



Bhagyanagar Gas Ltd.  
BHAGYANAGAR GAS  
LIMITED

**Supply of Service Regulator Modules for CGD project  
activities of Hyderabad, Vijayawada and Kakinada.**  
Bid Document No. BGL/378/2017-18

VOLUME II  
OF II



Bhagyanagar Gas Ltd.

**BHAGYANAGAR GAS LIMITED**

(A JOINT VENTURE OF HPCL & GAIL)

**BID DOCUMENT FOR**

**Supply of Service Regulator Modules for CGD project  
activities of Hyderabad, Vijayawada and Kakinada.**

**UNDER LIMITED DOMESTIC  
COMPETITIVE BIDDING**

**Bid Document No.: BGL/378/2017-18**



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## **SECTION – 8**

# **MATERIAL REQUISITION**



**Material Requisition**

Project : Procurement of MDPE Pipes for City Gas Distribution project  
at Hyderabad, Vijayawada and Kakinada

Client : M/s Bhagyanagar Gas Limited

Tender No. : **BGL/378/2017-18**

**SR MODULE WITH SUPPLY OF REGULATORS AS WELL AS BALL VALVES, FITTINGS ,  
ENCLOSURE BOX.**

**1. Pressure reduction of 0.5 from 4bar (g) inlets to 110 mbar (g)**

S No.	Item Description	unit	Quantity			Total Qty.
			Hyderabad	Vijayawada	Kakinada	
A	25 SCMH-flow capacity of Service Regulator	Nos.	30	20	20	70
B	40 SCMH-flow capacity of Service Regulator	Nos.	50	30	20	100
C	65 SCMH-flow capacity of Service Regulator	Nos.	100	20	12	132
D	100 SCMH-flow capacity of Service Regulator	Nos.	20	10	15	45

**2. Pressure reduction of 0.5 from 4bar (g) inlets to 300 mbar (g) )**

S No.	Item Description	unit	Quantity			Total Qty.
			Hyderabad	Vijayawada	Kakinada	
a	25SCMH- flow capacity of service regulator	Nos.	8	8	8	24
B	40 SCMH-flow capacity of Service Regulator	Nos.	5	2	0	7
C	65 SCMH-flow capacity of Service Regulator	Nos.	7	2	0	9
D	80 SCMH-flow capacity of Service Regulator	Nos.	4	2	0	6



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**SECTION – 9**  
**SPECIAL CONDITIONS OF CONTRACT (SCC)**



### **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 override 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 alongwith 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
- 1.7 It will be the Contractor's responsibility to bring to the notice of Engineer-in-charge any 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**

The Scope of SUPPLY shall be as set out at Material Requisition, Data Sheets and 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 MDPE Pipes at Project site; (i) providing all related services as detailed in the technical specification.

## **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 Evaluation & Ordering criteria 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.
- 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

**M/s. Bhagyanagar Gas Limited (BGL), reserves the right to engage their own personnel and or BGL's Inspection agency (TPIA). All the charges towards all kinds of tests shall be included in the quoted rates.** No additional payment to this effect will be made. Vendor shall inform the readiness of the materials well in advance.

Vendor/ Bidder shall Propose 2-3 TPIA's approved by PNGRB(Petroleum & Natural Gas Regulatory Board), out of which BGL shall select one TPIA. For each lot the TPIA may not be same agency. The detailed procedure of manufacturing sequence and production plans to be submitted to BGL.

## 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 EMPLOYER

## 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)**

- **90 % (Ninety percent) payment on receipt of goods at site and acceptance of the same along with following dispatch documents.**
  - i) Original Invoice in triplicate
  - ii) Inspection Release note by Owner or his appointed or approved agency.
  - iii) GR / LR
  - iv) Packing List
  - v) Insurance cover note covering transit insurance
  - vi) A certificate from manufacturer that the all items/ equipment under supply including its component or raw material used with manufacturing are new and conform to the tender requirement. In case manufacturer is not the contractor, the contractor owning overall responsibility will duly endorse this certificate.
  - vii) Performance Bank Guarantee(s) of 10% of Contract Value. If already submitted, a copy of the same.
  - viii) Document related to Input Tax Credit ( ITC) as per GST Acts / Rules, if applicable.
- **10% (ten percent) within 30 (thirty) days after receipt and acceptance of goods at site.**





- i. Final Acceptance Certificate
- ii. No Claim Certificate.

ii. **MODE OF PAYMENT**

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

iii. **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 thereof, 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:**

Bidder will provide Performance Guarantee @10% of order value within 30 days of receipt of FOA/ WO from the Owner. 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.

