

# **Invitation for Expression of Interest (EOI)**

**For**

## **Empanelment of Vendors**

**For Supply of Various types of Commercial Regulators at various  
GGL locations\_Phase-2**

**REF. NO. GGL/EOI/2023-24/028**

**EOI Published on 02<sup>nd</sup> July, 2024**

**Response Submission by 30<sup>th</sup> July, 2024**

**Response to the EOI shall be submitted at the following address**

**Kind Attention: VP- Materials  
Gujarat Gas Limited  
9<sup>th</sup> Floor, Avdhesh House, Opp. Shri Govind Gurudwara,  
S. G. Highway, Ahmedabad - 380054, Gujarat**

**EOI CONTENTS:**

- A. Invitation for Expression of Interest (EOI)**
- B. Instructions to Bidders**
- C. Bidder Qualification Criteria (BQC) Provided as Annexure-A**
- D. Technical Specification- Provided as Annexure-B**

## **A. INVITATION FOR EXPRESSION OF INTEREST (EOI)**

Gujarat Gas Limited (GGL) intends to empanel interested & capable suppliers for ***“Supply of various size of Commercial Regulators at various GGL locations”***

Experienced and capable suppliers are requested to submit their Expression of Interest for empanelment with GGL for this requirement, within the stipulated timelines, in line with the requirements detailed in this document.

The Bidder Qualification Criteria (BQC) based upon which the bidders shall be evaluated are listed in Section C of this document. The Expression of Interest (EOI) should be accompanied by all the necessary documents as mentioned in Section C.

Contractors already qualified / working with GGL for subject category or any similar/ associated activities are **NOT AUTOMATICALLY QUALIFIED** for this EOI.

**All interested suppliers MUST respond to this EOI, after which the evaluation process will be followed in line with the criteria defined in this document.**

**Bidders qualified under this process will be empaneled for a period of 2 (Two) years from the date of empanelment for issuance of Tender/RFQ.**

GGL reserves the right not to issue the enquiry/tender subsequent to the EOI evaluation and/or modify the process without assigning any reason whatsoever.

This notice does not in any manner impose any legal obligations on GGL or confer any rights on any other party in respect of the contents herein. Any contractual obligations or rights shall always be subject to a final and binding written contract executed between GGL and the party claiming such contractual obligations or rights.

GGL has the sole discretion to accept or reject any of the submissions without assigning any reasons. Responses submitted through Agents / Intermediaries will not be considered.

## **B. INSTRUCTIONS TO BIDDERS**

1. The onus of providing all necessary company/ experience related information, in appropriate manner and medium, as prescribed in this document, and so as to demonstrate the competency of the Bidder and to allow proper evaluation, will rest entirely on the Bidder. The Bidder shall ensure submission of complete & comprehensive information/documentation in the ***first instance itself***. There is no obligation on part of GGL to seek any additional/missing details not submitted in the first instance.
2. If the Qualification documents are submitted in company's name, a '**Power of Attorney**', in favour of the person who is authorized to sign the qualification documents on behalf of the company, must accompany the qualification documents.
3. All information has to be typed or hand written legibly. All pages of the qualification documents have to be signed by the Bidder's authorized personnel (**as given in point 2 above**). All corrections, erasures or overwriting, therein, have to be signed by the Bidder's authorized personnel.
4. The description of scope of work mentioned in the title is indicative only and the detailed scope of work will be provided to the qualified bidders, if & when requirement arises.
5. The decision of GGL for selection or rejection of the bidders shall be final and binding to all without assigning any reason whatsoever.

6. Bidder is required to furnish the complete and correct information and/or documents required for evaluation, as specified in EOI. If the information and/or documents forming basis of evaluation is found to be false/forged/Fake/incorrect and /or concealment of facts to deceive selection process, the same shall be considered adequate ground for rejection and appropriate action will be taken as per the OWNER's prevailing ACTIONS TO BE TAKEN AGAINST VENDORS/ CONTRACTORS FOR DEFAULTS IN TENDER/CONTRACT TERMS, DISCHARGE OF CONTRACTUAL OBLIGATIONS, CORRUPT/FRAUDULENT / COLLUSIVE /COERCIVE PRACTICES.
7. Even though meeting the qualification criteria, any Bidder may be disqualified if the Bidder:
  - a) Has made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
  - b) Has past record of poor performance at GGL/ other clients, such as abandoning the works, not properly completing the contract, statutory non-compliances, inordinate delays in completion, litigation history, or financial failures etc.; and/or
  - c) Has indulged in inducement of any GGL official and/or their consulting engineer and other advisors in any manner whatsoever
8. As part of the qualification process, GGL, at its sole discretion, may also visit Bidder's works/project sites and/or any Bidder's premises to assess level of Quality, Safety, and bidder's ability to plan, mobilize and deploy resources.
9. The Bidder is expected to examine carefully all instructions & formats in the documentation. Failure to comply with the documentation requirements of EOI document shall be at the Bidder's own risk and may result in disqualification of the Bidder.
10. The EOI documentation and all correspondence, incidental to and concerning the same, shall be in English language. For supporting documents and printed literature submitted in any other language, an equivalent English translation shall also be submitted. Responsibility for correctness in translation shall lie with the Bidder. In case of any conflict, for the purpose of interpretation of the bid, the English translation shall govern.
11. In case of any queries or details/clarity required, write to us on Shalika.narayan@gujaratgas.com (Phone: +91 79 26737436) and Jignesh.Desai@@gujaratgas.com (Phone: +91 79 26737435).

### **C. Bidder Qualification Criteria (BQC)- Annexure-A**

**Documents shall be submitted in line with BQC requirement only.**

The expression of interest along with all required supporting documents as listed above should be sent to below mentioned address captioned with EOI Reference no. within stipulated EOI submission date:

**VP- Materials  
Gujarat Gas Limited.  
9<sup>th</sup> Floor, Avdhesh House, Opp. Shri Govind Gurudwara,  
S. G. Highway,  
Ahmedabad - 380054**

All supporting document as mentioned above shall be in English language only. In case of the certificates / documents are in a language other than English, translated documents of the same, duly attested by a third party agency.

### **D. Technical Specification- Attached Separately as Annexure-B**

## BIDDER INFORMATION FORM

To  
GUJARAT GAS LIMITED,  
9<sup>th</sup> Floor, Avdhesh House  
Opp. Shree Govind Gurudwara  
S.G Highway, Ahmedabad - 380054

1. Name of Firm/Company (As per PAN) \_\_\_\_\_
2. Type of Firm/Company (Tick One) : ☐ PROPRIETORSHIP FIRM    ☐ PARTNERSHIP FIRM  
☐ INDIAN COMPANY    ☐ FOREIGN COMPANY  
☐ PRIVATE LIMITED
3. PAN linked with **AADHAAR** (It is mandatory, in case registered firm is "**PROPRIETORSHIP FIRM**")  
: ☐ YES (Attach screen shot of Income Tax E-filing Portal)  
: ☐ NO
4. Mirco/Small/Medium Scale : ☐ YES (Copy of relevant certificate to be attached)  
: ☐ NO
5. GST Registered Address \_\_\_\_\_  
(Intended Place of Supply of Material/Service to GGL)
6. GST Registration No. (GSTIN) : \_\_\_\_\_ - Corresponding to the Address mentioned in Sr. No. 3 above (Copy of GST Registration Certificate to be attached)
7. GST Registration Type : Registered / Registered-Composition  
**Note: GST Registration is mandatory for supplying any Material and/or Service to GGL.**
8. Address of Registered Office \_\_\_\_\_  
(As per Certificate of Incorporation, Partnership Deed etc.)
9. PAN No. \_\_\_\_\_ **(Copy of PAN Card to be attached)**
10. Name of Contact Person with designation \_\_\_\_\_
11. Telephone Number \_\_\_\_\_  
(Country Code)    (Area Code)    (Telephone Number)
12. Mobile Number \_\_\_\_\_
13. E-mail address \_\_\_\_\_
14. Website \_\_\_\_\_

Note: Electronic Fund Transfer Mandate Form should be submitted as per attached format along with original cancelled cheque.

(SEAL AND SIGNATURE OF BIDDER)

## **DECLARATION OF OTHER CRITERIA**

**(on BIDDER Letter head)**

To,  
GUJARAT GAS LIMITED,  
9<sup>th</sup> Floor, Avdhesh House  
Opp. Shree Govind Gurudwara  
S.G Highway, Ahmedabad - 380054

Dear Sir,

With reference to Gujarat Gas Limited EOI Ref. No. GGL/EOI/2023-24/028 and as per the Bidder Qualification Criteria (BQC)/ Bidder Evaluation Criteria (BEC):

1. I/We understand that a Bidder who submits or participates in more than one bid, directly or indirectly, will result in disqualification of all the proposals, in which the Bidder has participated. Hence, I/We hereby undertake & declare that we have submitted single bid against the above referred e-Tender. Further, I/we declare that none of our proprietor /partner(s) is/are same proprietor/ common Partner(s) in/with any of the bidders participating in the tender.
2. I/We are NOT debarred or blacklisted or put on holiday by (a) Gujarat Gas Limited, or (b) any of the GSPC Group Companies, as on the bid submission date.
3. I/We hereby confirm that ***(Bidder shall tick/select any one of the options below - as applicable)***

☐

There is/are no on-going and/or Past Litigation(s)/Arbitration(s) process with, either (a) Gujarat Gas Limited, or, (b) any of the GSPC Group Companies.

