

Volume II of II

Bid Document No. BGL/588/2023-24



BHAGYANAGAR GAS LIMITED(A JOINT VENTURE OF HPCL & GAIL)

BID DOCUMENT FOR

Procurement of Commercial Regulators & Commercial Meters (Annual Rate Contract) for BGL Hyderabad, Vijayawada & Kakinada GA's

UNDER OPEN DOMESTIC COMPETITIVE BIDDING

Bid Document No.: BGL/588/2023-24



Volume II of II

Bid Document No. BGL/588/2023-24

VOLUME II OF II

CONTENT

SECTION 8 - MATERIAL REQUISITION

SECTION 9 - SPECIAL CONDITIONS OF CONTRACT (SCC)

SECTION 10 - TIME SCHEDULE

SECTION 11 - TECHNICAL SPECIFICATION

SECTION 12 - SCHEDULE OF RATES/ PRICE SCHEDULE



Volume II of II

Bid Document No. BGL/588/2023-24

SECTION – 8 MATERIAL REQUISITION



Volume II of II

Bid Document No. BGL/588/2023-24

Material Requisition

Project : Procurement of Commercial Regulators & Supply of

Commercial Natural Gas Meters with Smart Metering

compatibility (Annual Rate Contract) for BGL Hyderabad,

Vijayawada & Kakinada GAs

Client : M/s Bhagyanagar Gas Limited

Items : Commercial Regulators & Commercial Meters

Tender No. : **BGL/588/2023-24**



Volume II of II

Bid Document No. BGL/588/2023-24

(I) SOR GROUP-A: SUPPLY OF COMMERCIAL GAS REGULATORS

Sr. No.	A	COMMERCIAL GAS REGULATORS	UoM	Qty
		Pressure reduction of 0.5 to 6 bar(g) inlet to 300 mbar(g) outlet pressure with 6 SCMH-flow capacity of Commercial Regulator		
1	CR.1	a)Hyderabad	No.	100
		b) Vijayawada	No	104
		c) Kakinada	No	49
		Pressure reduction of 0.5 to 6 bar(g) inlet to 300 mbar(g) outlet pressure with 10 SCMH-flow capacity of Commercial Regulator		
2	CR.2	a)Hyderabad	No.	75
		b)Vijayawada	No.	80
		c)Kakinada	No.	40
		Pressure reduction of 0.5 to 6 bar(g) inlet to 300 mbar(g) outlet pressure with 16 SCMH-flow capacity of Commercial Regulator		
3	CR.3	a)Hyderabad	No.	100
		b)Vijayawada	No	20
		c)Kakinada	No	4
		Pressure reduction of 0.5 to 6 bar(g) inlet to 300 mbar(g) outlet pressure with 25 SCMH-flow capacity of Commercial Regulator		
4	CR.4	a)Hyderabad	No.	130
		b)Vijayawada	No	30
		c)Kakinada	No	2
		Pressure reduction of 0.5 to 6 bar (g) inlet to 300 mbar (g) outlet pressure		
		with 40 SCMH-flow capacity of Commercial Regulator		
5	CR.5	a)Hyderabad	No.	200
		b)Vijayawada	No	5
		c)Kakinada	No	4

Note:

1. Bidders to note that, Third Party Inspection is to be included in the quoted prices. Arranging Third Party Internationally recognized Inspection agencies like Lloyds, ABS, SGS, TUV, DNV, BV, Engineers India Limited, or any other Third Party Inspection agency only with prior approval of BGL / its PMC, for witnessing inspection and testing at the works of the manufacturer is in the scope of the bidder.



Volume II of II

Bid Document No. BGL/588/2023-24

(II) SOR GROUP-B: SUPPLY OF COMMERCIAL NATURAL GAS METERS WITH SMART METERING COMPATIBILITY.

		MATERIAL REQUISITION (MR)		
Sr. No.	В	DESCRIPTION	UNIT	QTY
		Design, detail engineering, manufacturing, assembly, supply, factory		
		testing, inspection (as defined in specification) of Commercial Natural		
		Gas Meters compatible for Smart Metering, including marking,		
		packing, forwarding, insurance, handling, transportation, loading/		
		unloading at sites/ design at ed store, documentation. The above		
		activities complete in all aspects, as per Technical Specification.		
		COMMERCIAL NATURAL GAS METERS COMPATIBLE FOR SMART METERING		
		Commercial meter G4 (design pressure up to 500mbar) for left side		
		inlet & right side outlet having facility/ provision to install MIU/		
		AMR of any manufacturer In future and make the meter compatible		
1	CM.1	for Smart Metering.		
1	01/1.1	a) Hyderabad	Nos.	85
		b) Vijayawada	Nos.	102
		c)Kakinada	Nos.	50
		Commercial meter G6 (design pressure up to 500mbar) for left side		
		inlet & right side outlet having facility/ provision to install MIU/		
		AMR of any manufacturer In future and make the meter compatible		
2	CM.2	for Smart Metering.		
		a) Hyderabad	Nos.	58
		b) Vijayawada	Nos.	85
		c)Kakinada	Nos.	31
		Commercial meter G10 (design pressure up to 500mbar) for left		
		side inlet & right side outlet having facility/ provision to install MIU/		
		AMR of any manufacturer In future and make the meter compatible for		
3	CM.3	Smart Metering.		0.0
		a) Hyderabad	Nos.	98
		b) Vijayawada	Nos.	20
		c)Kakinada	Nos.	4
		Commercial meter G16 (design pressure up to 500mbar) for left		
		side inlet & right side outlet having facility/ provision to install MIU/		
		AMR of any manufacturer In future and make the meter compatible		
4	CM.4	for Smart Metering.		



Volume II of II

Bid Document No. BGL/588/2023-24

		a) Hyderabad	Nos.	118
		b) Vijayawada	Nos.	30
		c)Kakinada	Nos.	2
		Commercial meter G25 (design pressure up to 500mbar) for left side		
		inlet & right side outlet having facility/ provision to install MIU/		
		AMR of any manufacturer In future and make the meter compatible		
5	CN 4.5	for Smart Metering.		
	CM.5	a) Hyderabad	Nos.	178
		b) Vijayawada	Nos.	10
		c)Kakinada	Nos.	1

Note:

Bidders to note that, Third Party Inspection is to be included in the quoted prices. Arranging Third Party Internationally recognized Inspection agencies like Lloyds, ABS, SGS, TUV, DNV, BV, Engineers India Limited, or any other Third Party Inspection agency only with prior approval of BGL / its PMC, for witnessing inspection and testing at the works of the manufacturer is in the scope of the bidder.

III GENERAL TERMS

1. COMPLIANCE WITH SPECIFICATION

The vendor shall be completely responsible for the design, materials, fabrication, testing, inspection, preparation for shipment and transport of above equipment strictly in accordance with the Material Requisition and all attachments thereto.

2. VENDOR'S SCOPE

Vendor scope of work includes the equipment with all internals and accessories shown on the data sheets, specifications and all unmentioned parts necessary for a satisfactory operation and testing except those which are indicated to be out of the Vendor's supply.

3. INSPECTION

Vendor shall appoint anyone of the following TPIA for inspection purpose after approval by purchaser:

- a) Lloyd Register of Industrial Services
- b) Technische Ulierwachungs Verein (TUV) SUD South Asia
- c) International Certification Service Pvt. Ltd
- d) TQ Services
- e) Moody International (India) Pvt. Ltd
- f) Bureau Veritas(India) Pvt. Ltd
- g) SGS
- h) Quality Services and Solutions Pvt. Ltd.
- i) Velosi Certification Services
- j) Certification Engineers International Ltd



Volume II of II

Bid Document No. BGL/588/2023-24

Apart from inspection by TPIA, inspection shall also be performed by BGL delegate, as set out and specified in the codes and particular documents forming this MR.