**Performance Guarantee for 10% of order value shall be excluding taxes & duties.**

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

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 upto 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 location of BGL yard in the above cities. No extra payment shall be made for the transportation and deemed to be included in the quoted price.

Bidder to deliver the materials at all locations as per the quantity estimated.

#### **15.0 DELIVERY SCHEDULE**

Delivery of the total order quantity will be completed as given below from date of Fax of Acceptance (FOA)/Purchase Order (PO) as mentioned in Section 10 (Time Schedule) of Bid Document:

<b>Item Description</b>	<b>Completion period</b>
Manufacture, Inspection, Testing, Supply (on FOT Site basis) including packaging forwarding, transportation, etc.	Progressively within Four (04) months from the date of FOA/PO on FOT site basis as per the delivery 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.

For MARKING & PACKAGING of the Service Regulator Modules shall be as Section-IV of Vol I of I.

Seller shall comply with the Packing, Marking and Shipping Instructions and Special Packaging Requirement of this Bidding Document.

#### **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**

Notwithstanding 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 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 makeup 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 Clause no. 30.4 of GCC shall be appended with the following :**

SETTLEMENT OF COMMERCIAL DISPUTES BETWEEN PUBLIC SECTOR ENTERPRISE(S) INTER-SE AND PUBLIC SECTOR ENTERPRISE(S) AND GOVERNMENT DEPARTMENT(S) THROUGH PERMANENT MACHINERY OF ARBITRATION (PMA) IN THE DEPARTMENT OF PUBLIC ENTERPRISES

In the event of any dispute or difference relating to the interpretation and application of the provisions of the contracts, such dispute or difference shall be referred by either party for Arbitration to the sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitrator under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary / Additional Secretary. When so authorized by the Law Secretary, whose decision shall bind the Parties finally and conclusively. The parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

**24.0 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 towards Price Reduction



Schedule and not by way of penalty a sum equivalent to 1/2% (half per cent) 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 canceling the contract in respect of the installment 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 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, it 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 contract 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 upto 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 any thing 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.

## **25.0 General Conditions**



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- (i) When the materials are dispatched to the consignee intimation must also be given to this effect. Reference to the supply order should invariably 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 there in.
- (iii) Any other terms and conditions offered by the firm and not included in the order/contract, are not acceptable to BGL.



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## **SECTION – 10**

# **TIME SCHEDULE**



**TIME SCHEDULE**

<b>Item Description</b>	<b>Completion period</b>
Manufacture, Inspection, Testing, Supply (on FOT Site basis) including packaging forwarding, transportation, etc.	Progressively within Four (04) months from the date of FOA/PO on FOT site basis as per the delivery schedule.

**Delivery Schedule:-**

**SOR ITEM: 1**

**1st Lot - within 45 days from date of award of FOA/ PO -- 50 % of quantity ordered.**

**2nd Lot- within 4 months from date of FOA/PO – 50% of quantity ordered.**

**SOR ITEM: 2**

**Entire quantities in SOR shall be delivered in 2 months as a single lot from date of FOA/PO.**

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

**Note:** Price Reduction Schedule (PRS) will be based on contract value for the items covered under this schedule.



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**SECTION – 11**  
**TECHNICAL SPECIFICATIONS**  
**FOR**  
**SERVICE REGULATOR MODULES**

Technical Specification for Service Regulator Modules  
Inlet pressures: 0.4 Bar(g) to 6 bars (g)  
Outlet Pressures: 110 mBar(g), 300mBar(g)  
Flow capacities : 10, 25,40, 65,80,100 SCMH





## 1. FOREWORD

**BGL requires the SR modules with supply of Regulators by BGL (Part-A) and supply of Regulators by the Supplier itself (Part-B).**

This specification covers the Supply of medium pressure Service Regulator modules to operate with a maximum inlet pressure of 0.5 Bar(g) to 6 bar (g) & nominal outlet pressure of 100 mbar(g), 300mbar(g) with different flow rates of 10,25,40,65,80,100 SCMH. The module shall be used for low-pressure supplies of natural gas to domestic & some non-domestic loads catered by Bhagyanagar Gas Limited (BGL).