☐

There is/are on-going and/or Past Litigation/Arbitration process with, either (a) Gujarat Gas Limited, or, (b) any of the GSPC Group Companies, details of which are attached herein *(Bidder to attach/upload list of such Past as well as on-going Litigation/Arbitration Proceedings, which includes the case no., date & year of filing litigation, the litigating parties, the subject matter of litigation, order(s) passed in litigation, present status of litigation, and the value of claim, if any)*

GGL may evaluate the details of such litigation / arbitration proceedings and may at its sole discretions disqualify such bidder who is indulging in frivolous litigation/arbitration OR having history of initiating litigations/arbitrations, against GGL or GSPC Group Companies; and proceed with the bidding process. Further, the bidder shall provide any additional details/clarifications as may be require by GGL in this regard in time bound manner.

4. We will meet qualification criteria on its own. (e.g. qualification through Joint Venture/ Consortium/ MoU etc. are not allowed.)

*Note: With respect to point nos. 1, 2 and 3, if the aforementioned undertaking or any part thereof is found false/incorrect/inaccurate OR occurrence of any of the above-mentioned disqualifying events contemplated at point nos. 1, 2 and 3, during empanelment period/award period, shall make the concerned bidder liable for disqualification for tenders/contract award, at the sole discretion of GGL.*

For the purpose of this Declaration, Litigation/Arbitration' shall mean any suit, litigation, arbitration, judicial or quasi-judicial proceeding initiated by/against the Bidder involving GGL and/or any of the GSPC Group Companies before any Court/ Forum/ Tribunal/ Authority/ Regulator/ Arbitrator as on the date of submission of bid.

**RTGS / NEFT / IFT - Electronic Fund Transfer Mandate Form**  
(Mandate for receiving payments through RTGS / NEFT  
**From GUJARAT GAS LIMITED)**

1	Vendor Name	
2	Vendor Code	
3	Permanent Account Number (PAN)	
4	Particulars of Bank Account	
	A. Bank Name	
	B. Branch	
	C. Branch Code	
	D. Address	
	E. City Name	
	F. Telephone No	
	G. RTGS / NEFT IFSC Code	
	H. 9 digit MICR code appearing on the cheque book	
	I. Type of Account	
	J. Account No.	
5	Vendor's e-mail id	
6	Reason for change in bank account	

(Mandatorily enclose physical cancelled cheque).

We hereby declare that if the transaction is delayed or done in other bank account because of incomplete or incorrect information, we would not hold the company responsible. We agree that the payment made by GGL in either the existing bank account or new bank account shall be deemed as effective and due discharge of its liabilities owed to us to the extent of the amount paid.

We further represent and confirm that the aforementioned bank change is neither inconsistent with nor contrary to nor in breach of any order/judgment/direction by any court/tribunal or any authority so appointed by the court/tribunal and any applicable law, rules and regulations . In case of any claim, action or proceedings that may be initiated against GGL on account of the aforementioned bank change, we undertake to indemnify and keep GGL harmless and indemnified against the said claims, action and proceedings for all the times and on full indemnity basis. .

In addition to the above, the undersigned represent and warrant that he/she is duly authorized by the aforementioned Company/Partnership Firm (as the case may be) to request GGL and get the bank account, as mapped in the system of GGL, changed to another bank account.

Date: \_\_\_\_\_

Place: **Sign and Seal by only authorized person as per banking records**

\_\_\_\_\_ **BANK Confirmation** \_\_\_\_\_

We confirm that M/s \_\_\_\_\_  
\_\_\_\_\_ is having above bank account with us and above request to GGL has been signed by authorized signatories, same are matching with our banking records.

Date: \_\_\_\_\_

Place: **Sign and Seal by banks**



**POWER OF ATTORNEY**

**(To be stamped in accordance with Stamp Act)**

Know all men by these present, We.....(name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorized Mr./ Ms (name)..... son/daughter/wife of ..... And presently residing at....., who is presently employed with us/the Lead Partner of our Consortium and holding the positing of..... ,as our true and lawful attorney ( hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our application for submission of our bid for the .... Project proposed or being developed by the ..... ( the “ Authority”) including but not limited to signing and submission of all applications, bids and other documents, and writings, participate in Pre-Application and other conference and providing information/ responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts including the Concession Agreement and undertaking consequent to acceptance of our bid, and generally dealing with the Authority in all matters in connection with or relating to or arising out of our bid for the said Project and /or upon award thereof to us and or till the entering into of the Concession Agreement with the Authority.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,..... THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS..... DAY OF.....2....

For

(Signature, name designation and address)

Witness:-

1.

(Notarized)

2.

Accepted

.....

(Signature)

(Name, Title and Address of the Attorney)

Notes:-

i. The mode of execution of the power of Attorney should be in accordance with the procedure , if any, laid down by the applicable law and the charter documents of the executants) (s) and when it is so required , the same should be under common self affixed in accordance with the required procedure.

ii. Wherever required, the Applicant should submit for verification the extract of the charter documents and documents such as a board of shareholder’s resolution /power of attorney in favor of the person executing this power of Attorney for the delegation of power hereunder on behalf of the Applicant.

## DECLARATION OF RELATIONSHIP WITH GGL EMPLOYEES

**(on Bidders' Letterhead against EOI)**

To,  
GUJARAT GAS LIMITED,  
9<sup>th</sup> Floor, Avdhesh House  
Opp. Shree Govind Gurudwara  
S.G Highway, Ahmedabad - 380054

Dear Sir,

With reference to Gujarat Gas Ltd. EOI Reference No. - GGL/EOI/2023-24/028 , I/We hereby confirm that ***(Bidder shall tick/select any one of the options below - as applicable)***

☐

I/We (including all Partners/Directors/Proprietor) are NOT Relative(s) of or have any financial or business transactions with any Employee(s) of Gujarat Gas Limited. It is further declared that if in the future such a conflict of interest arises, we will immediately intimate the same to GGL.

☐

I/We (any of Partner/Director/Proprietor) am/are Relative(s) of or have financial or business transactions with Employee(s) of Gujarat Gas Limited  
***(Bidder to attach/upload list of such relationship, if any)***

We hereby declare and confirm that the above information and particulars are true and correct.

We undertake that, at its sole discretion GGL shall take appropriate action(s) in case of any contravention of this declaration.

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**Name & Sign of the Authorised Representative**  
**Company Seal**

**Note:** To encourage voluntary disclosures, any conflict of interest declared above would not mean automatic disqualification of the bidder(s) making such declarations. The declared conflict of interest would be evaluated and mitigation steps, if possible, would be taken by GGL. In case such mitigation is not possible, GGL may at its sole discretion exercise the right of disqualification of bidder(s).

**Contact Details of Issuing Authority**

<b>Tender Name:</b>	Supplier Empanelment For Supply of Various types of Commercial Regulator For various GGL Locations_Phase-2
<b>Tender/EOI NO:</b>	GGL/EOI/2023-24/028
<b>Representative from GGL:</b>	Mr. Jignesh Desai
<b>Date:</b>	

<b>Sr. No.</b>	<b>Name of Bidder</b>	<b>Contact Number of Bidder</b>	<b>Name of Issuing Authority of Work Order and Place</b>	<b>Contact Details from Issuing Authority of Work Order Name, Mo. No., Email id</b>	<b>Name of Issuing Authority of Work Completion Certificate/IRN/ Dispatch Clearance/Invoices and Place</b>	<b>Contact Details from Issuing Authority of Work Completion Certificate/IRN/ Dispatch Clearance/Invoices. Name, Mo. No., Email id</b>	<b>Signature of bidders</b>