4. APPLICABLE DOCUMENTS

General prescriptions, requirements and information are listed in Annexure of this Material Requisition.

5. **VENDOR'S DOCUMENTS:**

Vendor shall supply the documentation as listed under Documents & Data Requirements of Material Requisition. All documents shall be supplied in English language.



Volume II of II

Bid Document No. BGL/588/2023-24

SECTION – 9 SPECIAL CONDITIONS OF CONTRACT (SCC)



Volume II of II

Bid Document No. BGL/588/2023-24

SPECIAL CONDITIONS OF CONTRACT (SCC)

GENERAL

- 1.1 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 requires.
- 1.2 Notwithstanding the sub-division of the documents into these separate sections and volumes ever part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with in the Contract so far as it may be practicable to do so.
- 1.3 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.
- 1.4 Wherever it is mentioned in the specification that the Contractor shall perform certain work or provide certain facilities, it is understood that the Contractor shall do so at his cost and the Value of Contract shall be deemed to have included cost of such performance and provisions, so mentioned.
- 1.5 The materials, design, and workmanship shall satisfy the relevant Indian Standard, the Job Specifications contained herein and Codes referred to where the job specification stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.
- 1.6 In case of an irreconcilable conflict between Indian or other applicable standards, General Conditions of Contract, Special Conditions of Contract, Specification, Drawings or Schedule of Rates, the following shall prevail to the extent of such irreconcilable conflict in order of precedence:
 - i) Letter of Acceptance/ FOI along with Statement of Agreed Variations.
 - ii) Schedule of Rates as enclosures to Letter of Acceptance
 - iii) Special Conditions of Contract
 - iv) Drawings
 - v) Technical/ Material Specifications
 - vi) Instruction to Bidder
 - vii) General Conditions of Contract
 - viii) Indian Standards
 - ix) Other applicable standards



Volume II of II

Bid Document No. BGL/588/2023-24

- 1.7 It will be the Contractor's responsibility to bring to the notice of Engineer-in-chargeany irreconcilable conflict in the contract documents before starting the work(s) or making the supply with reference which the conflict exists.
- 1.8 In the absence of any Specifications covering any material, design of work(s) the same shall be performed/ supplies/ executed in accordance with Standard Engineering Practice as per the instructions/ directions of the Engineer-in-charge, which will be binding on the Contractor.

2.0 SCOPE OF SUPPLY

- 2.1.1 The Scope of SUPPLY shall be as set out at Material Requisition, Data Sheet sand Technical Specifications given in Volume-II of tender document and supplemented by all stipulation in the total tender document.
 - Seller's scope shall include
 - (a) Design, detail engineering, manufacturing of items as per Material Requisition technical Specifications,
 - (b) Preparation of Quality Assurance / Quality control programme;
 - (c) Obtaining Owner's approval;
 - (d) Arranging Inspection and testing certification;
 - (e) Inspection by Purchaser's/ Agency Designated by Purchaser, as applicable as per bid document and obtaining Inspection Release Note;
 - (f) Obtaining dispatch clearance;
 - (g) Packing;
 - (h) Loading on truck/ trailer and Unloading of Gas Regulators at Project site; Providing all related services as detailed in the technical specification.

Since, the Supply requirement is immediate BGL will accept the items from Ex stock, provided Materials will meet the tender technical specifications.

3.0 CONTRACT PRICE

The contract price shall be deemed to be firm and valid for the entire duration of the contract till the completion of work, and shall not be subject to any adjustment due to increase in price of materials, utilities, or any .other input for performance of work and the contract except for increase/decrease in taxes and duties on account of subsequent legislation.

4.0 DIVISION OF ORDER

BGL reserves the right to divide the quantity among more than one bidder at its sole discretion and as mentioned in BEC of Vol I of II.

5.0 QUALITY ASSURANCE/ QUALITY CONTROL:

- 5.1. The Contractor shall "prepare a detailed quality assurance plan for the execution of Contract for various facilities, which will be mutually discussed and agreed to.
- 5.2. The Contractor shall establish document and maintain an effective quality assurance system outlined in recognized codes.



Volume II of II

Bid Document No. BGL/588/2023-24

5.3. The Purchaser while agreeing to a quality assurance plan shall mark the stages where they would like to witness the tests; review any or all stages of work at shop/site as deemed necessary for quality assurance.

6.0 QUANTITY VARIATION

The tendered quantity may vary depending upon the project requirement. BGL reserves the right to decrease/ increase the quantity depending upon its requirement.

7.0 DISPATCH INSTRUCTIONS

- 7.1 Seller shall obtain dispatch clearance from the Purchaser prior to each dispatch.
- 7.2. Copy of Inspection Release Certificate, Dispatch Clearance and statement showing the name of the Vessel/Trailers description and weight of material and shipping marks etc. to be submitted along with the documents.

8.0 INSPECTION

Final inspection of the gas regulators shall only be done by TPIA approved by PNGRB/ BGL. All the charges towards all kinds of tests/ TPIA cost shall be included in the quoted rates per unit. No additional payment to this effect will be made. The charges towards BGL's Inspection Agency, if engaged, shall be borne by Vendor.

9.0 REJECTION

- 9..1. Any materials/ goods covered under scope of supply, which during the process of inspection by appointed third party, at any stage of manufacture/fabrication, and subsequent stages, prior to dispatch is found not conforming to the requirements/specifications of the Purchase Requisition /Order, shall be liable for immediate rejection.
- 9.2. Supplier shall be responsible and liable for immediate replacement of such material with acceptable material at no extra cost or impact on the delivery schedule to OWNER.

10.0 TERMS OF PAYMENTS

The Payment shall be made in the following manner subject to completion of all contractual requirements as per tender document.

The following shall be read in conjunction with Clauses of GCC (Goods)

- 100 % (Hundred percent) payment of the supplied portion along with freight including taxes & duties will be paid on receipt & acceptance of goods at FOT site after adjustment of PRS, if any along with submission of following documents:
 - i) Original Invoice in triplicate in compliance with GST law in force
 - ii) Inspection Release note by Owner or his appointed or approved agency.
 - iii) Original GR / LR
 - iv) Packing List
 - v) Insurance cover note covering transit insurance
 - vi) Performance Bank Guarantee(s) of 10% of Contract Value. If already submitted, a copy of the same.
 - vii) Document related to Input Tax Credit (ITC) to be claimed by owner, if applicable.



Volume II of

Bid Document No. BGL/588/2023-24

- For FINAL BILL, following documents are to be provided:

- v) No Claim & No due Certificate
- vi) Statement of Completion
- vii) Extended BG period, in case supply is delayed beyond contractual time period

Note: Documents related to point no. v & vi shall be submitted in company letter head duly signed and stamped.

i. MODE OF PAYMENT

All payments payable in Indian rupees against the contract shall be released by Owner Through account payee cheque payable at par or by Electronic transfer.

ii. DEDUCTION AT SOURCE

Purchaser will release the payment to the Seller after effecting deductions as per applicable law in force

Purchaser will release payments by F&A Dept, BGL to the Contractor after offsetting all dues to the Purchaser payable by the Contractor under the Contract.

11.0 COMPENSATION FOR DELAY (PRICE REDUCTION /LIQUIDATED DAMAGES)

In case of delay in delivery of materials beyond contractually agreed delivery schedule, price reduction schedule will be applicable @0.5% of material value for the unsupplied portion per week of delay or part here of, subject to ceiling of 5% (FIVE PERCENT) of the total order value. For details, please refer relevant clause of GCC-Goods.

The value referred in PRS clause is excluding taxes & duties.