Unless otherwise specified, the latest editions of the standards mentioned herein this specification, including all addenda and revisions, shall apply. All pressures mentioned in this specification are Gauge Pressures.

The scope of the party will include supply of isolation ball valves (brass body with Nickel coating), unions, CS Piping, fittings, Angle frame, clamps, Provision for venting and tap off for provision of Pressure gauge & FRP Cover. Piping assembly with NPT Threaded Joints, pneumatic testing, painted with Redoxide zinc primer and two coats of anti corrosive paint.

### **The modules should comprise the following main components:**

- a) A medium pressure Service Regulator (SR) with integral slam shut valve, & creep relief with Pressure and Flow rates as given separately for the individual supply item
- b) Piping : IS 1239, Heavy Class.
- c) Ball Valves up to 2" Dia. BS EN 331, Manually operated ball valves and closed bottom taper plug valves for gas installations in buildings
- d) IS 1239 (PART 2) Steel Tubes, Tubular and Other Wrought Steel Fittings - Specification - Part 1 : Mild Steel Tubular and other wrought steel pipe fittings
- e) Brass Ball Valves required at the inlet, outlet and pressure test points shall be in the scope of vendor
- f) In inline filter, supply in the scope of Vendor.
- g) Inlet & outlet disconnecting unions, , supply in the scope of Vendor.
- h) Inlet & outlet pressure tappings, supply in the scope of Vendor.

The module should be constructed to be entirely self-contained inside a secure and unobstructed kiosk, to be mounted at ground level.

Gas velocity in pipe work must not exceed 20 meter/sec on upstream side of filter & 40 meter/sec on downstream side of filter, when the maximum flow occurs at the lowest expected inlet pressure and normal outlet pressure. The assembled module shall be fitted with inlet and outlet pressure tapping to which pressure gauges can be connected under normal operating conditions (valves in plugged condition). The outlet tapping shall also incorporate a bleed facility to enable the regulator set point to be adjusted under flow conditions.

## 2. FILTER.



A filter shall be fitted upstream of the pressure regulator (Refer Figure 1 and 2) with a removable element of mesh size 80 microns. The filter shall be fitted in such a way that the filter can be removed with the filter body still in line & it may be a 'Y' or an angle type (see Appendix 1 for alternate arrangement drawings). The filter should be suitable for use with natural gas at operating pressure of up to 4 bars. The filter body should have screwed connections to ISO 7 Part 1: 1994. Material shall be forged carbon steel as per ASTM A105: 2011 (latest) protected against corrosion by galvanizing as per IS 4759: 1996 latest" with adequate corrosion resistance coating to be approved by BGL.

The design and dimensions of the filter should be standardized and has to be approved by BGL.

### 3. FITTINGS.

Fittings used shall be forged carbon steel as per ASTM A105: 2009 & pipe work shall be as per ASTM A106 (GrB): 2008, schedule 40, & protected against corrosion by galvanizing as per IS 4759: 1996 or by the application of another suitable protective coating. Threads shall be ISO 7 Part 1: 1994 & tapered.

Joints shall be made using PTFE tape only, & of an appropriate quality. Jointing paste or hemp shall not be used. The disconnecting unions to be fitted shall have tapered face seats only & rubber or other washers shall not be used.

The supplier shall inspect all fittings prior to installation & shall check the thread against a standard gauge.

### 4. HOUSING.

This Specification covers the requirements of Fiber Reinforced Plastic (FRP) Kiosk used for the Service Regulator Module as housing.

The housing for the unit shall be a one-piece fiber reinforced construction (5 mm thick) & with base dimensions to suit with the fabricated module, a sample of which shall be made available. The housing shall be reinforced wherever necessary, to provide adequate strength, particularly at the base to ensure that it is sufficiently rigid.

The housing material shall be French Blue in color & have warning notices affixed to its front & rear portions, containing the BGL logo, 'BHAGYANAGAR GAS' text, & the legend:

**'NO SMOKING - NO NAKED FLAMES '**

**'WARNING – HIGH PRESSURE GAS '**

**'BGL TOLL FREE NO. 1800 229944 '**

The warning notices shall be approved by BGL. The dimensions for BGL logo is 120 mm diameter circle, the font size for 'BHAGYANAGAR GAS' text shall be 35 mm x 25 mm width, & for the legend, the dimensions shall be 18 mm x 18 mm. The housing & frame shall be fitted with locking arrangement on both sides using the standard arrangement with a triangular section driver & key, which shall be compatible with the existing BGL units.