## C. Annexure -A- BQC -Bidder Qualification criteria



# **BIDDER QUALIFICATION CRITERIA (BQC) FOR SUPPLY OF REGULATORS FOR COMMERCIAL CONNECTIONS**

**Document No.:** GGL/TS/PE-PNG/SUPPLY/ COMM-REGULATOR /EMP-BQC



## BIDDER QUALIFICATION CRITERIA FOR EMPANELMENT OF VENDORS FOR SUPPLY OF REGULATORS FOR COMMERCIAL CONNECTIONS

**DOCUMENT NO: GGL/TS/PE-PNG/SUPPLY/COMM-REGULATOR/EMP-BQC**

S. No	Criteria	Supporting Documents
A	<b>Technical Criteria</b>	<b>Compliance Required in Technical Evaluation</b>
A.1	The Bidder shall be original equipment manufacturer (OEM) for regulators (OR) OEM Authorized Service Partner (ASP) for supply of Regulators	<p><b><u>In case of the bidder being the Original Equipment Manufacturer (OEM):</u></b> Bidder to submit letter on his letter head undertaking single point responsibility and accountability for executing the entire tender scope as per the format provided in Annexure-1. (OR) <b><u>In case of the bidder being the Authorized Service Partner (ASP):</u></b> 1. Valid and Tender Specific Authorization letter from OEM to ASP duly signed by the respective Authorized executives, covering, without limitation, the following:  a) Full authorization from OEM to ASP for executing the entire tender scope. The authorization to be valid till execution of the entire contract which shall include warranty period of the materials supplied against the contract.  b) Confirmation from OEM on responsibility and accountability for providing all the technical and other support to the ASP for executing the entire tender scope.</p> <p>2. Authorization letter from OEM should also be addressed to Gujarat Gas Limited (GGL), clearly stating the following: The authorization is applicable to this tender and shall be binding on OEM &amp; ASP till execution of the entire contract which shall include warranty period of the materials supplied against the contract including extension, if any.  a) The OEM and ASP shall indemnify, defend and hold harmless GGL in case of any dispute due to whatsoever reason between the OEM and ASP for matters pertaining to subject Tender/contract.  b) Confirmation and undertaking by the OEM to GGL regarding unconditional acceptance of full responsibility to fulfil all the obligations (Other than Financial) of the tender/contract terms for executing the entire tender scope, notwithstanding the agreement with the ASP.</p> <p>Letter to be submitted as per the format provided in Annexure-2 Note: Bidder may provide agreement with one or more OEM's as defined above. However, Bidder shall provide undertaking to supply regulators from the OEM's with whom the agreement has been submitted in bid.</p>

A.2	<p>Bidder shall have supplied minimum quantity as mentioned below of any of the tendered regulators <b>(bidders for Commercial / Domestic Connections segment experience shall submit PO accordingly)</b> as per specification mentioned in this tender document for Natural Gas application in last Seven years reckoned from tender publish month.</p> <table border="1" data-bbox="209 472 793 842"> <thead> <tr> <th></th><th>Quantity of Regulator for Commercial Connection (Outlet pressure- 75 to 110 mbar)</th><th>Quantity of Regulator for Domestic Connection (For Riser, Outlet pressure - 22 mbar)</th></tr> </thead> <tbody> <tr> <td>Single PO</td><td>75 qty</td><td>345 qty</td></tr> <tr> <td>2 Nos of PO</td><td>50 qty or more (each)</td><td>215 qty or more (each)</td></tr> <tr> <td>3 Nos of PO</td><td>40 qty or more (each)</td><td>170 qty or more (each)</td></tr> </tbody> </table>		Quantity of Regulator for Commercial Connection (Outlet pressure- 75 to 110 mbar)	Quantity of Regulator for Domestic Connection (For Riser, Outlet pressure - 22 mbar)	Single PO	75 qty	345 qty	2 Nos of PO	50 qty or more (each)	215 qty or more (each)	3 Nos of PO	40 qty or more (each)	170 qty or more (each)	<p><b>A. Bidders not associated with GGL</b> shall submit the Work order for fulfilment of the criteria specified herein and shall submit the corresponding satisfactory work completion certificate issued by Client or Inspection release note as documentary evidence towards adherence to the criteria specified herein.</p> <p><b>B. Bidders associated with GGL</b> (existing and previously) shall submit the Work order for fulfilment of the criteria specified herein.</p>
	Quantity of Regulator for Commercial Connection (Outlet pressure- 75 to 110 mbar)	Quantity of Regulator for Domestic Connection (For Riser, Outlet pressure - 22 mbar)												
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A.3	<p>Bidder (OEM/ASP) shall have valid type approval certificates of all the offered regulators confirming compliance to</p> <p><b>Domestic usage regulator-</b> EN 88 Part-1 (For inlet pressures up to and including 50 kPa (500 mbar)</p> <p><b>Commercial usage regulator-</b> EN 88 Part-2 (For inlet pressures from 500 mbar up to and including 5 bar)</p> <p><b>Note:-</b> Bidder shall be empaneled only for those regulator for which valid type approval certificates is submitted.</p>	<ol style="list-style-type: none"> <li>1. Bidder shall submit valid type approval certificate compliant with the requirements of EN88 Part-1 (domestic usage regulator) and Part 2 (for commercial usage regulator) as per the offered regulator models issued by FCRI / INIG / DVGW/ BSI / NMI or other certifying / approving bodies notified by European commission for offered regulators.</li> <li>2. Bidder shall submit technical details of all the offered regulators</li> </ol>												

### **BQC Notes (Most Important):**

1. Bidder to submit the supporting documents against technical criteria for successful execution of Supply of Commercial Regulator under Single Contract / WO / PO for the supply of maximum / highest number of quantity in last 7 years to be reckoned from EOI/tender publishing month for empanelment.
2. In case where Bidder has submitted multiple contracts / WO / POs showing experience on cumulative bases against Single Contract/ Rate Contract / PO / WO then PO with maximum/highest supply of Commercial Regulator shall be considered for evaluation against technical qualification criteria.
3. For Bidder associated with GGL, Documentary evidence for work completion (i.e. Inspection Release Note / Completion Certificate / Performance Certificate) against Gujarat Gas Limited Purchaser Order/ Work order/ contract is not require. However, the same will be verified by GGL internally and Technical evaluation will be carried out by GGL as per criteria considering submitted PO/work order/contract.
4. Bidder is suggested to submit the documents which have been already verified by GGL/GGL appointed consultant in previous tenders, if any. In case of submission of documents which have been not verified by GGL/GGL appointed consultant in previous tender, Bidder is suggested to submit the document for which issuing authority is accessible and responsive.
5. Bidder shall submit contact details (other than GGL) of document issuing authority with minimum as Name & Designation, Office address, Email address and Contact Number
6. Bidder shall submit all supporting documents in English language only. In case the certificates/ documents are in a language other than English, translated documents of the same, duly attested by a third-party agency, shall however be submitted along with the technical bid
7. Documents shall be submitted in line with BQC requirement only.

8. Only those documents which are sufficient for qualification shall be uploaded. Extra documents shall be avoided.

## CHECKLIST FOR BIDDERS

**Checklist for BQC (Only for bidders' reference, criteria and supporting document for evaluation shall be considered as per above table):**

Sr. No	Supporting Documents to be submitted	Submitted in Technical Bid (Yes/ No)												
	<b>Technical Criteria- A.1 Check list</b>													
A.1	<b>In case of the bidder being the Original Equipment Manufacturer (OEM):</b> OEM to submit letter on his letterhead undertaking single point responsibility and accountability for executing the entire tender scope as per the format Annexure-1.													
A.1	<b>In case of the bidder being the Authorized Service Partner (ASP):</b> Authorization letter mutually binding the OEM and ASP, which is duly signed by the respective Authorized Signatory as per Criteria and <b>tender id</b> as per format Annexure-2													
	<b>Technical Criteria- A.2 Check list</b>													
A.2	<b>GGL associated Bidder (Existing and Previously) :</b> Submit GGL issued PO/WO as per criteria. Bidder has to submit POs with following minimum supplied quantity: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th><th>Commercial Connection Regulator (outlet pr.- 75 to 110 mbar)</th><th>Domestic Connection Regulator for Riser (outlet pr.- 22 mbar)</th></tr> </thead> <tbody> <tr> <td><b>Single PO</b></td><td>75 qty</td><td>345 qty</td></tr> <tr> <td><b>2 Nos of PO</b></td><td>50 qty or more (each)</td><td>215 qty or more (each)</td></tr> <tr> <td><b>3 Nos of PO</b></td><td>40 qty or more (each)</td><td>170 qty or more (each)</td></tr> </tbody> </table>		Commercial Connection Regulator (outlet pr.- 75 to 110 mbar)	Domestic Connection Regulator for Riser (outlet pr.- 22 mbar)	<b>Single PO</b>	75 qty	345 qty	<b>2 Nos of PO</b>	50 qty or more (each)	215 qty or more (each)	<b>3 Nos of PO</b>	40 qty or more (each)	170 qty or more (each)	
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A.2	<b>GGL non-associated Bidder:</b> Submit PO/WO issued by end client as per criteria. Bidder has to submit POs with following minimum supplied quantity:- <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th><th>Commercial Connection Regulator (outlet pr.- 75 to 110 mbar)</th><th>Domestic Connection Regulator for Riser (outlet pr.- 22 mbar)</th></tr> </thead> <tbody> <tr> <td><b>Single PO</b></td><td>75 qty</td><td>345 qty</td></tr> <tr> <td><b>2 Nos of PO</b></td><td>50 qty or more (each)</td><td>215 qty or more (each)</td></tr> <tr> <td><b>3 Nos of PO</b></td><td>40 qty or more (each)</td><td>170 qty or more (each)</td></tr> </tbody> </table>		Commercial Connection Regulator (outlet pr.- 75 to 110 mbar)	Domestic Connection Regulator for Riser (outlet pr.- 22 mbar)	<b>Single PO</b>	75 qty	345 qty	<b>2 Nos of PO</b>	50 qty or more (each)	215 qty or more (each)	<b>3 Nos of PO</b>	40 qty or more (each)	170 qty or more (each)	
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<b>2 Nos of PO</b>	50 qty or more (each)	215 qty or more (each)												
<b>3 Nos of PO</b>	40 qty or more (each)	170 qty or more (each)												
A.2	<b>GGL non-associated Bidder :</b> Submit Work completion certificate/ Inspection release against submitted PO/WO as per criteria reflecting min. below details but not limited to- Completion certificate/Inspection release note shall contain PO no./ Service order no./ contract no., date of completion, quantity, make etc.													
	<b>Technical Criteria- A.3 Check list</b>													
A.3	All Bidder shall submit valid type approval certificate compliant with the requirements of <b>EN88 Part-2 for all the offered regulator models</b> issued by FCRI / INIG / DVGW/ BSI / NMI / NABCB or other approving bodies notified by European commission for offered Regulators													

Sr. No	Supporting Documents to be submitted	Submitted in Technical Bid (Yes/ No)
A.3	All Bidder shall submit technical details of all the offered regulators.	