12.0 PERFORMANCE BANK GUARANTEE SECURITY DEPOSIT:

Vendor shall submit SD / CPBG @ 10% of Contract/Order value within 30 days of award or Initial deposit of SD / CPBG @ 5% of Contract/Order value within 30 days of award and balance to be deducted against each RA bills till balance 5% is deducted/for supply, it is to be deducted from the invoice. This deducted amount can be released/deduction can be stopped against submission of bank guarantee of equivalent amount. The contract performance bank guarantee shall be valid 03(three) months beyond the expiry of Warrantee/Guarantee period. The Performance Guarantee shall be in form of either Demand Draft or Banker's Cheque or irrevocable Bank Guarantee and shall be in the currency of Contract (issued by 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 bank, the bank must be a commercial bank having net worth in excess of Rs. 100 Crores or equivalent US Dollars and **a declaration to** this effect should be made by such commercial bank either in the bank guarantee itself or separately on its letterhead.

BGL shall not be liable to pay any bank charges, commission or interest on the same.



Volume II of II

Bid Document No. BGL/588/2023-24

Failure of the successful bidder to comply with the requirement of this clause shall constitute a breach of contract, cause for annulment of the award, forfeiture of the bid security and any such remedy the Owner may take under the Contract pursuant to GCC-Goods.

There is no exemption to MSEs including SSI units from submission of Security Deposit/ Contract Performance Bank Guarantee (CPBG).

13.0 REPEAT ORDER

BGL reserves the right to place a repeat order within Six (06) months from date of purchase order for up to 50% of order quantities on same rate, terms and conditions.

14.0 DELIVERY

The delivery of the items location wise is as per the Material Requisition. The Vendor to arrange transportation of these materials from the vendor shop to designated locations of BGL yard in respective cities. No extra payment shall be made for the transportation and deemed to be included in the quoted price. Bidder to deliver the material sat all locations as per the quantity estimated.

15.0 DELIVERY SCHEDULE

Delivery of the total order quantity will be completed within 1 ½ years from the date of Fax of Acceptance (FOA)/ Purchase Order (PO) as mentioned in Time Schedule.

16.0 PACKING, MARKING AND SHIPMENT

The Seller, wherever applicable shall after proper painting, pack and crate all goods for sea/air/road/rail transportation in a manner suitable to tropical humid climatic region in accordance with the internationally accepted practices and in such a manner so as to protect it from damage and deterioration, in transit by sea or air or road or rail and during storage at the storehouse. The Seller shall be held responsible for all damages due to improper packing. The Seller shall ensure sizing or packing of all oversized consignments in such a way that availability of carrier and/or road/rail route is properly taken into consideration.

17.0 INDEPENDENT SELLER

It is expressly understood and agreed that Seller is an independent party and that neither the Seller/ its personnel are servants, agents or employees of Purchaser nor the Seller has any kind of interest in other sellers.

18.0 LIEN

Seller shall ensure that the Scope of Supply supplied under the Agreement shall be free from any claims of title/ liens from any third party. In the event of such claims by any party, Seller shall at his own cost defend, indemnify and hold harmless Purchaser or its authorised representative from such disputes of title/ liens, costs, consequences etc.

19.0 LIMITATION OF LIABILITY

Not with standing anything contrary contained herein, the aggregate total liability of Supplier under the Contract or otherwise shall be limited to 100% of contract value. However, neither party shall be liable to the other party for any indirect and consequential damages, loss of profits or loss of



Volume II of

Bid Document No. BGL/588/2023-24

production.

20.0 GOVERNING LAW

Laws of India will govern the Agreement and Hyderabad courts will have exclusive jurisdiction on all Matters related to Agreement.

21.0 OWNER'S RIGHTS AND REMEDIES

Without prejudice to Owner's right and remedies under Agreement, if SUPPLIER fails to commence delivery as per agreed schedule and/ or in reasonable opinion of the OWNER, CONTRACTOR is not in a position to make up the delay to meet the intended purpose, the OWNER may terminate the AGREEMENT in full or part at SUPPLIER's default and may get supplies from other sources at SUPPLIER's risk and cost.

22.0 Clause no. 16.0 of GCC shall be appended with the following:

Bidder shall arrange Transit Insurance and the cost of which shall be borne by bidder. Quoted price shall be inclusive of the same.

23.0 FAILURE & TERMINATION CLAUSE

Time and date of delivery shall be the essence of the contract. If the vendor/contractor fails to deliver the entire quantity of materials ordered/ complete the work or a part thereof within the contractual delivery/ completion period agreed to for such part or total quantity as per the delivery / time schedule or at any time repudiates the contract before the expiry of such period, BGL may without prejudice to any other right or remedy available to it recover damages for breach of the contract in any manner stipulated hereunder:-

(a) Recover from the vendor/ contractor an agreed amount to wards Price Reduction Schedule and not by way of penalty as um equivalent to 1/2% (half percent) of the contract price of the whole unit per week for such delay or part thereof (this is a genuine pre-estimate of damages duly agreed by the parties) which the vendor/ contractor has failed to deliver within the period fixed for delivery in the schedule, where delivery thereof is accepted after expiry of the aforesaid period.

It may be noted that such recovery of PRS may be up to 5% of the contract price / of the total quantity of items of materials / equipment which the contractor has failed to deliver within the period fixed for delivery; or

(b) Purchase or authorise the purchase elsewhere on the account and at the risk of the contractor, of the materials not so delivered or others of a similar description, by serving prior notice to the contractor / supplier without cancelling the contract introspect of the instalment not yet due for delivery;

or

(c) Cancel the contract or a portion thereof by serving prior notice to the contractor and if so desired, purchase or authorise the purchase of the materials not so delivered or others of a similar description (where such materials exactly complying with particulars are not, in the opinion of the purchaser, which shall be final, readily procurable) at the risk and cost of the contractor. If



Volume II of II

Bid Document No. BGL/588/2023-24

the contractor had defaulted in the performance of the original contract, the purchaser shall have the right to ignore his tender for risk purchases even through the lowest. Where the contract is terminated at the risk and cost of the firm under the provisions of this clause, if shall be solely upto the purchaser to exercise his discretion to collect or not, the security deposit from the firm, on whom the contract is placed, at the risk and expense of the defaulting firm.

- (d) Where action is taken under sub-clause (b) or sub-clause(c) above, the contractor shall be liable for any loss which the purchaser may sustain on that account, provided the purchase or if there is an agreement to purchase, such agreement is made, in case of failure to deliver the materials within six months from the date of such failure and in case repudiation of the contract within six months from the date of cancellation of contract. The contractor shall not be entitled to any gain on such purchase and the manner and method of such purchase shall be at the entire discretion of the purchaser. It shall be necessary for the purchaser to give a notice of such purchase on the contractor.
- (e) It may further be noted that clause (a) above provides for recovery of PRS on the cost of contact price of delayed supplies (whole unit) at the rate of 1/2% (half per cent) of the contract price of the whole unit per week for such delay or part thereof up to a ceiling of 5% of the contract price of delayed supplies thus accrued will be recovered by the paying authorities of the purchaser specified in the supply order, from the bill for payment of the cost of the material submitted by the vendor/ contractor in accordance with terms of supply order, or otherwise.
- (f) Notwithstanding anything stated above equipment and materials will be deemed to have been delivered only when all its components, parts are also delivered. If certain components are not delivered in time the equipment and material will be considered as delayed until such time all the missing parts are also delivered.

24.0 WARRANTY

The supplier shall warrant that everything to be furnished hereunder shall be free from all defects and faults in material, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards of the materials of the type offered and in full conformity with the specifications drawings or samples, if any, and shall if operable, operate, properly. This warranty shall survive inspection of payment for and acceptance of the goods but shall expire 12 months from the date of commissioning / operations or 24 months from the date of dispatch, whichever is earlier.

25.0 General Conditions

- (i) When the materials are dispatched to the consignee intimation must also be given to this effect. Reference to the supply order should in variably be given in all the relevant correspondence.
- (ii) The tender is liable to be rejected in case the tender does not comply with tender stipulations or the goods, works and services offered do not conform to the required specifications indicated therein.
- (iii) Any other terms and conditions offered by the firm and not included in the order/contract, are not acceptable to BGL.



