASER.

- **ADVANCE INFORMATION**



Immediately after a shipment is made SUPPLIER shall send advance information such as the particulars of materials, value, CONTRACT FORM Number, date of despatch, Railway receipt Wagon Number/GOODS Consignment note number, Truck number, name of Transport Company and their destination Office/Associate's address etc., by way of telegram or Fax or Telex to PURCHASER.

- **TRANSMISSION OF DESPATCH DOCUMENTS**



SUPPLIER shall, within 48 hours of the despatch of the GOODS forward direct to PURCHASER by Registered Post the following Documents:

- i. Two copies of the SUPPLIER invoice showing descriptions of the GOODS, Quantity, unit price and total amount;
 - ii. Delivery Note/Railway Receipt/Truck Receipt;
 - iii. Manufacturer's/SUPPLIER's Guarantee Certificate
 - iv. Inspection Certificate issued by the PURCHASER/CONSULTANT and/or its representative and the SUPPLIER'S factory inspection report. Copies of the above documents shall be sent to the following addresses :

Incharge (C&P), Godavari Gas Private Limited, Hyderabad

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- v. The SUPPLIER shall be responsible for any delay in clearance of the Consignment at destination and consequent wharfage/demurrage, if any, due to delay in transmittal of the Lorry/Railway receipt Consignment Note, etc.

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SECTION-X
SCHEDULE OF RATES (SOR)



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a.5	Lump sum comprehensive Annual operation, Repair & maintenance charges per Compressor Package including air compressor for second year i.e. after warranty period and second year of ARMC inclusive of all manpower, spare, oil, consumables and spares , etc	Nos.	2								
TOTAL AMOUNT											
b	<u>ELECTRIC MOTOR DRIVEN HYDRAULIC BOOSTER COMPRESSOR PACKAGES</u> Design, Procurement, Manufacture, Inspection, Testing, Supply, Transportation, loading & unloading at GGPL's site/store, , Installation supervision, Commissioning & Field performance test at GGPL site of 250 SCM capacity Motor driven Hydraulic CNG Booster compressor package including AMC in warranty period as defined in the technical specification (Inclusive of erection & commissioning spares) complete in all respects.	Nos.	5								



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charges per Compressor Package including air compressor for second year i.e. after warranty period and second year of ARMC inclusive of all manpower, spare, oil, consumables and spares etc.,										
TOTAL AMOUNT										

Signature, Seal with Date of the Bidder's
Authorised Signatory



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TENDER NO. GGPL/C&P/PUR/4715/2016-17

ITEM: Supply of CNG Booster Gas Compressor for the Construction of Daughter Booster Stations at East & West Godavari Districts Of Andhra Pradesh on Annual Rate Contract basis

SCHEDULE OF RATES (SOR) FOR 2 YEARS O&M SPARES

SL NO	ITEM DESCRIPTION	Unit of Measurement	Quantity	Unit Ex-works Price

Authorised Signatory





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SECTION-XI

FORMS AND FORMATS

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FORM-1

BIDDER'S GENERAL INFORMATION

To

GGPL

Hyderabad

Sub: Supply of

1. Name of Bidder / Firm: _____
2. Status of Firm : Proprietorship Firm / Partnership Firm [Mark]
3. Number of Years in Operation _____
4. Registered Address _____

5. Operational Address [if different from above]

6. Telephone Number _____
[Area Code] [Number]
7. E-mail ID & Website _____
8. Tele-fax Number _____
9. ISO Certification [If Any] _____ [If 'Yes', Please Furnish Details]:
10. PAN [Number] _____
[Enclose Copy of 'PAN Card']
11. Service Tax Number _____
[Enclose Copy of 'Service Tax Registration Certificate']

Place:



[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

	<p align="center">TENDER DOCUMENT FOR THE SUPPLY OF CNG BOOSTER COMPRESSOR PACKAGES FOR DAUGHTER BOOSTER STATION</p>	<p>Doc No : 16017-G-TB-0101</p> <p>Rev : C</p> <p>Page : 140 of 153</p>
		

FORM-2
BID FORM

To
GGPL
Hyderabad

Sub: Supply of

Dear Sir,

After examining / reviewing the Bidding Documents for Supply of CNG Booster Compressor for the City Gas Distribution Projects of East and West Godavari Districts, AP including "Specifications & Scope of Supply", "General Conditions of Contract [GCC]", "Special Conditions of Contract [SCC]" and "Schedule of Rates [SOR]", etc. the receipt of which is hereby duly acknowledged, we, the undersigned, pleased to offer to execute the whole part of the work and in conformity with the said Bid Documents, including Addenda / Corrigenda Nos. _____.