#### Annexure-1

Format for submitting the Declaration letter (OEM) to be printed on OEM's letter head

Ref. \_\_\_\_\_

Date \_\_\_\_\_

To,

Gujarat Gas Ltd.  
9<sup>th</sup> Floor, Avdhesh House, Opp. Shri Gurugobind Gurudwara  
SG Highway, Ahmedabad  
Gujarat – 380054

General description of work: \_\_\_\_\_

Our reference: Offer No. \_\_\_\_\_

Tender Ref. No. \_\_\_\_\_

#### **Subject: Declaration letter**

Dear Sir,

With reference to subject matter, we \_\_\_\_\_ would like to bring to your kind attention that we are the Original Equipment Manufacturer of \_\_\_\_\_ (Product name with model) We certify that offered products are in-line with the Technical Specifications, Corrigendum mentioned in the tender documents and submitted datasheets in our bid.

We hereby take the single point responsibility and accountability for providing all the technical and any other support for executing the entire tender scope and this is valid till execution of the entire contract which includes warranty period of the materials supplied against the contract and comprehensive Operation and Maintenance contract, if applicable.

Thanking you.

Authorized Signatory

For \_\_\_\_\_



## **Annexure-2**

Format for submitting the Authorization letter (ASP). Letter to be printed on OEM's letter head

Ref. \_\_\_\_\_

Date \_\_\_\_\_

To,

Gujarat Gas Ltd.

9<sup>th</sup> Floor, Avdhesh House, Opp. Shri Gurugobind Gurudwara

SG Highway, Ahmedabad

Gujarat – 380054

General description of work: \_\_\_\_\_

Our reference: Offer No. \_\_\_\_\_

Tender Ref. No. \_\_\_\_\_

### **Subject: Authorization letter**

Dear Sir,

With reference to subject matter, we \_\_\_\_\_ would like to bring to your kind attention that we are the Original Equipment Manufacturer (OEM) of \_\_\_\_\_ (Product name and model). We certify that offered products are in-line with the Technical Specifications, Corrigendum mentioned in the tender documents and submitted datasheets in our bid.

We would like to bring to your kind attention that since \_\_\_\_\_ (month and year) we have appointed \_\_\_\_\_ as our Authorized Service Partner for India (hereinafter referred as ASP), which is specifically created to cater the needs of the Indian natural gas industry.

We hereby fully authorize ASP for executing after sales and services related activities on behalf of OEM for our complete product range.

We hereby take the responsibility and accountability for providing all the technical and any other support to ASP for executing the entire tender scope This authorization is applicable to this tender and shall be binding on OEM & ASP till execution of the entire contract which shall include warranty period of the materials supplied against the contract including extension, if any, and comprehensive Operation and Maintenance contract, if applicable.

We hereby indemnify, defend and hold harmless GGL in case of any dispute due to whatsoever reason between the OEM and ASP for matters pertaining to subject Tender/contract.

We hereby confirm and undertake to GGL regarding unconditional acceptance of full responsibility to fulfil all the obligations (Other than Financial) of the tender/contract terms for executing the entire tender scope, notwithstanding the agreement with the ASP.

Thanking you.

Authorized Signatory

For \_\_\_\_\_

Approved



# TECHNICAL SPECIFICATION FOR COMMERCIAL REGULATOR (6 SCMH)

Document No : GGL/TS/SPEC /COM REG/6SCMH/000

REV. NO	REVISION DESCRIPTION	DATE OF ISSUE

## 1. GENERAL

Gujarat Gas Ltd., is a Group Company of Gujarat State Petroleum Corporation Ltd., (State Government undertaking) and is developing city gas distribution including CNG stations in various cities of Gujarat.

GGL is supplying natural gas to automobile, industrial, commercial and domestic consumers in the various cities of Gujarat.

The intent of this specification is to establish minimum requirements to manufacture and supply Commercial regulators for supplying natural gas to customers.

The scope of the tender will include manufacture, supply, inspection, testing, marking, packaging, handling and dispatch of Commercial regulators as per **EN 88-1/EN 88-2** with latest amendments. The scope also includes hiring of Third party inspection agency by vendor for online inspection as per approved QAP.

All codes and standards for manufacture, testing, inspection etc. shall be of latest edition.

Owner reserves the right to delete or order additional quantities during execution of order, based on unit rates and other terms & conditions in the original order.

## 2. SCOPE

For this specification the following definitions shall apply:

**OWNER/ CLIENT:** Gujarat Gas Limited (GGL)

**CONSULTANT:** Consultant engaged by GGL for evaluation of vendor

**MANUFACTURER:** Means the Manufacturer of Commercial regulator

**VENDOR:** The person(s), firm, company, organization from whom Client / Contractor procures materials

**TPIA:** Third Party Inspection Agency to be appointed by Vendor/ Contractor for inspection of brought out items.

**EIC:** Engineer – in – charge

**AQL:** Acceptable Quality Limit

**Gas Pressure Regulator:** Device that maintains the outlet pressure independent of the variations in inlet pressure and/or flow rate within defined limits.

**Control Member:** Movable part of regulator that is positioned in the flow path to restrict the flow through the pressure regulator.

**Body:** Part of the pressure regulator that is the main pressure containing envelope.

**Main Diaphragm:** The function of which is to detect the feedback pressure of the controlled variable and or to provides the force to position the valve.

**Pressure:** All pressures specified in this document are static gauge pressures.

**Inlet Pressure:** Gas pressure at the inlet of the pressure regulator.

**Outlet Pressure:** Gas pressure at the outlet of the pressure regulator.

**Differential Pressure:** Difference between values of pressure at two different points.

**Lock-Up Pressure:** Outlet pressure at which a pressure regulator closes when the outlet of the pressure regulator is sealed.

**Maximum Component Operating Pressure (Pmax):** Highest operating pressure at which a component of a regulator will continuously operate within specified conditions.

**Maximum Allowable Pressure (Ps):** Maximum pressure for which the body and its inner metallic partition walls are designed in accordance with the strength requirements in this document.

**Test Pressure (Tp):** Pressure applied to a section of the regulator for a limited period of time in order to prove certain characteristics.

**Limit Pressure (p):** Pressure at which yielding becomes apparent in any components of the regulator or its fixtures.

**Permissible Inlet Pressure (Pemax):** Highest inlet pressure at which the regulator can continuously operate within specified conditions.

**Permissible Outlet Pressure (Pamax):** Highest outlet pressure at which the regulator can continuously operate within specified conditions.

**Minimum Operating Differential Pressure (Pdmin):** Minimum Operating differential pressure between the inlet and outlet pressures below which the regulator will no longer function correctly within specified conditions.

**Gas Volume:** Volume of gas at normal conditions expressed in  $m^3$ .

**Volumetric Flow Rate (Q):** Volume of gas which flows through the regulator in unit time at normal conditions (It is expressed in  $m^3/hr$ )

**Lock-Up Time (tf)** Time taken from the control member to move from an open position to the closed position.

### 3. PERFORMANCE REQUIREMENT AND STANDARD FEATURES

- a) Satisfactory operation over an inlet pressure range of 0.5 bar (g)/ 1 bar(g) to 5 bar (g), and nominal outlet pressure will be 75/110 mbar.
- b) Inlet / Outlet connection should be of screwed type as per BSPT female confirming to relevant standard as approved by Gujarat Gas.
- c) Suitable for use with natural gas at nominal specific gravity of 0.6 & operating temperature range of 0 °C to 60 °C.



- d) Over Pressure Shut off (**OPSO**) device to protect against downstream over pressure preset to 130/165 mbar and creep relief valve to protect against downstream over pressure at low flows or in the event of valve seat malfunction, preset to 110/130 mbar.
- e) Under Pressure Shut off (**UPSO**) device to protect against downstream under pressure with a pressure settings range 50 mbar.
- f) The regulator shall 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 high temperature & humid environment.
- g) The regulator shall be suitable for outdoor installation and tamper proof & corrosion resistance for a life a period of 20 Years.

#### 4. END CONNECTIONS

The regulator shall be supplied with inlet as well as outlet end connections as per Gujarat Gas requirements. End connections shall be protected by plastic caps. Regulators without end cap will be rejected by Gujarat Gas.