The housing should have fire resistant properties and should be able to withstand fire at least till 30 minutes without catching fire. The housing shall have a sloping roof to avoid the possibility of rainwater accumulating on it. The housing should have free ventilation of at least 5% of surface area of the kiosk.

## **5. FRAME / MOUNTING ARRANGEMENT.**

The module shall be mounted on secure welded steel frame using pipe clamps at the approximate positions as shown in the arrangement drawings in Appendix-I. The frame design & clamps used shall be rigid so that any movement due to loading from internal gas pressure or accidental impact is restrained. The pipe work shall be protected from damage (to the coating) by the clamps, by the use of rubber or other similar packing materials. The pipe clamp should be removable to allow for subsequent removal of the module from the mounting frame.

The base of the frame shall accommodate & firmly secure the proposed housing with a locking arrangement, as described in (4) above. The housing must be secured in such a way that it is not possible to remove it without using the appropriate key. The frame shall have a leg of angle size 25 mm x 25 mm x 4 mm thick, fitted at each corner for mounting in a concrete foundation. The legs shall extend 350 mm and have a 75 mm square or round (5 mm thick) foot attached for resting on site.

The supplier shall provide proposed construction drawings for the frame arrangement & housing, assembly drawing of the module with bills of material, & the technical specifications for prior approval by BGL. These shall include proposed material specifications with bills of material, construction details, welding procedure & coating / corrosion protection details.

## **6. DRAWINGS**

A general layout arrangement is shown in **Figure 1, 2 , 3 and 4 (as applicable)**.

## **7. MARKING.**

The completed module shall be stamped or otherwise indelibly marked on the frame with SR Module Capacity (10 SCMH / 25 SCMH/ 40 SCMH and 65 SCMH) the suppliers' name, month and year of manufacturing, & a unique serial number, which shall be coated on the delivery documentation & test certificate.

## **8. INSPECTIONS & TESTING.**

Inspection shall be carried out as per BGL Technical Specification & Inspection Plan. Vendor shall submit inspection requirement (Quality Assurance Plan) by Third Party Inspection agency for stage-wise and final inspection, and submit to BGL for approval.

Seals of regulators issued by BGL should not be tampered with, and should not be opened without prior approval of BGL.

### **A. Inspection Plan.**

- i. Inspection is to be carried out as per BGL technical specifications.
- ii. Review / Checking of all test certificates and other relevant documents of module components.



- iii. Vendor shall furnish all the material test certificates / inspection reports as per BGL technical specifications & specified code for 100% material at the time of inspection of each supply lot of material.
- iv. 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.
- v. Following is the Test Plan for a service regulator module:  
Nitrogen or compressed air is to be used as the testing medium. During the testing procedure, the test pressure should be reached by slowly increasing the pressure. Once the test pressure is achieved, the pressure should be allowed to stabilize for 15 minutes. Check all the inlet and outlet joints on the unit with leakage detection fluid / soapy water solution.

Sr. No.	Test Description	Sample Qty.	Acceptance Norm	Remarks
1.	Visual Inspection	100%	BGL Specifications / Approved Drawing	
2.	Leakage test of inlet pipeline at 6.0 bar (g)	100%	No leakage	
3.	Leakage test of outlet pipeline at 6.0 bar (g)	100%	No leakage	
4.	Leakage test of joint of SR with inlet pipeline at 4.4 bar (g)	100%	No leakage	
5.	Leakage test of joint of SR with outlet pipeline at 130 mbar (g)	100%	No leakage	

**Note:** If any of the module samples is not found to be in compliance with the acceptance norms of technical specifications of BGL, then that item / module will be summarily rejected.

In addition to the above, the following tests are also required to be carried out to test the set points of the service regulator.