Volume II of II

Bid Document No. BGL/588/2023-24

SECTION – 10 TIME SCHEDULE



Volume II of II

Bid Document No. BGL/588/2023-24

TIME SCHEDULE

The delivery will be LOT wise as detailed in the below Table-1, so that the total 100% of the ordered item quantity is **supplied within Eighteen (18) months.** The delivery schedule is applicable for all the SOR line items (both SOR Group -A & Group-B)

	Table-1								
LOT no.	Proportion of Ordered Quantity to be Delivered	From the date of FOA							
1	25%	Within 2 Months for the date of FOA for all items; For items less than 04 nos. Qty in SOR, minimum 01 no. to be supplied at each site.							
	For Remaining 75% requirement	Intended Quantity to be supplied within 02 months from the date of intimation by BGL in different Lots.							

The item wise quantity's given in the SOR are indicative only. However, the vendors are to adhere to supply for actual item wise required quantity at site, as per the intimation given. (For intended quantity by BGL in Lots).

The basis of delivery will be FOT site, Hyderabad, Vijayawada & Kakinada basis.

However, BGL reserves the right to change delivery locations within the three cities at the time of dispatch to site.



Volume II of II

Bid Document No. BGL/588/2023-24

SECTION – 11 SCOPE OF SUPPLY & TECHNICAL SPECIFICATIONS



Volume II of II

Bid Document No. BGL/588/2023-24

INTRODUCTION

1.0 Bhagyanagar Gas Limited (BGL) is a joint venture of M/s GAIL (India) Limited and M/s Hindustan Petroleum Corporation Limited (HPCL) operating CNG & City Gas Distribution in Hyderabad, Vijayawada & Kakinada Geographical Areas.

Presently, Bhagyanagar Gas Limited is expanding the CNG & City Gas Distribution Network to supply Natural Gas to domestic, commercial, industrial and automobile Consumers in Hyderabad, Vijayawada & Kakinada Geographical Areas.

This technical specification covers the requirement of commercial gas regulators for City Gas Distribution Network at Hyderabad, Vijayawada & Kakinada.

SCOPE OF SUPPLY: SOR GROUP-A: SUPPLY OF COMMERCIAL NATURAL GAS REGULATORS WITH SMART METERING COMPATIBILITY.

2.0 SCOPEOF WORK/SUPPLY

Supplier's scope of work shall include Design, detail engineering, manufacturing, assembly, factory testing, inspection (as applicable as per bid document), marking & packaging, supply of Regulators, handling, transportation, loading/unloading at sites/designated store, documentation etc. & commissioning spares.

3.0 REFERENCE STANDARDS

Unless otherwise specified, the latest edition soft he standards mentioned herein this specification, including all addenda and revisions, shall apply. All pressures mentioned in this specification are gauge pressures. The vendor shall furnish (along with the technical bid) a copy of the approval documents, certificates (in English language only) for each of the offered model, for compliance to the requirements of EN 88/ EN 334 standard.

Compliance to EN88 standard shall be confirmed for all commercial gas regulators. Leak test for all regulators shall be performed complying to EN 13611.

4.0 PERFORMANCE REQUIREMENT AND STANDARD FEATURES

- a) Satisfactory operation of regulator for the inlet & outlet pressure as specified in the data sheet.
- b) Inlet/ Outlet connection (to be specified by the vendor) has to be approved by BGL/its PMC and should be of screwed type as per ISO 7 Part 1: 1994 or any other type of connection (only with prior approval of BGL/ its PMC).
- c) Suitable for use with natural gas at nominal specific gravity of 0.65 & operating in ambient temperature of up to 45degC.
- d) Over Pressure Shut off (OPSO) device to protect against downstream over pressure and creep relief valve to protect against downstream over pressure at low flows or in the event of valve seat malfunction, as indicated in the data sheets.



Volume II of II

Bid Document No. BGL/588/2023-24

- e) Under Pressure Shut off (UPSO) device to protect against downstream under pressure with a pressure setting's indicated in the data sheet.
- f) The regulator shall be also capable of operating either in the vertical or horizontal plane & shall be constructed to be fully resistant to corrosion when installed in outdoor locations in the environment of Hyderabad/ Vijayawada/ Kakinada.
- g) Variant design (if any) offered by the party has to be duly approved by BGL/its PMC. For specific requirements, refer data sheets.
- h) BGL/its PMC shall approve the regulator type & model to be supplied & full technical details shall be supplied along with the technical bid.

5.0 MARKING & PACKAGING

Theregulatorbodyshallbeindeliblyandclearlymarkedwiththefollowingdetails:

- Capacity of the regulator
- Inlet pressure range
- > Outlet pressure range
- > Regulation accuracy
- Direction of flow
- Name of the manufacturer and the name of the model
- > Serial number of the regulator
- Month and year of manufacturing

Each regulator shall be sealed properly before dispatch, such that the factory setting cannot be changed on site. Each regulator (along with the instruction manual) is to be individually packed in a transparent plastic cover (of adequate thickness) to protect the regulator from ingress of dirt and water, and the same shall be packed in an individual box. The description of the contents of each of these boxes shall be clearly mentioned on each of the individual box. A set of these individual boxes (5-10 Nos., as the case may be) shall be packed in a larger box; and the description of the contents of the larger box shall also be clearly mentioned on the box. The quantity of the regulators in the larger box shall be such that the box can be easily handled and stored, and it does not get damaged during the same.

6.0 QUALITY ASSURANCE

The Supplier will provide details of their quality assurance procedures during the assembly of the units and for final inspection following testing.

BGL/ its PMC reserve the right to visit the Supplier's facilities without prior notice, and inspect test records and witness assembly and testing in progress.

7.0 GUARANTEE PERIOD shall be as per SCC.

8.0 TECHNICAL EVALUATION REQUIREMENTS

a) The Supplier is required to submit to BGL/ its PMC the details of the regulator to be supplied, including the manufacturing standards, compliance to EN 334/EN 88 standard (type test certificate),



Volume II of II

Bid Document No. BGL/588/2023-24

model number, performance curve i.e., outlet pressure v/s flow at different inlet pressures, accuracy specifications, capacity at maximum and minimum inlet pressures, technical catalogues along with bid for our technical evaluation of bid. All the technical documents/ catalogues, etc., to be submitted along with technical bid shall be in English Language only.

- b) Any deviations from the specification should be highlighted and vendor may also quote advanced/ latest models to reduce overall cost asana ternate.
- c) The data sheet should be filled up completely and should be enclosed with the Technical Bid.
- d) Compliance with Technical Specifications will be taken for granted if deviations are not specifically mentioned.
- e) Quality assurance Plan (QAP) format of the items quoted shall be submitted by bidder along with technical bids.

9.0 INSPECTION PLAN

- i) Testing & Inspection shall be carried out as per the Technical Specifications of BGL / its PMC, EN 88/EN 334 (Commercial regulator) at the works of the manufacturer as per approved QAP.
- ii) Inspection as per approved QAP shall be carried out on each lot by a reputed third-party inspection agency like Lloyds, ABS, SGS, TUV, DNV, BV, EIL, or any other Third-Party Inspection agency with prior approval of BGL/ its PMC.
- iii) BGL/ its PMC representative or Third-party inspection agency appointed by BGL/ its PMC, if any may again carry out inspection during manufacturing/ final inspection at the works of the manufacturer.
- iv) Third Party Inspection shall be included in the quoted prices of all the bidders irrespective of Indian or Indian with foreign manufacturing facility or foreign bidders. Arranging Third Party Internationally Recognized Inspection agencies like Lloyds, ABS, SGS, TUV, DNV, BV, Engineers India Limited, or any other Third-Party Inspection agency with prior approval of BGL/its PMC, for witnessing inspection and testing at the works of the manufacturer is in the scope of the bidder.
- v) Vendor shall furnish all the material test certificates, internal test / inspection reports as per the Approved QAP at the time of inspection of each supply lot of material.
- vi) Review of Calibration certificates for all the measuring instruments at the time of inspection, i.e., used for checking and testing, along with the Master calibration certificate of the measuring instruments from which the instruments is calibrated.
- vii) All regulators should be wired up and sealed properly by the manufacturer after final inspection clearance and before dispatch. Regulators found in an unsealed condition will not be accepted at BGL stores.
- viii) Even after third party inspection, BGL/its PMC reserves the rights to select a sample of regulators randomly from each manufacturing batch & have these independently tested for compliance with BGL/its PMC Technical Specifications like dimensional tolerances, leakage testing, performance, accuracy, etc. Should the results of these tests fall outside the limits specified in BGL/ its PMC technical specification, then BGL/ its PMC reserves the rights to reject all production supplied from the batch.
 - ix) If the performance of any of the sample regulators is not in compliance with the acceptance norms of the respective standards, then that lot of regulators will be rejected.