#### 5. MARKING

The regulator body shall be indelibly marked with details of capacity, inlet pressure range & outlet pressure range, set pressure of CRV, UPSO & OPSO, regulation accuracy, direction of flow, name of the manufacturer and the model, serial number, the suppliers' name, date of manufacturing & a unique reference number, which will be quoted on the delivery documentation & test certificate.

#### 6. INSPECTION / DOCUMENTS

Inspection shall be carried out as per GGL Technical Specification and GGL approved QAP at the works of manufacturer.

Owner Representative shall carry out stage wise inspection during manufacturing / final inspection.

Manufacture /Vendor shall furnish all the material test certificates, proof of approval / licence from specified authority as per specified standard, if relevant, internal test / inspection reports as per Owner Tech. Spec. & specified code for 100% material, at the time of final inspection of each supply lot of material. All the codes / documents shall be made available for reference of TPIA at the time of inspection.

Review of calibration certificates for all the measuring instruments at the time of inspection i.e. used for checking & testing along with the master calibration certificate of the measuring instruments from which the instruments is calibrated.

For any control, test or examination required under the supervision of TPIA/Owner/Owner's representative, latter shall be informed in writing one (1) week in advance by vendor about inspection date and place along with production schedule.

Manufacturer /Vendor shall hire TPIA from approved TPIA list of Gujarat Gas/ TPIA approved by NABCB under IB Category/ TPIA approved by GGL for production witnessing and testing as per approved QAP of Gujarat Gas.

Even after third party inspection, Owner reserves the right to select a sample of regulators randomly from each manufacturing batch & have these independently tested. Should the results of these tests fall outside the limits specified in Owner technical specification, then Owner reserves the right to

reject all production supplied from the batch.

## 7. DATA SHEET FOR COMMERCIAL REGULATOR

	Description	6 SCMH	
<b>General</b>	Service	Natural Gas	
	Design	Two stage direct acting pressure regulator with spring control and diaphragm with inbuilt pressure balancing regulating unit to ensure constant outlet pressure.	
	Confirming Standard	Approved to EN 88-2	
	Connection Orientation	Inline inlet & outlet connection	
	Installation	Suitable for Outdoor installation, tamper proof and corrosion resistance for life period of 20 years.	
	Installation position	Horizontal/Vertical	
<b>Flow, Pressure &amp; Temperature</b>	Flow capacity	6 SCMH for outlet pressure range of 75mbar (g)	6 SCMH for outlet pressure range of 110 mbar(g)
	Inlet Pressure	<b>0.5 to 5.0 bar(g)</b>	
	Outlet Pressure set point	75/110 mbar	
	Over Pressure cut off point	130/165 mbar	
	Under Pressure cut off point	50 mbar	
	Creep relief Valve	110 $\pm$ 5 mbar(g)	130 $\pm$ 5 mbar(g)
	Operating temperature	0-60 Deg C	
<b>Body</b>	Casing	Chemical composition of regulator casing and body to be made of Aluminium Alloy/Zinc alloy of LM2/LM6/LM24/ZnA14	
	Corrosion Protection	All parts of the regulator should be corrosion resistant. Suitable surface treatment for anti-corrosion to be provided on both sides of casing as per applicable code.	



	End Connections	Adapter shall be of brass material and for inlet /outlet size 1/2" X 1/2" BSPT (F)  **Female loose Nut with suitable washers to be provided  **In case of end connections are differing, vendor shall provide suitable adaptor of similar materials to meet the specified end connections.
	Fire Resistance-Resistance to high temperature	As per BS 4161
<b>Internals</b>	Diaphragm	Synthetic rubber
	Other internal parts	Internal parts shall be stainless steel, brass seal of reinforced nitrile rubber or aluminium.
<b>Others</b>	Filter	Essential(Inbuilt) at regulator inlet
	Accuracy class	AC-5 complying to EN 88-2
	Closing Pressure	SG-10, complying to EN 88-2
	Failure position	Closed
	Type of reset	Manual
	Breather Holes	Breather holes shall be provided and it should be protected against blockage by arranging them such that they do not get damaged by a sharp cleaning device inserted through the breather hole.  Breather hole shall be provided such that they cannot be blocked by dust, mud, insects, etc. The vent must always be open. Vendor shall ensure that the screen is in place which keeps out insects or mud which may plug the vent opening
<b>Notes:</b>  1) QAP shall be submitted by the vendor for approval prior to production. 2) Monogram of Gujarat Gas is to be pasted through sticker on regulator. 3) End connection shall be provided by plastic cap. 4) Each regulator shall have permanent type marking i.e. directly cast or on aluminium plate. Labels and stickers are not allowed. The regulator shall be marked with details of maximum flow, Inlet-outlet pressure range, , OPSO-CRV-UPSO set pressure and direction of flow, name of manufacturer and model no. and unique serial number.		



**8.0 QAP** (Sample QAP for indicative purpose. On issuance of work order, vendor should furnish QAP in line with **EN 88-2** for final approval)

Sr. No	PARAMETERS	SPECIFICATION	INSPECTION PROCEDURE	INSPECTION FREQUENCY & SAMPLE SIZE	REF.DOCUMENT / STANDARD / DRAWING No	DOCUMENT OF RECORD	INSPECTION FREQUENCY & SAMPLE SIZE BY AGENCY	
							Vendor	TPI
1	Raw Material Testing	Chemical Composition of Regulator casing and body conforming to Aluminium alloy as per BS EN 1559-4:1999 or equivalent Grade LM6/LM24/ZNA 14	Review of Material Test Certificate from NABL approved laboratory	Material Test Certificate with each heat	BS EN 1559-4/ IS 713:1981 or equivalent Grade LM6/LM24 / ZNA14	Test Reports and certificates	P	R
		Chemical Composition of Brass Confirming to IS 319:1989 Or Equivalent Grade 2	Review of Material Test Certificate from NABL approved laboratory	Material Test Certificate with each heat	IS 319		P	R
		Chemical Composition of Springs Confirming to AISI 304/316	Review of Material Test Certificate from NABL approved laboratory	Material Test Certificate with each heat	AISI 304/316		P	R
2	Test On Elastomeric (Rubber) Components	Mechanical/chemical properties	Vendor Inspection Report	Each Lot	EN 88-2		P	R
3	Humidity Test	Type test on protective coating shall be carried out as per clause No. 7.8.6 and 7.8.7 of EN 13611	Type test certificate	Each Lot			P	R
4	Breather hole with rupture diaphragm test	Confirming to clause no. 6.2.3 & 6.2.4 of EN 13611 specification and GGL specification. The design of breather hole should be such, that in both vertical & horizontal fitting of regulator, breather hole	Type Test certificate	Each lot	EN 13611	Test Reports and certificates	P	R



		position should be parallel or downwards towards the ground. Vendor to submit GAD of regulator showing breather hole positioning for approval prior to manufacturing.						
5	Torsion & Bending	Confirming to clause no. 7.4 of EN 13611 specification and GGL specification	Type Test certificate	Each Lot	EN 13611	Test Reports and certificates	P	R
6	Flow Performance, Lock Up and Relief Pressure, Over Pr-Shut-Off Under Pr-Shut-Off	Soundness Test @ Pe of 5.0 bar	Checking the Leakage	100%	EN 88-2	Test Reports and certificates	P	W
		Pa setting @ Pe of 5.0 bar & Qmax	Tuning Pa @75/110 mbar	100%			P	W
		Pe checking @ Pe of 0.5/1.0 bar to 5.0 bar & Qmax	Checking the Pa at Test Bench ( Range 75-110bar)	100%			P	W
		Lockup Pressure @ Pe of 0.5/1.0 bar to 5.0 bar & regulator specified SCMH Flow	Checking the Lock-up Pr. at Test Bench ( Max.125 mbar)	100%			P	W
		Relief Pressure @ Pe of 0.5 / 1.0 bar to 5.0 bar	Checking the Relief Pr. at Test Bench (Range110/130 ± 5 mbar)	100%			P	W
		Over Pr-Shut-Off @ Pe of 0.5/1.0 bar to 5.0 bar	Checking the Over Pr. shutoff at Test Bench ( Range130/165± 5 mbar)	100%			P	W
		Under Pr-Shut-Off @ Pe of 0.5 /1.0 bar to 5.0 bar	Checking the Under Pr. shut off at Test Bench (Range 50± 5 mbar)	100%			P	W
7	Inspection of Final Regulator	Dimensions of Assembly	As Per Approved Dwg.	100%	EN 88-2	Test Reports and	P	W
		Surface Coating & Color as per	Visual	100%			P	W



		manufacture standard			certificates		
		Checking of Markings & Label for Visibility	Visual as per GGL specification	100%		P	W
		Inlet & Outlet Connection	As per Annex-A (INLINE)	100%		P	W
		Construction & Workmanship	Visual	100%		P	W
		Filter at Inlet	Visual	100%		P	W
		Checking Seal	Visual	100%		P	W

Note:-

W-Witness of quantity shall as per inspection level 1 AQL 1 as per IS 2500(part 1):2000

Pe-Upstream Pressure

Pa-Downstream Pressure

Annexure B:(Reference standard: IS 2500)				
Sr. No.	Batch Size	Sample Size	Acceptance No.	Rejection No.
1	2 to 500	20	0	1
2	501 to 3200	50	1	2
3	3201 to 10000	80	2	3
4	10001 to 35000	125	3	4
5	35001 to 150000	200	5	6

**Explanation:**

No. of samples inspected will be equal to the sample size given by the plan. If the no. of nonconforming product(s) is equal to or less than the acceptance no., the non-confirming product(s) will be removed from the lot and the remaining lot accepted. If the no. of non-confirming product(s) is equal to or greater than the rejection number, the whole lot will be retested for that particular parameter and rejected products, if any, will be replaced by fresh OK products.