Test Plan for a 25 SCMH service regulator				
1	Lock Up @ 4.0 bar (g) Inlet pressure & 50 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
2	Lock Up @ 0.5 bar (g) Inlet pressure & 25 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
3	Over Pr. Shut off @ Inlet pressure 4 bar (g)	100%	$160 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	By further increasing pressure from outside source to the outlet pipe line
4	Under Pr. Shut Off @ Inlet pressure 2 bar (g)	100%	40 to 65 mbar (g)	By closing the inlet valve and opening the outlet valve



**Test Plan for a 40 SCMH service regulator**

1	Lock Up @ 4.0 bar (g) Inlet pressure & 80 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
2	Lock Up @ 0.5 bar (g) Inlet pressure & 40 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
3	Over Pr. Shut off @ Inlet pressure 4 bar(g)	100%	160 mbar (g) $\pm$ 5 mbar (g)	By further increasing pressure from outside source to the outlet pipe line
4	Under Pr. Shut Off @ Inlet pressure 2bar (g)	100%	40 to 65 mbar (g)	By closing the inlet valve and opening the outlet valve

**Test Plan for a 65 SCMH service regulator**

1	Lock Up @ 4.0 bar (g) Inlet pressure & 130 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
2	Lock Up @ 0.5 bar (g) Inlet pressure & 65 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
3	Over Pr. Shut off @ Inlet pressure 4 bar(g)	100%	160 mbar (g) $\pm$ 5 mbar (g)	By further increasing pressure from outside source to the outlet pipe line
4	Under Pr. Shut Off @ Inlet pressure 2bar (g)	100%	40 to 65 mbar (g)	By closing the inlet valve and opening the outlet valve



**Test Plan for a 80 SCMH service regulator**

1	Lock Up @ 6.0 bar (g) Inlet pressure & 160 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
2	Lock Up @ 0.5 bar (g) Inlet pressure & 80 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
3	Over Pr. Shut off @ Inlet pressure 6 bar(g)	100%	$160 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	By further increasing pressure from outside source to the outlet pipe line
4	Under Pr. Shut Off @ Inlet pressure 2bar (g)	100%	40 to 65 mbar (g)	By closing the inlet valve and opening the outlet valve

**Test Plan for a 100 SCMH service regulator**

1	Lock Up @ 6.0 bar (g) Inlet pressure & 200 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
2	Lock Up @ 0.5 bar (g) Inlet pressure & 100 SCMH Flow	100%	$\leq \pm 125 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	Gradual closing of outlet valve from above operating condition
3	Over Pr. Shut off @ Inlet pressure 6 bar(g)	100%	$160 \text{ mbar (g)} \pm 5 \text{ mbar (g)}$	By further increasing pressure from outside source to the outlet pipe line
4	Under Pr. Shut Off @ Inlet pressure 2bar (g)	100%	40 to 65 mbar (g)	By closing the inlet valve and opening the outlet valve



**Note:** If any of the regulators is not found to be in compliance with the acceptance norms of technical specifications of BGL, then the vendor shall communicate the same to BGL, along with the details of the regulator and the discrepancies that have been observed in the tests.

- vi. Visual inspection of the FRP Kiosk should be carried out as per the BGL Tech Spec. The FRP housing should be tested for fire resistant properties. The housing should be subjected to fire under controlled conditions and the housing should not catch fire for at least thirty minutes. This has to be carried out for minimum 1% of modules in each lot offered for inspection.
- B.** BGL representative or third party inspection agency appointed by BGL shall carry out inspection during manufacturing and / final inspection.
- C.** Even after third party inspection, BGL reserves the right to select a sample of module units randomly from each batch & have these independently tested for compliance with BGL technical specifications like dimensional tolerances, leakage testing, material, etc. should the results of these tests fall outside the limits specified in BGL technical specification, then BGL reserves the right to reject all the units supplied from the batch.

## **9. TECHNICAL EVALUATION REQUIREMENTS**

The Supplier is required to submit to BGL, the following information along with bid for our technical evaluation of bid:

- a) Details of the filter to be supplied, including the manufacturer, model number, material of construction, mesh size, and performance specification.
- b) Details of the valves to be supplied, the standard to which they are manufactured, copy of invoices and test certificates, and conformation of the manufacturers' quality assurance procedures to standard practices.
- c) Details of the fittings to be supplied, the standards to which they are manufactured, copy invoices and test certificates, and conformation of the manufacturers' quality assurance procedures.
- d) Proposed construction drawings for the regulator assembly model mounting frame and housing, showing bill of materials, material specifications, and construction methods and mounting arrangements (see section 6).
- e) Supplier should have past experience in fabrication of regulating stations, or in piping work in hydrocarbon / heavy engineering industries. Proof /evidence of work performance of similar nature shall be furnished like P.O. copies with completion certificates / inspection release notes and performance certificates.
- f) Any deviations from the specification should be clearly highlighted. Compliance with technical specifications shall be taken for granted if deviations are not specifically mentioned.