We confirm that this Bid is valid for a period of "three [03] months" from the date of opening of "Techno-Commercial / Un-priced Bid", and it shall remain binding upon us and may be accepted by any time before the expiry of that period.

Until a final Agreement is prepared and executed, the Bid together with your written acceptance thereof in your "Notification of Award" shall constitute a binding Agreement between us.



We understand that Bid Document is not exhaustive and any action and activity not mentioned in Bid Documents but may be inferred to be included to meet the intend of the Bid Documents shall be deemed to be mentioned in Bid Documents unless otherwise specifically excluded and we confirm to perform for fulfillment of "Agreement" and completeness of the Work in all respects within the time frame and agreed price.

We understand that you are not bound to accept the lowest priced or any Bid that you may receive.

Place: _____ [Signature of Authorized Signatory of Bidder]
Date: _____ Name:
Designation:
Seal:

Duly authorized to sign Bid for and on behalf of _____

[Signature of Witness]
Name of Witness:
Address:

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FORM-3
LIST OF ENCLOSURES

To

GGPL

Hyderabad



Sub: Supply of

Dear Sir,

We are enclosing the following documents as part of the bid:

1. Power of Attorney of the signatory to the Bidding Document.
2. Copy of Bidding Documents along with addendum/corrigendum duly signed and sealed on each page, in token of confirmation that Bid Documents are considered in full while preparing the bid and in case of award, work will be executed in accordance with the provisions detailed in Bid Documents.
3. Documentary Evidences showing the Bidder's claim of meeting Technical Criteria as mentioned in Clause 4 of ITB.
4. All Formats duly filled and signed with seal

(SEAL AND SIGNATURE OF BIDDER)

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FORMAT -3A

**FORMAT FOR STATUTORY AUDITOR'S / CHARTERED ACCOUNTANT*
CERTIFICATE FOR FINANCIAL CAPABILITY OF THE BIDDER**



We have verified the Annual Accounts and other relevant records of M/s..... (Name of the bidder) and certify the following

ANNUAL TURNOVER OF LAST 3 YEARS:

Year	Amount (Currency)
Year 1:	
Year 2:	
Year 3:	
Net worth as per Balance Sheet of 2015-16	
Working Capital as per Balance Sheet of 2015-16	

Name of Audit Firm/
Chartered Accountant
Date

[Signature of Authorized Signatory]
Name:
Designation:
Seal:
Membership no.

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FORM-4

PROFORMA OF "BANK GUARANTEE" FOR "EARNEST MONEY / BID SECURITY"

(To be stamped in accordance with the Stamp Act)

Bank Guarantee No.....

Date.....

To:

**M/s GGPL
Hyderabad**

Dear Sir(s),

In accordance with Letter Inviting Tender under your reference No _____ M/s. _____ having their Registered / Head Office at _____ (hereinafter called the Tenderer), wish to participate in the said tender for "Supply of CNG Booster Compressor for the City Gas Distribution Projects of East and West Godavari Districts, AP".

As an irrevocable Bank Guarantee against Earnest Money for the amount of _____ is required to be submitted by the Tenderer as a condition precedent for participation in the said tender which amount is liable to be forfeited on the happening of any contingencies mentioned in the Tender Document.

We, the _____ Bank at _____ having our Head Office _____ (Local Address) guarantee and undertake to pay immediately on demand without any recourse to the tenderers by GGPL, the amount _____ without any reservation, protest, demur and recourse. Any such demand made by GGPL, shall be conclusive and binding on us irrespective of any dispute or difference raised by the Tenderer.

This guarantee shall be irrevocable and shall remain valid up to _____ [this date should be six (06) months after the date finally set out for closing of tender]. If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instructions from M/s. _____ whose behalf this guarantee is issued.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this _____ day of _____ 20__ at _____.