# **TECHNICAL SPECIFICATIONS**

## **FOR COMMERCIAL REULATOR**

**Document No:** GGL/TS/PE-PNG/SUPPLY/COM-REG/SPEC

## 1. GENERAL

Gujarat Gas Ltd., is a Group Company of Gujarat State Petroleum Corporation Ltd., (State Government undertaking) and is developing city gas distribution including CNG stations in various cities of Gujarat.

GGL is supplying natural gas to automobile, industrial, commercial and domestic consumers in the various cities of Gujarat.

The intent of this specification is to establish minimum requirements to manufacture and supply Commercial regulators for supplying natural gas to customers.

The scope of the tender will include manufacture, supply, inspection, testing, marking, packaging, handling and dispatch of Commercial regulators as per **EN 88-1/EN 88-2** with latest amendments. The scope also includes hiring of Third party inspection agency by vendor for online inspection as per approved QAP.

All codes and standards for manufacture, testing, inspection etc. shall be of latest edition.

Owner reserves the right to delete or order additional quantities during execution of order, based on unit rates and other terms & conditions in the original order.

## 2. SCOPE

For this specification the following definitions shall apply:

**OWNER/ CLIENT:** Gujarat Gas Limited (GGL)

**CONSULTANT:** Consultant engaged by GGL for evaluation of vendor

**MANUFACTURER:** Means the Manufacturer of Commercial regulator

**VENDOR:** The person(s), firm, company, organization from whom Client / Contractor procures materials

**TPIA:** Third Party Inspection Agency to be appointed by Vendor/ Contractor for inspection of brought out items.

**EIC:** Engineer – in – charge

**AQL:** Acceptable Quality Limit

**Gas Pressure Regulator:** Device that maintains the outlet pressure independent of the variations in inlet pressure and/or flow rate within defined limits.

**Control Member:** Movable part of regulator that is positioned in the flow path to restrict the flow through the pressure regulator.

**Body:** Part of the pressure regulator that is the main pressure containing envelope.

**Main Diaphragm:** The function of which is to detect the feedback pressure of the controlled variable and or to provides the force to position the valve.

**Pressure:** All pressures specified in this document are static gauge pressures.

**Inlet Pressure:** Gas pressure at the inlet of the pressure regulator.

**Outlet Pressure:** Gas pressure at the outlet of the pressure regulator.

**Differential Pressure:** Difference between values of pressure at two different points.

**Lock-Up Pressure:** Outlet pressure at which a pressure regulator closes when the outlet of the pressure regulator is sealed.

**Maximum Component Operating Pressure (P<sub>max</sub>):** Highest operating pressure at which a component of a regulator will continuously operate within specified conditions.

**Maximum Allowable Pressure (P<sub>s</sub>):** Maximum pressure for which the body and its inner metallic partition walls are designed in accordance with the strength requirements in this document.

**Test Pressure (T<sub>p</sub>):** Pressure applied to a section of the regulator for a limited period of time in order to prove certain characteristics.

**Limit Pressure (p):** Pressure at which yielding becomes apparent in any components of the regulator or its fixtures.

**Permissible Inlet Pressure (P<sub>emax</sub>):** Highest inlet pressure at which the regulator can continuously operate within specified conditions.

**Permissible Outlet Pressure (P<sub>amax</sub>):** Highest outlet pressure at which the regulator can continuously operate within specified conditions.

**Minimum Operating Differential Pressure (P<sub>dmin</sub>):** Minimum Operating differential pressure between the inlet and outlet pressures below which the regulator will no longer function correctly within specified conditions.

**Gas Volume:** Volume of gas at normal conditions expressed in m<sup>3</sup>.

**Volumetric Flow Rate (Q):** Volume of gas which flows through the regulator in unit time at normal conditions (It is expressed in m<sup>3</sup>/hr)

**Lock-Up Time (t<sub>f</sub>)** Time taken from the control member to move from an open position to the closed position.

### 3. PERFORMANCE REQUIREMENT AND STANDARD FEATURES

- a) Satisfactory operation over an inlet pressure range of 0.5 bar (g)/ 1 bar(g) to 5 bar (g), and nominal outlet pressure will be 75/110 mbar.
- b) Inlet / Outlet connection should be of screwed type as per BSPT female confirming to relevant standard as approved by Gujarat Gas.
- c) Suitable for use with natural gas at nominal specific gravity of 0.6 & operating temperature range of 0 °C to 60 °C.
- d) Over Pressure Shut off (**OPSO**) device to protect against downstream over pressure preset to 130/165 mbar and creep relief valve to protect against downstream over pressure at low flows or in the event of valve seat malfunction, preset to 110/130 mbar.

- e) Under Pressure Shut off (**UPSO**) device to protect against downstream under pressure with a pressure settings range 50 mbar.
- f) The regulator shall 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 high temperature & humid environment.
- g) The regulator shall be suitable for outdoor installation and tamper proof & corrosion resistance for a life a period of 20 Years.

#### **4. END CONNECTIONS**

The regulator shall be supplied with inlet as well as outlet end connections as per Gujarat Gas requirements. End connections shall be protected by plastic caps. Regulators without end cap will be rejected by Gujarat Gas.

#### **5. MARKING**

The regulator body shall be indelibly marked with details of capacity, inlet pressure range & outlet pressure range, set pressure of CRV, UPSO & OPSO, regulation accuracy, direction of flow, name of the manufacturer and the model, serial number, the suppliers' name, date of manufacturing & a unique reference number, which will be quoted on the delivery documentation & test certificate.

#### **6. INSPECTION / DOCUMENTS**

Inspection shall be carried out as per GGL Technical Specification and GGL approved QAP at the works of manufacturer.

Owner Representative shall carry out stage wise inspection during manufacturing / final inspection.

Manufacture /Vendor shall furnish all the material test certificates, proof of approval / licence from specified authority as per specified standard, if relevant, internal test / inspection reports as per Owner Tech. Spec. & specified code for 100% material, at the time of final inspection of each supply lot of material. All the codes / documents shall be made available for reference of TPIA at the time of inspection.

Review of calibration certificates for all the measuring instruments at the time of inspection i.e. used for checking & testing along with the master calibration certificate of the measuring instruments from which the instruments is calibrated.

For any control, test or examination required under the supervision of TPIA/Owner/Owner's representative, latter shall be informed in writing one (1) week in advance by vendor about inspection date and place along with production schedule.

Manufacturer /Vendor shall hire TPIA from approved TPIA list of Gujarat Gas/ TPIA approved by NABCB under IB Category/ TPIA approved by GGL for production witnessing and testing as per approved QAP of Gujarat Gas.

Even after third party inspection, Owner reserves the right to select a sample of regulators randomly from each manufacturing batch & have these independently tested. Should the results of these tests fall outside the limits specified in Owner technical specification, then Owner reserves the right to reject all production supplied from the batch.

## 7. DATA SHEET FOR COMMERCIAL REGULATOR

	Description	10 & 25 SCMH	50 & 100 SCMH
<b>General</b>	Service	Natural Gas	
	Design	Two stage direct acting pressure regulator with spring control and diaphragm with inbuilt pressure balancing regulating unit to ensure constant outlet pressure.	
	Confirming Standard	Approved to EN 88-2	
	Connection Orientation	Inline inlet & outlet connection	
	Installation	Suitable for Outdoor installation, tamper proof and corrosion resistance for life period of 20 years.	
	Installation position	Horizontal/Vertical	
<b>Flow, Pressure &amp; Temperature</b>	Flow capacity	10 , 25 & 50 SCMH for outlet pressure range of 75mbar (g)	10, 25, 50 & 100 SCMH for outlet pressure range of 110 mbar(g)
	Inlet Pressure	0.5 to 5.0 bar(g)	0.5 to 5.0 bar(g) – 10 & 25 SCMH 1 to 5.0 bar(g) – 50 & 100 SCMH
	Outlet Pressure set point	As mentioned in Annexure A	
	Over Pressure cut off point	As mentioned in Annexure A	
	Under Pressure cut off point	As mentioned in Annexure A	
	Creep relief Valve	110 $\pm$ 5 mbar(g)	130 $\pm$ 5 mbar(g)
	Operating temperature	0-60 Deg C	
<b>Body</b>	Casing	Chemical composition of regulator casing and body to be made of Aluminium Alloy/Zinc alloy of LM2/LM6/LM24/ZnA14	
	Corrosion Protection	All parts of the regulator should be corrosion resistant. Suitable surface treatment for anti-corrosion to be provided on both sides of casing as per applicable code. In case all parts are made from aluminium, coating is not required but it should pass through all corrosion test.	