## **10. QUALITY ASSURANCE**

The supplier shall provide details of his quality assurance procedures employed during the assembly of the units and for final inspection or witnessing the tests mentioned above.

BGL reserves the right to visit the supplier's facilities, without prior notice, and inspect test records and witness assembly and testing in progress.



### **11. DOCUMENTATION REQUIREMENTS (Minimum 3 sets)**

The vendor along with supply of units must furnish the following documents:

- a) Construction drawings and material specifications.
- b) Instructions regarding installation, operation & maintenance and other recommendations.
- c) Parts list.
- d) Leakage test certificates.
- e) Material test certificates for all pipe fitting materials and other components.
- f) Inspection report and release notes issued by Third Party Inspection agency.
- g) Any other document as specified by BGL.

### **12. SPARE PARTS**

The spare parts required in the warranty period (18 months from the date of delivery or 12 months from the date of commissioning, whichever is earlier) should be supplied free of cost. Also, a detailed list of spare parts (with the rates valid for 2 years after the warranty period) that may be required after the warranty period should be submitted along with the technical bid. However, BGL may or may not or defer the purchase of spare parts.

### **13. GUARANTEE PERIOD**

The module assembly including frame/housing, filter and all valves and fittings shall be guaranteed against malfunction and degradation through corrosion or faulty workmanship for a period of **18 months from the date of delivery or twelve months from the date of commissioning**, whichever is earlier. BGL also reserves the right to charge the supplier, the costs incurred by BGL in rectifying or replacing the defective units within the guarantee period.





BHAGYANAGAR GAS LIMITED

**Supply of Service Regulator Modules for CGD project activities of Hyderabad, Vijayawada and Kakinada.**  
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Bhagyanagar Gas Limited

BHAGYANAGAR GAS LIMITED

Inspection Test Plan for Service Regulator Module (SRM) of 10 SCM, 25 SCM, 40 SCM, 65 SCM, 80 SCM and 100 SCM for Higher sizes as per vendor specs.

Item Description :

S R Modules

BGL Specification No.:

BGL/ENG/PE/SPEC/SM

Sr. No.	Components / Test Description	Parameters	Reference Documents	Extent of Check	Format of Record	Vendor	TPI	Remarks
1	Dimensional Check of SRM	FRP Kiosk	Conforming to BGL specifications and Approved Drawing	10% (Randomly selected from the offered lot)	Vendor inspection Report	Perform	Witness	Vendor has to carry out 100% inspection, and TPIA has to carry out 10% inspection.
		Frame						
		Assembly						
		Dimensions of Marking on Kiosk						
2	Leak Test (without SR)	Leakage test of inlet pipeline at 6.0 bar (g)	No leakage during test as per BGL Technical specification	100%	Vendor inspection Report	Perform	Witness	Vendor & TPIA has to carry out 100% inspection
		Leakage test of outlet pipeline at 6.0 bar (g)						
	Leak Test (with SR)	Leakage Test inlet joint of SR @ 4.4 bar (g)						
		Leakage Test outlet joint of SR @ 130 mbar (g)						
3 a	Lock up test for 10 SCM SRM	Lock Up @ 4.0 bar (g) Inlet pressure & 20 SCM Flow	As per test plan of BGL technical specification	100%	Vendor inspection Report	Perform	Witness	Vendor & TPIA has to carry out 100% inspection
		Lock Up @ 0.5 bar (g) Inlet pressure & 10 SCM Flow						
3 b	Lock up test for 25 SCM SRM	Lock Up @ 4.0 bar (g) Inlet pressure & 50 SCM Flow						
		Lock Up @ 0.5 bar (g) Inlet pressure & 25 SCM Flow						
3 c	Lock up test for 40 SCM SRM	Lock Up @ 4.0 bar (g) Inlet pressure & 80 SCM Flow						
		Lock Up @ 0.5 bar (g) Inlet						