WITNESS:

(SIGNATURE)
(NAME)

(OFFICIAL ADDRESS)

(SIGNATURE)
(NAME)

Designation with Bank Stamp
Attorney as per
Power of Attorney No. _____
Date: _____

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FORM-5

LETTER OF AUTHORITY

[Pro forma for Letter of Authority (ON LETTER HEAD) for Attending Subsequent 'Negotiations' /
'Pre-Bid Meetings' /
'Un-priced Bid Opening' / 'Price Bid Opening']

Ref:

Date:

To

**GGPL
Hyderabad**

Sub: Supply of CNG Booster Compressor for the City Gas Distribution Projects of East and West Godavari Districts, AP

Dear Sir,

I/We, _____ hereby authorize the following representative(s) for attending any 'Negotiations' / 'Meetings [Pre-Bid Meeting]', 'Un-priced Bid Opening', 'Price Bid Opening' and for any subsequent correspondence / communication against the above Bidding Documents:

[1] Name & Designation _____ Signature _____
Phone/Cell: _____
Fax: _____
E-mail: @
.....

[2] Name & Designation _____ Signature _____
Phone/Cell: _____
Fax: _____
E-mail: @
.....

We confirm that we shall be bound by all commitments made by aforementioned authorised representative(s).

Yours faithfully,

Place:



[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

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FORM-6
"NO DEVIATION" CONFIRMATION

To
GGPL
Hyderabad



Sub: Supply of

Dear Sir,

We understand that any 'deviation / exception' in any form may result in rejection of Bid. We, therefore, certify that we have not taken any 'exception / deviation' anywhere in the Bid and we agree that if any 'deviation / exception' is mentioned or noticed, our Bid may be rejected.

Place:
Date:

[Signature of Authorized Signatory of Bidder]
Name:
Designation:
Seal:

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FORM-6A
DECLARATION

To
GGPL
Hyderabad

Sub: Supply of

Dear Sir,

We hereby confirm that we are not under any 'liquidation', any 'court receivership' or similar proceedings and 'bankruptcy' and we agree that if any noticed in future, our Bid may be rejected / terminated.

Place:



[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

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FORM-7

CERTIFICATE

To

**GGPL
Hyderabad**

Sub: Supply of

Dear Sir,

"We agree and acknowledge that the Employer is entering into the Agreement solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood & agreed that the Government of India is not a party to the Agreement and has no liabilities, obligations or rights there under. It is expressly understood and agreed that the Employer is authorized to enter into Agreement, solely on its own behalf under the applicable laws of India. We expressly agree, acknowledge and understand that the Employer is not an agent, representative or delegate of the Government of India. It is further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the Agreement. Accordingly, we hereby expressly waive, release and forego any and all actions or claims, including cross claims, VIP claims or counter claims against the Government of India arising out of the Agreement and covenants not to sue to Government of India as to any manner, claim, cause of action or things whatsoever arising of or under the Agreement."

Place:



[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

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FORM-8

AGREED TERMS & CONDITIONS

Sub: Supply of CNG Booster Compressor

This Questionnaire duly filled in, signed & stamped must form part of Bidder's Bid and should be returned along with Un-priced Bid. Clauses confirmed hereunder need not be repeated in the Bid.

Sl.	DESCRIPTION	BIDDER'S CONFIRMATION
1	Bidder's name and address	
2.	Please confirm the currency of quoted prices is in Indian Rupees.	
3.	Confirm quoted prices will remain firm and fixed till complete execution of the order.	
4	Rate of applicable Tax & Duties	ST/VAT:% Excise Duty:%
5.	i) Confirm acceptance of relevant Terms of Payment specified in the Bid Document. ii) In case of delay, the bills shall be submitted after deducting the price reduction due to delay.	
6.	Confirm that Contract Performance Bank Guarantee shall be furnished as per Bid Document.	
7.	Confirm compliance to Delivery/ Completion Schedule as specified in Bid document.	
8.	a) Confirm acceptance of Price Reduction Schedule for delay in completion schedule specified in Bid document. Liquidated damages or penalty are not acceptable. b) In case of delay, the bills shall be submitted after deducting the price reduction due to delay. Confirm.	
9.	a) Confirm acceptance of complete Bid Document (all sections). b) Confirm that printed terms and conditions of bidder are not applicable.	
10.	Confirm your offer is valid for 3 months from Final/Extended due date of opening of Techno-commercial Bids.	
11.	Please furnish EMD/Bid Security details :	