	End Connections	<p>Adapter shall be of brass material and for inlet /outlet size refer Annexure A</p> <p><b>**Female loose Nut with suitable washers to be provided</b></p> <p><b>**In case of end connections are differing, vendor shall provide suitable adaptor of similar materials to meet the specified end connections.</b></p>
	Fire Resistance-Resistance to high temperature	As applicable
<b>Internals</b>	Diaphragm	Synthetic rubber
	Other internal parts	Internal parts shall be stainless steel, brass seal of reinforced nitrile rubber or aluminium.
<b>Others</b>	Filter	Essential(Inbuilt) at regulator inlet
	Accuracy class	AC-5 complying to EN 88-2
	Closing Pressure	SG-10, complying to EN 88-2
	Failure position	Closed
	Type of reset	Manual
	Breather Holes	<p>Breather holes shall be provided and it should be protected against blockage by arranging them such that they do not get damaged by a sharp cleaning device inserted through the breather hole.</p> <p>Breather hole shall be provided such that they cannot be blocked by dust, mud, insects, etc. The vent must always be open. Vendor shall ensure that the screen is in place which keeps out insects or mud which may plug the vent opening</p>
<p><b>Notes:</b></p> <p>1) QAP shall be submitted by the vendor for approval prior to production.</p> <p>2) Monogram of Gujarat Gas is to be pasted through sticker on regulator.</p> <p>3) End connection shall be provided by plastic cap.</p> <p>4) Each regulator shall have permanent type marking i.e. directly cast or on aluminium plate. Labels and stickers are not allowed. The regulator shall be marked with details of maximum flow, Inlet-outlet pressure range, , OPSO-CRV-UPSO set pressure and direction of flow, name of manufacturer and model no. and unique serial number.</p>		

**ANNEXURE A**

<b>Sr. No.</b>	<b>Flow (At standard condition) Max.</b>	<b>Regulator outlet pressure set point</b>	<b>Inlet Size/Outlet Size Confirming to ANSI B: 1.20.1</b>	<b>Cut of Pressure</b>
1	10 SCMH	75/110 mbar	3/4" X 3/4" BSPT (F)	OPSO : 130/165 mbar, UPSO : 50 mbar
2	25 SCMH	75/110 mbar	1" X 1 " BSPT (F)	OPSO : 130/165 mbar, UPSO : 50 mbar
3	50 SCMH	75/110 mbar	1" X 1"BSPT (F)	OPSO : 130/165 mbar, UPSO : 50 mbar
4	100 SCMH	110 mbar	1" X 2" BSPT (F)	OPSO : 165 mbar, UPSO : 50 mbar

**8.0 QAP** (Sample QAP for indicative purpose. On issuance of work order, vendor should furnish QAP in line with **EN 88-2** for final approval)

Sr. No	PARAMETERS	SPECIFICATION	INSPECTION PROCEDURE	INSPECTI ON FREQUE NCY & SAMPLE SIZE	REF.DOCUME NT / STANDARD / DRAWING No	DOCUMENT OF RECORD	INSPECTION FREQUENCY & SAMPLE SIZE BY AGENCY	
							Vend or	TPI
1	Raw Material Testing	Chemical Composition of Regulator casing and body conforming to Aluminium alloy as per BS EN 1559-4:1999 or equivalent Grade LM2/LM6/LM24/ZN A 14	Review of Material Test Certificate from NABL approved laboratory	Material Test Certifica te with each heat	BS EN 1559-4/ IS 713:1981 or equivalent Grade LM6/LM24/ ZNA14	Test Reports and certificates	P	R
		Chemical Composition of Brass Confirming to IS 319:1989 Or Equivalent Grade 2	Review of Material Test Certificate from NABL approved laboratory	Material Test Certifica te with each heat	IS 319		P	R
		Chemical Composition of Springs Confirming to AISI 304/316	Review of Material Test Certificate from NABL approved laboratory	Material Test Certifica te with each heat	AISI 304/316		P	R
2	Test On Elastomeric (Rubber) Components	Mechanical/chemic al properties	Vendor Inspection Report	Each Lot	EN 88-2		P	R
3	Humidity Test	Type test on protective coating shall be carried out as per clause No. 7.8.6 and 7.8.7 of EN 13611	Type test certificate	Each Lot			P	R
4	Breather hole with rupture diaphragm test	Confirming to clause no. 6.2.3 & 6.2.4 of EN 13611 specification and GGL specification. The design of breather hole should be such, that in both vertical & horizontal fitting of regulator, breather hole position should be parallel or downwards	Type Test certificate	Each lot	EN 13611	Test Reports and certificates	P	R

		towards the ground. Vendor to submit GAD of regulator showing breather hole positioning for approval prior to manufacturing.						
5	Torsion & Bending	Confirming to clause no. 7.4 of EN 13611 specification and GGL specification	Type Test certificate	Each Lot	EN 13611	Test Reports and certificates	P	R
6	Flow Performance, Lock Up and Relief Pressure, Over Pr-Shut-Off Under Pr-Shut-Off	Soundness Test @ Pe of 5.0 bar	Checking the Leakage	100%	EN 88-2	Test Reports and certificates	P	W
		Pa setting @ Pe of 5.0 bar & Qmax	Tuning Pa @75/110 mbar	100%			P	W
		Pa checking @ Pe of 0.5/1.0 bar to 5.0 bar & Qmax	Checking the Pa at Test Bench (Range 75mbar± 5 %)/110mbar ± 5 %)	100%			P	W
		Lockup Pressure @ Pe of 0.5/1.0 bar to 5.0 bar & regulator specified SCMH Flow	Checking the Lock-up Pr. at Test Bench (Max. 83/121 mbar) mbar)	100%			P	W
		Relief Pressure @ Pe of 0.5 / 1.0 bar to 5.0 bar	Checking the Relief Pr. at Test Bench (Range110/130 ± 5 mbar	100%			P	W
		Over Pr-Shut-Off @ Pe of 0.5/1.0 bar to 5.0 bar	Checking the Over Pr. shutoff at Test Bench (Range 130± 5 %)/165± 5 %)	100%			P	W
		Under Pr-Shut-Off @ Pe of 0.5 /1.0 bar to 5.0 bar	Checking the Under Pr. shut off at Test Bench (Range 50± 5% )	100%			P	W
7	Inspection of Final Regulator	Dimensions of Assembly	As Per Approved Dwg.	100%	EN 88-2	Test Reports and certificates	P	W
		Surface Coating & Color as per manufacture standard	Visual	100%			P	W
		Checking of Markings & Label for Visibility	Visual as per GGL specification	100%			P	W
		Inlet & Outlet Connection	As per Annex-A (INLINE)	100%			P	W
		Construction & Workmanship	Visual	100%			P	W

		Filter at Inlet	Visual	100%			P	W
		Checking Seal	Visual	100%			P	W

Note:-

W-Witness of quantity shall as per inspection level 1 AQL 1 as per IS 2500(part 1):2000

Pe-Upstream Pressure

Pa-Downstream Pressure

Annexure B:(Reference standard: IS 2500)				
Sr. No.	Batch Size	Sample Size	Acceptance No.	Rejection No.
1	2 to 500	20	0	1
2	501 to 3200	50	1	2
3	3201 to 10000	80	2	3
4	10001 to 35000	125	3	4
5	35001 to 150000	200	5	6

Explanation:
No. of samples inspected will be equal to the sample size given by the plan. If the no. of nonconforming product(s) is equal to or less than the acceptance no., the non-confirming product(s) will be removed from the lot and the remaining lot accepted. If the no. of non-confirming product(s) is equal to or greater than the rejection number, the whole lot will be retested for that particular parameter and rejected products, if any, will be replaced by fresh OK products.



# **TECHNICAL SPECIFICATIONS**

## **FOR DOMESTIC RISER REULATOR**

**Document No: GGL/TS/PE-PNG/SUPPLY/RISER-REG/SPEC**

## 1. GENERAL

Gujarat Gas Ltd., is a Group Company of Gujarat State Petroleum Corporation Ltd., (State Government undertaking) and is developing city gas distribution including CNG stations in various cities of Gujarat.

GGL Gas Ltd., is supplying natural gas to automobile, industrial, commercial and domestic consumers in the various cities of Gujarat.

The intent of this specification is to establish minimum requirements to manufacture and supply of domestic regulators for supplying natural gas to domestic customers.

The scope of the tender will include manufacture, supply, inspection, testing, marking, packaging, handling and dispatch domestic regulators as per **EN 88-2** with latest amendments. The scope also includes hiring of Third party inspection agency from approved TPIA list of GGL by vendor for online inspection as per approved QAP.

All codes and standards for manufacture, testing, inspection etc shall be of latest edition.

Owner reserves the right to delete or order additional quantities during execution of order, based on unit rates and other terms & conditions in the original order.