10.0 DOCUMENTS TOBE FURNISHED WITH SUPPLY (Minimum 3 sets):



Volume II of II

Bid Document No. BGL/588/2023-24

Following is the list of documents required to be sent to BGL/ its PMC along with the first lot of regulators:

- a) Performance specification and test certificates (100%, for each of the regulator).
- b) GA & Construction drawings, Material specifications and technical data sheets, QAPs. (In English language only)
- c) Installation, operation, maintenance, recommendations and instruction manual in detail.
- d) Any other relevant documents required by BGL/ its PMC.

11.0 TECHICAL SPECIFICATIOS:

\$	SOR GROUP A: NATUR	RAL GAS REGULATORS-COMMERCIAL REGULATORS (ITEM No.CR.1 to CR.5)
	Service	Natural Gas
	Qty	As per SOR/ Material Requisition of Tender
GENERAL	Design	Direct acting spring control pressure regulator with in-built two stage pressure reducing valve type balance regulating unit to ensure a constant outlet pressure having excess pressures lam shut device, in sufficient downstream pressures lam shut device & relief valve.
GE	Connections Orientation	Inline Inlet and Outlet connection
	Installation	Suitable for Outdoor Installation, Tamper proof and corrosion resistance for a life period of 20years.
	Installation position	Horizontal/ Vertical
	Capacity	6/10/16/25/40 cum/hr (Actual)
Ш	Inlet Pressure	0.5 to 6 bar(g)
JUR	Design Pressure	6 bar(g)
PERAT	Outlet pressure set point	300 mbar(g) (Factory Set Point) (Bidder shall necessarily submit the performance curve and available spring range)
E,TEM	Over pressure cut off point	400 mbar(g) (Bidder shall submit Spring Range)
ESSUR	Under pressure cut off point	100 mbar(g) (Bidder shall submit Spring Range)
FLOW,PRESSURE,TEMPERATURE	Creep Relief Valve	360 mbar(g) (Bidder shall submit Spring Range) the position of the atmospheric venting shall not be towards vertically top to avoid entry off foreign material in to the regulator.
	Operating Temperature	0°C to 45°C, Design 60°C
	Casing	Casing and Body of Die cast aluminum/ Ductile Iron/ steel conforming to ASTM A216 WCB and water-weatherproof IP 65 / corrosion resistant for outdoor installation.



Volume II of II

Bid Document No. BGL/588/2023-24

		1" NPT (Female loose nut with suitable washers) inlet and 1.5" NPT							
		(Female loose nut with suitable washers) outlet confirming to ANSIB1.20.1							
	End Connections	All the end connections/ fittings including loose nuts, etc. shall be of							
	End Connections	Brass material.							
		In case of end connection size are differing bidder to provide							
		suitable adaptors, fittings, etc. of Brass as per IS:319 of approved							
		quality to meet the specified end connections.							
	Fire Resistance	As applicable							
4	Diaphragm	Synthetic rubber							
INTERNA	Internals	Internal parts shall be Stainless steel, Brass seal of Nitrile rubber or aluminum.							
	Filter	Essential (Inbuilt) (if not inbuilt same shall be supplied separately)							
	Accuracy Class(%)	AC 5/ RG 5 complying to EN 334 (or) Equivalent							
OTHERS	Closing (lockup) pressure SG 10 complying to EN 334 (or) Equivalent								
THIC	Failure Position	Closed							
	Type of Reset	Manual/ Auto (Vendor to confirm)							
Notes:									
1.		be indelibly and clearly marked with Max. Flow, Inlet & Outlet Pressure Direction, Manufacturer Name & Model, Serial No., Manufacturing Month							
	Successful Vendor shal material	l submit following documents during detail engineering/ supply of							
	a) Regulator data sheet	with make & model number and technical literatures							
2.	b) GA dimensional draw	ving with mounting details, model number, part list.							
2.	c) Performance curve	,							
	d) Testing and Inspection	n procedure							
	e) Test, calibration and	certificate from statutory bodies.							
	f) Installation, Operation	and Maintenance Instruction Manual.							
3.	SS tubing of appropriate s	size for impulse connection of regulator and slams hut valve to be supplied							
<i>J</i> .	with suitable connectors v	wherever applicable.							
4.	End Connections shall be	provided by Plastic Caps.							
5.		hall be calculated considering Maximum Outlet Pressure & Operating							
	Temperature								

12. COMPLIANCE WITH SPECIFICATION

The vendor shall be completely responsible for the design, materials, fabrication, testing, inspection, preparation for shipment and transport of above equipment strictly in accordance with the Material Requisition and all attachments thereto.



Volume II of II

Bid Document No. BGL/588/2023-24

13. VENDOR'S SCOPE

Vendor scope of work includes the equipment with all internals and accessories shown on the data—sheets, specifications and all unmentioned parts necessary for a satisfactory operation and testing except those which are indicated to be out of the Vendor's supply.

14. INSPECTION

Vendor shall appoint anyone of the following TPIA for inspection purpose after approval by purchaser:

- k) Lloyd Register of Industrial Services
- 1) Technische Ulierwachungs Verein (TUV) SUD South Asia
- m) International Certification Service Pvt. Ltd
- n) TO Services
- o) Moody International (India) Pvt. Ltd
- p) Bureau Veritas(India) Pvt. Ltd
- q) SGS
- r) Quality Services and Solutions Pvt. Ltd.
- s) Velosi Certification Services
- t) Certification Engineers International Ltd

Apart from inspection by TPIA, inspection shall also be performed by BGL delegate, as set out and specified in the codes and particular documents forming this Material Requisition.

15. APPLICABLE DOCUMENTS

General prescriptions, requirements and information are listed in Annexure of this Material Requisition.

16. VENDOR'S DOCUMENTS:

Vendor shall supply the documentation as listed under Documents & Data Requirements of Material Requisition. All documents shall be supplied in English language.

17. GUARANTEE

Manufacturer shall guarantee that the design, materials, manufacturing and testing of fittings comply with the requirement of this specification and applicable codes and standards. Manufacturer shall replace all fittings which should result defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, substandard material and workmanship.

The manufacturer shall guarantee against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 24 months from the date of supply whichever is earlier.

18. WARRANTY

Manufacturer & its authorized distributors should offer a comprehensive Warranty covering the performance of the product against any defects in material or workmanship for the life time of the product. A certificate to this effect must be issued on their respective Company letter head.



Volume II of II

Bid Document No. BGL/588/2023-24

SCOPE OF SUPPLY: SOR GROUP-B: SUPPLY OF COMMERCIAL NATURAL GAS METERS WITH SMART METERING COMPATIBILITY.

1.0 INTRODUCTION

This technical specification covers the requirement of commercial gas Meters with Smart Metering Compatibility for City Gas Distribution Network at Hyderabad, Vijayawada & Kakinada.