		pressure & 40 SCMH Flow						
3 d	Lock up test for 65 SCMH SRM	Lock Up @ 4.0 bar (g) Inlet pressure & 130 SCMH Flow						
		Lock Up @ 0.5 bar (g) Inlet pressure & 65 SCMH Flow						
4	Over Pr. Shut off @ Inlet pressure 4 bar (g)	160 mbar (g) ± 5 mbar (g)						
5	Under Pr. Shut Off @ Inlet pressure 2 bar (g)	40 to 65 mbar (g)						
6	Visual Inspection	Seals of Service Regulators	Conforming to BGL specifications.	100%		Perform	Witness	Vendor & TPIA has to carry out 100% Inspection
		Colour of FRP kiosk						
		Marking on Kiosk						
		Metallic plugs shall be provided at pressure test points and vent points.						
		Plastic caps or plugs shall be provided at brass valves located at inlet and outlet of the module.						
7	Fire Test of Housing (FRP box)	Check for fire resistance (as per BGL specifications)	Conforming to BGL specifications.	1% of offered lot	Vendor inspection Report	Perform	Witness	Vendor and TPIA has to carry out the test on 1% of the lot.
8	Documentation	MTC of all the materials mentioned in BOM of approved drawing				Review	Review	MTC of material reviewed by TPIA
9	Chemical and hardness test from NABL approved Lab for Pipe, Fittings and	Conforming to BGL specifications. 1 sample per lot (all fittings of one Module) or as directed by EIC. Sampling and test to be witnessed by TPI				Perform	Witness	Vendor and TPIA has to carry out inspection of fittings



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	other components supplied by vendor.						
10	Final Inspection	Checking of assembly as per approved Drawing & Painting	100%		Perform	Witness	Vendor & TPIA has to carry out 100% Inspection
Remarks:	1. All dimensions are in mm unless otherwise specified.						
	2. All the measuring instruments shall be duly calibrated at the time of inspection						
	3. Calibration certificates of all the measuring instruments shall be reviewed by TPI at the time of inspection, along with the Master calibration certificate of the measuring instruments from which the instruments is calibrated.						
<b>Note:</b> 1. If any of the regulators is not found to be in compliance with the acceptance norms of technical specifications of BGL, then the vendor shall communicate the same to BGL, along with the details of the regulator and the discrepancies that have been observed.							
2. MTC shall not be more than one year old from date of purchase order of BGL. Otherwise, same shall not be considered as valid documents.							
3. After satisfactory inspection, TPI has to ensure the marking and packaging of each module as per the requirements of BGL technical specification clause No. 7, and shall apply their mark (stamp / sticker / embossing / etc.) on the same.							



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## **SECTION 12**

### **SCHEDULE OF RATES (SOR)**

Sl. No	Description	City	UoM	Quantity (a)	Unit Price Ex works including cost of raw material/components, TPI charges, packaging, forwarding, (Rs.) (b)	Per unit freight charges, transit insurance including loading at vendor's works and un-loading at BGL's site but excluding GST, any other taxes & duties upto FOR Project site (c)	Per unit GST (Rs.) -----% (d) { for (b) & (c) }	Per unit FOT Site (Rs.) (e) = (b)+ (c )+(d)	Total FOT project Site inclusive of all taxes and duties (Rs.) (f)=(a)x(e)
	<b>SUPPLY OF SR MODULE WITH SUPPLY OF REGULATORS AS WELL AS BALL VALVES, FITTINGS ,ENCLOSURE BOX.</b>								
1	<b>Pressure reduction of 0.5 from 4bar (g) inlets to 110 mbar (g)</b>								
1.a	25 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	30					
1.b		Vijayawada	Nos	20					
1.c		Kakinada	Nos	20					
1.d	40 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	50					
1.e		Vijayawada	Nos	30					
1.f		Kakinada	Nos	20					
1.g	65 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	100					
1.h		Vijayawada	Nos	20					
1.i		Kakinada	Nos	12					

1.j	100 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	20					
1.k		Vijayawada	Nos	10					
1.l		Kakinada	Nos	15					
2	<b>Pressure reduction of 0.5 from 4bar (g) inlets to 300 mbar (g)</b>								
2.a	25 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	8					
2.b		Vijayawada	Nos	8					
2.c		Kakinada	Nos	8					
2.d	40 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	5					
2.e		Vijayawada	Nos	2					
2.f	65 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	7					
2.g		Vijayawada	Nos	2					
2.h	100 SCMH-flow capacity of Service Regulator	Hyderabad	Nos	4					
2.i		Vijayawada	Nos	2					
<b>Grand Total amount inclusive of all taxes &amp; duties inclusive of GST., Rs. ( in Words)</b>									

Name of the Bidder :  
Signature & Seal of the Bidder :