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Sl.	DESCRIPTION	BIDDER'S CONFIRMATION
	a) EMD/ Bid Security No. & date b) Value c) Validity	
12.	Confirm that, in case of contradiction between the confirmations provided in this format and terms & conditions mentioned elsewhere in the offer, the confirmations given in this format shall prevail.	
13.	The bidder is required to state (in sentence form) whether any of the Directors of bidder is a relative of any Director of Owner or the bidder is a firm in which any Director of Owner GGPL or his relative is a partner.	
14.	Confirm that you have not been banned or de-listed by any Government or Quasi-Government agencies or Public Sector Undertakings. If you have been banned or de-listed by any Government or Quasi-Government agency or Public Sector Undertakings, then this fact must be clearly stated. If this declaration is not furnished bid shall be treated as non-responsive and liable for rejection.	
15.	All correspondence must be in ENGLISH language only.	
16.	Owner reserves the right to make any change in the terms & conditions of the TENDER/BIDDING DOCUMENT and to reject any or all bids including those received late or incomplete.	
17.	Confirm that all Bank charges associated with Bidder's Bank shall be borne by Bidder.	

Bidder: M/s _____

Place : _____



_____ (Signature of Authorized Signatory)

Date : _____

Name : _____

Seal : _____

Designation : _____

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FORM-9

ACKNOWLEDGEMENT CUM CONSENT LETTER

(On receipt of tender document/information regarding the tender, Bidder shall acknowledge the receipt and confirm his intention to bid or reason for non-participation against the enquiry /tender through e-mail/fax to concerned executive in GGPL issued the tender, by filling up the Format)

To

GGPL

Hyderabad

Fax : 040-67304951

Sub: Supply of

Dear Sir,

We hereby acknowledge receipt of a complete set of bidding document along with enclosures for subject item/job and/or the information regarding the subject tender.

- We intend to bid as requested for the subject item/job and furnish following details with respect to our quoting office:

Postal Address with Pin Code:

Telephone Number :

Fax Number :

Contact Person :

E-mail Address :

Mobile No. :

Date :

Seal/Stamp :

- We are unable to bid for the reason given below:

Reasons for non-submission of bid:

Agency's Name :



Signature :

Name :

Designation :

Date :

Seal/Stamp :

 GGPL GODAVARI GAS PRIVATE LIMITED	TENDER DOCUMENT FOR THE SUPPLY OF CNG BOOSTER COMPRESSOR PACKAGES FOR DAUGHTER BOOSTER STATION	Doc No : 16017-G-TB-0101 Rev : C Page : 151 of 153
 KAVIN™		

FORM-10
Undertaking on Letterhead

To
GGPL
Hyderabad 110066



Sub: Supply of

Dear Sir

We hereby confirm that “The contents of this Tender Document No. _____ have not been modified or altered by M/s. (Name of the bidder with complete address). In case, it is found that the tender document has been modified / altered by the bidder, the bid submitted by M/s.....(Name of the bidder) shall be liable for rejection”.

It is also confirmed that this undertaking is hereby given in place of submission of tender document duly signed in all pages.

(SIGNATURE OF BIDDER)

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FORM-11

PROFORMA OF "BANK GUARANTEE" FOR "CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT"

(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

To GGPL, Hyderabad



Dear Sir(s),

M/s. _____ having registered office at _____ (herein after called the "contractor/supplier" which expression shall wherever the context so require include its successors and assignees) have been placed/ awarded the job/work of _____ vide PO/LOA/FOA No. _____ dated _____ for Godavari Gas Private Limited having its Corporate Office 2nd Floor, Parishram Bhavan, APIDC Bldg, Basheer bagh, Hyderabad-500004 (herein after called the "GGPL" which expression shall wherever the context so require include its successors and assignees).

The Contract conditions provide that the SUPPLIER/CONTRACTOR/CONSULTANT shall pay a sum of Rs. _____ (Rupees _____) as full Contract Performance Guarantee in the form therein mentioned. The form of payment of Contract Performance Guarantee includes guarantee executed by Nationalized Bank/Scheduled Commercial Bank, undertaking full responsibility to indemnify Godavari Gas Private Limited, in case of default.