2.0 SCOPE OF WORK/SUPPLY:

Bidder's scope includes design, engineering, manufacture, assembly, inspection, supply, testing of the Gas Meters complete in all respects and satisfactory stable operation of commercial gas meters (compatible for smart metering). Bidder's scope of work shall include the following:-

- 1. Design, engineering, manufacturing, assembly, factory testing, inspection (as defined in the specification), marking & packaging, supply of Commercial Natural Gas Meters having provision to install MIU/ AMR of any manufacturer and make compatible for Smart Metering including forwarding & packaging, insurance, handling, transportation, loading / unloading at sites / designated store, documentation.
- 2. Bidder shall supply required mounting accessories.
- 3. Providing training to Purchaser's personnel pertaining to handling of meters.
- 4. The bidder shall comply with PNGRB, OIML, local statutory regulations of Legal metrology during contractual period.
- 5. All documentation including manuals & final as-built documents.
- 6. Hiring of Third Party Inspection Agency (TPIA) for factory inspection as per approved QAP.

3.0 EXCLUSIONS

Installation of the gas meter.

4.0 CODES AND STANDARDS

All meters shall comply with the requirements of PNGRB guidelines. In case of conflict between PNGRB and other codes, PNGRB guidelines shall prevail. Unless otherwise specified, the latest editions of the standards mentioned herein this specification, including all addenda and revisions, shall apply. The Bidder shall furnish (along with the technical bid) a copy of the approval documents, certificates (in English language only) for each of the offered model, for compliance to the requirements of following standards.

4.1 Natural Gas Meter (Document shall be submitted along with the bid)



Volume II of II

Bid Document No. BGL/588/2023-24

- a) Diaphragm Meters shall comply with EN-1359:2006 (or latest). Incompliance of the respective standard, the Bidder shall submit all the relevant documents / type evaluation certificates /reports.
- b) Model approval certificates from legal metrology Weights and Measurement Department in India for the natural gas meters shall be produced.
- c) For imported natural gas meters, import reregisters at inform weights and measurement department of India to be submitted.
- d) IP Certificate of the natural gas meters.

5.0 DESIGN BASIS

5.1 Commercial gas meters shall have the facility / provision to install MIU / AMR of any manufacturer in the future and make the meter compatible for Smart Metering System.

6.0 TECHNICAL SPECIFICATION

A. NATURAL GAS METER

- 1. Natural gas meters shall be of compact size, confirm long term accuracy and reliability, robust, maintenance free.
- 2. Commercial gas meters shall be G4, G6, G10, G16, G25 diaphragm type suitable for commercial metering (meeting the requirement of flow, accuracy, range ability, pressure, etc. As per data sheet -Refer MR and Data sheets).
- 3. Meter Index shall be compatible for implementing automatic meter system and shall be factory fitted
- 4. Metering equipment shall have physical seal to prevent tampering.
- 5. Meter shall have pulse generating mechanism compatible to AMR. The Pulse generating mechanism/ Meter reading not affected by an external magnet avoid missing pulse and deviation/ mis-match in index & billing data. Bidder shall furnish the confirmation. The same may be verified at any stage before/ during/ after installation of AMR in meter.
- 6. The meters shall have corrosion resistant powder coated (inside and outside) steel casing. Enclosure protection of all meters shall confirm to IP-54 or better.
- 7. Meters shall have in-built reverse counters tractor.
- 8. The meters shall be supplied with all mounting accessories i.e. tamper-proof seals, screws, wall-mounting brackets etc. End connection shall be protected by Plastic caps.
- 9. The life of the meter shall be at least 20 years.

7.0 MARKING & PACKAGING:

Each device (Meter) shall be marked in legible characters which are permanently visible (stickers to be avoided) with at least the following information:

- ➤ Name and logo of the Manufacturer, along with the model
- > Serial number
- > Month and year of manufacture



Volume II of

Bid Document No. BGL/588/2023-24

- ➤ CE marking, EN-1359 or applicable standard Marking
- Maximum Flow Q max and minimum flow Q min (For Metering Units)
- ➤ Maximum operating pressure
- ➤ Accuracy class of the meter, e.g. Class1.5
- > Direction of flow
- > Name and Logo of the Client

Each device shall be sealed properly before dispatch, such that the factory setting cannot be changed on site. Each meter (along with the instruction manual) is to be individually packed in a transparent plastic cover (of adequate thickness) to protect the meter from ingress of dirt and water, and the same shall be packed in an individual box. The description of the contents of each of these boxes including meters erial number shall be clearly mentioned one a chof the individual box. A set of these individual boxes (5-10 Nos., as the case may be) shall be packed in a larger box; and the description of the contents of the larger box's hall also be clearly mentioned on the box. The quantity of the meters in the larger box shall be such that the box can be easily handled and stored, and it does not get damaged during the same.

8.0 QUALITY ASSURANCE

The Supplier will provide details of their quality assurance procedures during the assembly of the units and for final inspection following testing.

The Bidders hall gets the QAP approved by the BGL/ its PMC before the Inspection.

BGL/ its PMC reserve the right to visit the Supplier's facilities without prior notice, and inspect test records and witness assembly and testing in progress.

9.0 GUARANTEE PERIOD

The devices shall be guaranteed against malfunction and degradation through corrosion or faulty workmanship as per the conditions of contract. BGL/ ITS PMC also reserve the right to charge the supplier all costs incurred by BGL for rectifying or replacing defective units within the guarantee period.

10.0 TECHNICAL EVALUATION REQUIREMENTS

- a) The bidder is required to submit to BGL/ITS PMC the details of the items to be supplied, including the manufacturing standards, model number, accuracy specifications along with bid for our technical evaluation. All the technical documents / catalogues etc., to be submitted along with technical bid shall be in English Language only.
- b) The data sheet should be filled up completely and should be enclosed with the Technical offer.
- c) Compliance with the Technical Specifications must be confirmed by the bidder.

11.0 INSPECTION PLAN

i) Testing & Inspection shall be carried out as per the Technical Specifications of BGL/its PMC& EN1359 / OIML / MID for Natural gas meters at the works of the manufacturer as preapproved



Volume II of II

Bid Document No. BGL/588/2023-24

QAP.

- ii) Third Party Inspection is to be included in the quoted prices. Inspection as per approved QAP shall be carried out on each lot by a reputed third party inspection agency like Lloyds, ABS,SGS, TUV, DNV, BV, EIL, or any other Third Party Inspection agency with prior approval of BGL/its PMC.
- iii) BGL/its PMC representative or Third party inspection agency appointed by BGL/its PMC, if any, may also carry out inspection again during manufacturing/ final inspection at the works of the manufacturer.
- iv) Bidder shall furnish all the material test certificates, internal test / inspection reports for 100% material at the time of inspection of each supply lot of material.
- v) Each natural gas meter shall be calibrated for at least three point calibrations, in line with the requirement of EN-1359/OIML/ applicable standards and the test results shall be satisfactory in line with EN-1359/OIML/ applicable standards.
- vi) Review of Calibration certificates for all the measuring instruments at the time of inspection, i.e., used for checking and testing, along with the Master calibration certificate of the measuring instruments from which the instruments is calibrated.
- vii) All meters should be sealed properly by the manufacturer after final inspection clearance and before dispatch. Meters found in an unsealed condition will not be accepted at BGL stores.
- viii) Even after third party inspection, BGL/its PMC reserves the rights to select a sample of meter/MIU randomly from each manufacturing batch & have these independently tested for compliance with BGL/its PMC Technical Specifications like dimensional tolerances, leakage testing, performance, accuracy, etc. Should the results of these tests fall outside the limits specified in BGL/its PMC technical specification, then BGL/its PMC reserves the rights to reject all production supplied from the batch.
 - ix) If the performance of any of the sample meter/MIU is not in compliance with the acceptance norms of the respective standards, then that lot of respective item will be rejected.
- x) The Inspection shall include the following tests/ reviews, but not limited to:
- a) Visual: Facia Plate marking, Arrow marking, Meter Index reading, Seal, Construction & Workmanship, Colour & appearance
- b) Dimensional: Meter Size, End connections (threading), Centre to centre distance of inlet & outlet connection, Powder coating thickness
- c) Fitment & alignment
- d) Calibration: 3 point calibration (Qmin,0.2Qmax,Qmax), Accuracy testing
- e) Functional & Operational tests: Total mean pressure absorption, Pressure (max. pressure & opr. pressure), Max. Flow, Meter Index, Valve, AMR compatibility.
- f) Leak Test: Body Leak Test
- g) Physical properties/ Chemical analysis: Body & internal parts
- h) Enclosure protection: IP certification for Meters
- i) Statutory Approvals: Fire resistance type approvals, W&M approval, PESO approval
- j) The inspection procedure (testing and reviewing procedures) for the above shall be finalized during approval of QAP.

12.0 DOCUMENTS TO BE FURNISHED WITH SUPPLY (Minimum 3 sets)



Volume II of II

Bid Document No. BGL/588/2023-24

Following is the list of documents required to be sent to BGL/ its PMC along with the first lot of smart metering system:

- a) Performance specification and test certificates, calibration certificates (100%, for each of the Meter/).
- b) Technical data sheets, Testing & Inspection procedures, QAPs. (In English language only)
- c) Installation, operation, maintenance, recommendation sand instruction manual in detail.
- d) Any other relevant documents required by BGL/ its PMC.

13. TECHICAL SPECIFICATIONS

	ROUP-B: MERCIAL NATURAL GAS ME	TERS COMPATIBLE FOR SMART METERING SYSTEM
	Service	Natural Gas
	Туре	Diaphragm meter suitable for commercial metering
	Reference	Diaphragm meters- Compliance as per EN-1359:2006 (or
		latest), PNGRB regulatory, OIML R137-1&2
L	Standard	As indicated in Clause4.0-Codesand Standards
GENERAL	Make & Model No.	Vendor to specify
NE E	Installation	Suitable for outdoor/ Indoor installation, tamper proof, corrosion
GE		resistant for life period of 20 years
	Mounting	Wall/ Pole mounted.
	Mounting Accessories	Required. Shall be provided with the meter
	Flow/ Service (For B.1)	G4:Qmax: 6m3/hr, Qmin:0.04m3/hr, Qty.: As per MR
	Flow/ Service (For B.2)	G6:Qmax: 10m3/hr, Qmin:0.06m3/hr, Qty. :As per MR
	Flow/ Service (For B.3)	G10:Qmax: 16m3/hr, Qmin:0.10m3/hr, Qty.: As per MR
	Flow/ Service (For B.4)	G16:Qmax: 25m3/hr, Qmin:0.16m3/hr, Qty.: As per MR
	Flow/ Service (For B.5)	G25:Qmax: 40m3/hr, Qmin:0.25m3/hr, Qty.: As per MR
\mathbf{S}	Accuracy	Class1.5 [Qmin to 0.1Qmax±3%, 0.1 Qmax to Qmax±1.5%]
PROCESSCONDITIONS	Rangeability	150:1 or better
	Cyclic Volume	Minimum (Vender to specify)
	Normal Working Pressure	0.3 bar(g)
2	Max. Working Pressure	0.5 bar(g)
SSE	Design Pressure	0.5 bar(g)
CI	Max. Allow able pressure drop	3 mbar or as per EN-1359:2006 (or latest)
PR(Density Kg/ Sm3	0.73
	Operating Temperature	0°C to 45°C Design 60°C
	Flow Direction	As per MR and to be marked on meter body.
	Case work/ Body	Suitable for outdoor/ Indoor Installation, tamper proof and
		corrosion resistant powder coated steel casing
λ	Corrosion protection	Suitable coating on inside and outside of casing.
BODY	End Connections (Two-	1½"NPT (M) inlet and out let confirming to ANSI B1.20.1 (In case the
Щ	pipe version)	end Connection size are differing, bidder to provide suitable adapters of
		Brass to meet the specified end connections)



Volume II of II

Bid Document No. BGL/588/2023-24

	Fire resistance	Asper EN 1359/ equivalent
	Max. Index reading	999999.99 Index with auto reset facility
	Unit	CM (Cubic meter)
\times	Ingress protection	IP 54 or better
NDEX	Facility	Index should be compatible for installing AMR / MIU of any
\mathbb{Z}		manufacturer and implementing smart metering system
	Pulse output type	Diaphragm Meters: Inductive/ Magnetic
	Diaphragm	Diaphragm Meter: Polyester fabric coated with rubber on either side of
		equipment for an endurance life cycle of 80,000 cum.
	Valve between inlet and outlet	NA
∞	Power supply to valve	NA
-	Centre to center distance	To be specified by vendor
ER!	between inlet and	
INTERNALS	outlet connections	
	Other internals	All meter internals shall be non-metallic to prevent from tampering with
		magnet
SS	Leak Testing	Meter pressurized withairat1.5 MAOP of the meter, immersed in water
OTHERS		for observance f leakage
ĮĮ(Sealing arrangement	Provision to be made by vendor
	Marking on the meter	Required
	EN/ MID marking on the meter	Required
	Reverse flow deterrents	Reverse count restrictor to be provided. Reverse rotation of index is
		not allowed.



Volume IIof II

Bid Document No. BGL/588/2023-24

SECTION 12 SCHEDULE OF RATES (SOR)



Volume IIof II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS REGULATORS (SOR sl. No-CR1)

Name of Bidder:

						ι		Amount(INR)	Amount(INR)		
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) or goods transp	(CGST& /UTGST or in the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 +6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
		Design, detail engineering, manufacturing, assembly, factory testing, inspection (prices to include third party inspection charges also), marking & packaging, supply of Regulators, handling, transportation, loading/ unloading at sites/ designated store, documentation etc. & commissioning spares as detailed in the Technical specification.									
	Α	COMMERCIAL REGULATORS									
		Pressure reduction of 0.5 to 6 bar (g) inlet to 300 mbar (g) outlet pressure with 6 SCMH -flow capacity of Commercial Regulator									
1	CR.1	a) Hyderabad	No.	100							
'	CK.I	b) Vijayawada	No.	104							
		c) Kakinada	No.	49							
		Total		253							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited
SCHEDULE OF RATES (SOR)
Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd.08.08.2023

Item: SUPPLY OF COMMERCIAL GAS REGULATORS (SOR sl. No- CR2)

Name of Bidder:

		Unit price								Amount(INR)	Amount(INR)
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) or goods transpo	(CGST& /UTGST or in the finished and inland ortation etc. ble on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 + 6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
		Design, detail engineering, manufacturing, assembly, factory testing, inspection (prices to include third party inspection charges also), marking & packaging, supply of Regulators, handling, transportation, loading/ unloading at sites/ designated store, documentation etc. & commissioning spares as detailed in the Technical specification.									
	Α	COMMERCIAL REGULATORS									
		Pressure reduction of 0.5 to 6 bar (g) inlet to 300 mbar (g) outlet pressure with 10 SCMH -flow capacity of Commercial Regulator									
4	CR.2	a) Hyderabad	No.	75							
	CR.2	b) Vijayawada	No.	80							
		c) Kakinada	No.	40							
		Total		195							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited SCHEDULE OF RATES (SOR) Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS REGULATORS (SOR sl. No- CR3)

Name of Bidder:

						ι	Jnit price			Amount(INR)	Amount(INR)
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) or goods transp	r (CGST& //UTGST or n the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 +6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
	A	Design, detail engineering, manufacturing, assembly, factory testing, inspection (prices to include third party inspection charges also), marking & packaging, supply of Regulators, handling, transportation, loading/ unloading at sites/ designated store, documentation etc. & commissioning spares as detailed in the Technical specification. COMMERCIAL REGULATORS									
	CD 2	Pressure reduction of 0.5 to 6 bar (g) inlet to 300 mbar (g) outlet pressure with 16 SCMH -flow capacity of Commercial Regulator a) Hyderabad	No.	100							
	CR.3	b) Vijayawada	No.	20							
		c) Kakinada	No.	4							
		Total		124							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd.08.08.2023