The said M/s. _____ has approached us and at their request and in consideration of the premises we having our office at _____ have agreed to give such guarantee as hereinafter mentioned.

1. We _____ hereby undertake to give the irrevocable & unconditional guarantee to you that if default shall be made by M/s. _____ in performing any of the terms and conditions of the tender/order/contract or in payment of any money payable to Godavari Gas Private Limited we shall on first demand pay without demur, contest, protest and/ or without any recourse to the contractor to GGPL in such manner as GGPL may direct the said amount of Rupees _____ only or such portion thereof not exceeding the said sum as you may require from time to time.
2. You will have the full liberty without reference to us and without affecting this guarantee, postpone for any time or from time to time the exercise of any of the powers and rights conferred on you under the order/contract with the said M/s. _____ and to enforce or to forbear from endorsing any powers or rights or by reason of time being given to the said M/s. _____ and such postponement forbearance would not have the effect of releasing the bank from its obligation under this debt.
3. Your right to recover the said sum of Rs. _____ (Rupees _____) from us in manner aforesaid is absolute & unequivocal and will not be affected or suspended by reason of the fact that any dispute or disputes have been raised by the said M/s. _____ and/or that any dispute or disputes are pending before any officer, tribunal or court or arbitrator or any other authority/forum and any demand made by you in the bank shall be conclusive and

	<p align="center">TENDER DOCUMENT FOR THE SUPPLY OF CNG BOOSTER COMPRESSOR PACKAGES FOR DAUGHTER BOOSTER STATION</p>	<p>Doc No : 16017-G-TB-0101 Rev : C Page : 153 of 153</p>
		

binding. The bank shall not be released of its obligations under these presents by any exercise by you of its liberty with reference to matter aforesaid or any of their or by reason or any other act of omission or commission on your part or any other indulgence shown by you or by any other matter or changed what so ever which under law would, but for this provision, have the effect of releasing the bank.

4. The guarantee herein contained shall not be determined or affected by the liquidation or winding up dissolution or changes of constitution or insolvency of the said supplier/contractor but shall in all respects and for all purposes be binding and operative until payment of all money due to you in respect of such liabilities is paid.
5. This guarantee shall be irrevocable and shall remain valid upto _____ (this date should be 90 days after the expiry of defect liability period/ Guarantee period) _____. The bank undertakes not to revoke this guarantee during its currency without your previous consent and further agrees that the guarantee shall continue to be enforceable until it is discharged by GGPL in writing. However, if for any reason, the supplier/contractor is unable to complete the supply/work within the period stipulated in the order/contract and in case of extension of the date of delivery/completion resulting extension of defect liability period/guarantee period of the supplier/contractor fails to perform the supply/work fully, the bank hereby agrees to further extend this guarantee at the instance of the supplier/contractor till such time as may be determined by GGPL. If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instruction from M/s. _____ (contractor) on whose behalf this guarantee is issued.
6. Bank also agrees that GGPL at its option shall be entitled to enforce this Guarantee against the bank (as principal debtor) in the first instant, without proceeding against the supplier/contractor and notwithstanding any security or other guarantee that GGPL may have in relation to the supplier's/contractor's liabilities.
7. The amount under the Bank Guarantee is payable forthwith without any delay by Bank upon the written demand raised by GGPL. Any dispute arising out of or in relation to the said Bank Guarantee shall be subject to the exclusive jurisdiction of courts at Hyderabad.
8. Therefore, we hereby affirm that we are guarantors and responsible to you on behalf of the Supplier/Contractor up to a total amount of _____(amount of guarantees in words and figures) and we undertake to pay you, upon your first written demand declaring the Supplier/Contractor to be in default under the order/contract and without caveat or argument, any sum or sums within the limits of (amounts of guarantee) as aforesaid, without your needing to prove or show grounds or reasons for your demand or the sum specified therein.
9. We have power to issue this guarantee in your favor under Memorandum and Articles of Association and the undersigned has full power to do under the Power of Attorney, dated _____ granted to him by the Bank.

Yours faithfully,
Signature of a person duly
Authorized to sign on behalf of the Bank