Item: SUPPLY OF COMMERCIAL GAS REGULATORS (SOR sl. No- CR4)

Name of Bidder:

						ι	Jnit price			Amount(INR)	Amount(INR)
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) or goods transp	r (CGST& //UTGST or n the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 +6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
	A	Design, detail engineering, manufacturing, assembly, factory testing, inspection (prices to include third party inspection charges also), marking & packaging, supply of Regulators, handling, transportation, loading/ unloading at sites/ designated store, documentation etc. & commissioning spares as detailed in the Technical specification. COMMERCIAL REGULATORS									
		Pressure reduction of 0.5 to 6 bar (g) inlet to 300 mbar (g) outlet pressure with 25 SCMH -flow capacity of Commercial Regulator	No.	130							
1	CR.4	a) Hyderabad									
		b) Vijayawada	No.	30							
		c) Kakinada	No.	2							
		Total		162							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS REGULATORS (SOR sl. No- CR5)

Name of Bidder:

						ι		Amount(INR)	Amount(INR)		
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) of goods transp Applicat	(CGST& //UTGST or n the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 +6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
	A	Design, detail engineering, manufacturing, assembly, factory testing, inspection (prices to include third party inspection charges also), marking & packaging, supply of Regulators, handling, transportation, loading/ unloading at sites/ designated store, documentation etc. & commissioning spares as detailed in the Technical specification. COMMERCIAL REGULATORS									
		Pressure reduction of 0.5 to 6 bar (g) inlet to 300 mbar (g) outlet pressure with 40 SCMH -flow capacity of Commercial Regulator	No	200							
1	CR.5	a) Hyderabad	No.	200							
	00	b) Vijayawada	No.	5							
		c) Kakinada	No.	4							
		Total		209							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS METERS WITH SMART METERING COMPATIBILITY (SOR Item. No-CM1)

Name of Bidder:

						l		Amount(INR)	Amount(INR)		
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) of goods transp Applicat	r (CGST& //UTGST or n the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 +6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
		Design, detail engineering, manufacturing, assembly, supply, factory testing, inspection (as defined in specification) of Commercial Natural Gas Meters compatible for Smart Metering, including marking, packing, forwarding, insurance, handling, transportation, loading / unloading at sites / designated store, documentation.									
	В	COMMERCIAL NATURAL GAS METERS COMPATIBLE FOR SMART METERING									
1	CM.1	Commercial meter G4 (design pressure up to 500 mbar) for left side inlet & right side outlet having facility / provision to install MIU / AMR of any manufacturer in future and make the meter compatible for Smart Metering. a) Hyderabad	No.	85							
		b) Vijayawada	No.	102							
		c) Kakinada	No.	50							
		Total		237							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS METERS WITH SMART METERING COMPATIBILITY (SOR Item. No-CM2)

Name of Bidder:

						l		Amount(INR)	Amount(INR)		
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) of goods transp Applicat	(CGST& /UTGST or in the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 + 6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
		Design, detail engineering, manufacturing, assembly, supply, factory testing, inspection (as defined in specification) of Commercial Natural Gas Meters compatible for Smart Metering, including marking, packing, forwarding, insurance, handling, transportation, loading / unloading at sites / designated store, documentation.									
	В	COMMERCIAL NATURAL GAS METERS COMPATIBLE FOR SMART METERING									
1	CM.2	Commercial meter G6 (design pressure up to 500 mbar) for left side inlet & right side outlet having facility / provision to install MIU / AMR of any manufacturer in future and make the meter compatible for Smart Metering. a) Hyderabad	No.	58							
		b) Vijayawada	No.	85							
		c) Kakinada	No.	31							
		Total		174							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS METERS WITH SMART METERING COMPATIBILITY (SOR Item. No-CM3)

Name of Bidder:

						l		Amount(INR)	Amount(INR)		
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) of goods transp Applicat	r (CGST& //UTGST or n the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 +6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
		Design, detail engineering, manufacturing, assembly, supply, factory testing, inspection (as defined in specification) of Commercial Natural Gas Meters compatible for Smart Metering, including marking, packing, forwarding, insurance, handling, transportation, loading / unloading at sites / designated store, documentation.									
	В	COMMERCIAL NATURAL GAS METERS COMPATIBLE FOR SMART METERING									
1	CM.3	Commercial meter G10 (design pressure up to 500 mbar) for left side inlet & right side outlet having facility / provision to install MIU / AMR of any manufacturer in future and make the meter compatible for Smart Metering. a) Hyderabad	No.	98							
		b) Vijayawada	No.	20							
		c) Kakinada	No.	4							
		Total		122							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS METERS WITH SMART METERING COMPATIBILITY (SOR Item. No-CM4)

Name of Bidder:

						ı		Amount(INR)	Amount(INR)		
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) of goods transp Applicat	(CGST& //UTGST or n the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 + 6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
		Design, detail engineering, manufacturing, assembly, supply, factory testing, inspection (as defined in specification) of Commercial Natural Gas Meters compatible for Smart Metering, including marking, packing, forwarding, insurance, handling, transportation, loading / unloading at sites / designated store, documentation.									
	В	COMMERCIAL NATURAL GAS METERS COMPATIBLE FOR SMART METERING									
1	CM.4	Commercial meter G16 (design pressure up to 500 mbar) for left side inlet & right side outlet having facility / provision to install MIU / AMR of any manufacturer in future and make the meter compatible for Smart Metering. a) Hyderabad	No.	118							
		b) Vijayawada									
		c) Kakinada	No.	2							
		Total		150							



Volume II of II

Bid Document No. BGL/588/2023-24

Bhagyanagar Gas Limited

SCHEDULE OF RATES (SOR)

Financial Bid / Priced Bid

Bid Document ref: BGL/588/2023-24, dtd. 08.08.2023

Item: SUPPLY OF COMMERCIAL GAS METERS WITH SMART METERING COMPATIBILITY (SOR Item. No-CM5)

Name of Bidder:

						l		Amount(INR)	Amount(INR)		
SI. No.	Туре	Description of Items	Unit	QTY	Unit Ex-works Price including Packing & Forwarding but excluding Inland Transportation upto FOT site	Unit Inland transportation charges upto FOT delivered at site including transit insurance, unloading & stacking at site etc. & other costs incidental to delivery of goods	SGST IGST) or goods transp	(CGST& /UTGST or n the finished and inland ortation etc. ole on Col. (6 +7)	Unit FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc.(figures)	Total FOT - delivered at site, price per unit including Packing & forwarding, GST, Inland transportation charges, transit insurance, unloading, stacking etc. (words)
					(INR/No.)	(INR/No.)	%	(INR/No.)	Amount (INR/No.)	Amount (INR)	Amount (INR)
	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(7) (b)	(8) = (5 +6 + 7(b))	(9) = (4 x 8)	(9) = (4 x 8)
		Design, detail engineering, manufacturing, assembly, supply, factory testing, inspection (as defined in specification) of Commercial Natural Gas Meters compatible for Smart Metering, including marking, packing, forwarding, insurance, handling, transportation, loading / unloading at sites / designated store, documentation.									
	В	COMMERCIAL NATURAL GAS METERS COMPATIBLE FOR SMART METERING									
1	CM.5	Commercial meter G25 (design pressure up to 500 mbar) for left side inlet & right side outlet having facility / provision to install MIU / AMR of any manufacturer in future and make the meter compatible for Smart Metering.	No.	178							
		a) Hyderabad									
		b) Vijayawada	No.	10							
		c) Kakinada	No.	1							
		Total		189							