## 2. SCOPE

For this specification the following definitions shall apply:

OWNER/ CLIENT	Gujarat Gas Limited (GGL)
CONSULTANT	Consultant engaged by GGL for evaluation of vendor
MANUFACTURER	Means the Manufacturer of domestic regulator
VENDOR	The person(s), firm, company, organization from whom Client / Contractor procures materials
TPIA	Third Party Inspection Agency to be appointed by Vendor/ Contractor for inspection of brought out items
EIC	Engineer — in — charge
AQL	Acceptable Quality Limit

**Gas Pressure Regulator:** Device that maintains the outlet pressure independent of the variations in inlet pressure and/or flow rate within defined limits.

**Control Member:** Movable part of regulator that is positioned in the flow path to restrict the flow through the pressure regulator.

**Body:** Part of the pressure regulator that is the main pressure containing envelope.

**Main Diaphragm:** The function of which is to detect the feedback pressure of the controlled variable and or to provides the force to position the valve.

**Pressure:** All pressures specified in this document are static gauge pressures.

**Inlet Pressure:** Gas pressure at the inlet of the pressure regulator.

**Outlet Pressure:** Gas pressure at the outlet of the pressure regulator.

**Differential Pressure:** Difference between values of pressure at two different points.

**Lock-Up Pressure:** Outlet pressure at which a pressure regulator closes when the outlet of the pressure regulator is sealed.

**Maximum Component Operating Pressure (Pmax):** Highest operating pressure at which a component of a regulator will continuously operate within specified conditions.

**Maximum Allowable Pressure (Ps):** Maximum pressure for which the body and its inner metallic partition walls are designed in accordance with the strength requirements in this document.

**Test Pressure (Tp):** Pressure applied to a section of the regulator for a limited period of time in order to prove certain characteristics.

**Limit Pressure (p):** Pressure at which yielding becomes apparent in any components of the regulator or its fixtures.

**Permissible Inlet Pressure (Pemax):** Highest inlet pressure at which the regulator can continuously operate within specified conditions.

**Permissible Outlet Pressure (Pamax):** Highest outlet pressure at which the regulator can continuously operate within specified conditions.

**Minimum Operating Differential Pressure (Pdmin):** Minimum Operating differential pressure between the inlet and outlet pressures below which the regulator will no longer function correctly within specified conditions.

**Gas Volume:** Volume of gas at normal conditions expressed in m<sup>3</sup>.

**Volumetric Flow Rate (Q):** Volume of gas which flows through the regulator in unit time at normal conditions (It is expressed in m<sup>3</sup>/hr)

**Lock-Up Time (tf)** Time taken from the control member to move from an open position to the closed position.

### **3. INSPECTION / DOCUMENTS**

Inspection shall be carried out as per GGL Technical Specification and GGL approved QAP at the works of manufacturer.

Owner Representative shall carry out stage wise inspection during manufacturing / final inspection.

Manufacture /Vendor shall furnish all the material test certificates, proof of approval / licence from specified authority as per specified standard, if relevant, internal test / inspection reports as per Owner Tech. Spec. & specified code for 100% material, at the time of final inspection of each supply lot of material. All the codes / documents shall be made available for reference of TPIA at the time of inspection.



Review of calibration certificates for all the measuring instruments at the time of inspection i.e. used for checking & testing along with the master calibration certificate of the measuring instruments from which the instruments is calibrated.

For any control, test or examination required under the supervision of TPIA/Owner/Owner's representative, latter shall be informed in writing one (1) week in advance by vendor about inspection date and place along with production schedule.

Manufacturer /Vendor shall hire TPIA from approved TPIA list of Gujarat Gas/ TPIA approved by NABCB under IB Category/ TPIA approved by GGL for production witnessing and testing as per approved QAP of Gujarat Gas.

Even after third party inspection, Owner reserves the right to select a sample of regulators randomly from each manufacturing batch & have these independently tested. Should the results of these tests fall outside the limits specified in Owner technical specification, then Owner reserves the right to reject all production supplied from the batch.

#### 4. DATA SHEET FOR DOMESTIC REGULATOR

General	Description	For 10 & 25 SCMH
General	Service	Natural Gas
	Design	Two stage direct acting pressure regulator with spring control and diaphragm with inbuilt pressure balancing regulating unit to ensure constant outlet pressure.
	Confirming Standard	Approved to EN 88-2
	Connection Orientation	Inline inlet & outlet connection
	Installation	Suitable for Outdoor installation, tamper proof and corrosion resistance for life period of 20 years.
	Installation position	Horizontal/Vertical
Flow, Pressure & Temperature	Flow capacity	10 & 25 SCMH for outlet pressure range of 22±2 mbar (g)
	Inlet Pressure	0.5 to 5.0 bar(g)
	Outlet Pressure set point	As mentioned in Annexure A
	Over Pressure cut off point	As mentioned in Annexure A
	Under Pressure cut off point	Not Applicable
	Creep relief Valve	34 ± 2 mbar(g)
	Operating temperature	0-60 Deg C
Body	Casing	Chemical composition of regulator casing and body to be made of Aluminium Alloy/Zinc alloy of LM2/LM6/LM24/ZnA14
	Corrosion Protection	All parts of the regulator should be corrosion resistant. Suitable surface treatment for anti-corrosion to be provided on both sides of casing as per applicable code. In case all parts are made from aluminum, coating is not required but it should pass through all corrosion test.
	End Connections	As mentioned in Annexure A
	Fire Resistance-Resistance to high temperature	As per BS 4161 **Female Loose Nut with suitable washers to be provided **In case of end connections are differing, vendor shall provide suitable adaptor of similar materials to meet the specified end connections.
Internals	Diaphragm	Synthetic Rubber
	Other Internal Parts	Internal parts shall be stainless steel, brass seal of reinforced nitrile rubber or aluminium.
Others	Filter	Essential(Inbuilt) at regulator inlet

	Accuracy class	AC-5 complying to EN 88-2
	Closing Pressure	SG-10, complying to EN 88-2
	Failure position	Closed
	Type of reset	OPSO-Manual
	Breather Holes	Breather holes shall be provided and it should be protected against blockage by arranging them such that they do not get damaged by a sharp cleaning device inserted through the breather hole. Breather hole shall be provided such that they cannot be blocked by dust, mud, insects, etc. The vent must always be open. Vendor shall ensure that the screen is in place which keeps out insects or mud which may plug the vent opening

Notes:

- 1) QAP shall be submitted by the vendor for approval prior to production.
- 2) Monogram of Gujarat Gas is to be pasted through sticker on regulator.
- 3) End connection shall be provided by plastic cap.
- 4) Each regulator shall have permanent type marking i.e. directly cast or on aluminium plate. Labels and stickers are not allowed. The regulator shall be marked with details of maximum flow, Inlet-outlet pressure range, OPSO-CRV-UPSO set pressure and direction of flow, name of manufacturer and model no. and unique serial number.

## **ANNEXURE-A**

Sr. No.	Flow (At standard condition) Max.	Regulator outlet pressure set point	Inlet Size/Outlet Size Confirming to ANSI B: 1.20.1	Cut of Pressure
1	10 SCMH	22±2 mbar	1" X 1 " BSPP (F)	OPSO : 60±5 mbar,
2	25 SCMH	22±2 mbar	1" X 1 " BSPP (F)	OPSO : 60±5 mbar

**5. QAP (Final QAP for indicative purpose. On issuance of work order, vendor should furnish compliance of this QAP)**

Sr. No	PARAMETERS	SPECIFICATION	INSPECTION PROCEDURE	INSPECTION FREQUENCY & SAMPLE SIZE	REF.DOCUMENT / STANDARD / DRAWING No	DOCUMENT OF RECORD	INSPECTION FREQUENCY & SAMPLE SIZE BY AGENCY	
							Vendor	TPI
1	Raw Material Testing	Chemical Composition of Regulator casing and body conforming to Aluminium alloy as per BS EN 1559-4:1999 or equivalent Grade LM2/LM6/LM24 for low & high pressure	Review of Material Test Certificate from NABL approved laboratory	Material Test Certificate with each heat	EN 88-2	Test Reports and certificates	P	R
		Chemical Composition of Brass Confirming to IS 319:1989 Or Equivalent Grade 2	Review of Material Test Certificate from NABL approved laboratory	Material Test Certificate with each heat			P	R
		Chemical Composition of Springs Confirming to AISI 304	Review of Material Test Certificate from NABL approved laboratory	Material Test Certificate with each heat			P	R
2	Test On Elastomeric (Rubber) Components		Vendor Inspection Report	Each Lot			P	R
3	Humidity Test		Vendor Inspection Report	Each Lot			P	R
4	Flow Performance, Lock Up and Relief Pressure, Over Pr-Shut-Off	Soundness Test @ Pe of 5.0 bar	Checking the Leakage	100%	EN 88-2	Test Reports and certificates	P	W
		Pa setting @ Pe of 5.0 bar & Qmax	Tuning Pa @22 mbar	100%			P	W
		Pa checking @ Pe of 0.5 bar to 5.0 bar & Qmax	Checking the Pa at Test Bench (22±2 mbar)	100%			P	W

		Lockup Pressure @ Pe of 0.5 bar to 5.0 bar & regulator specified SCMH Flow	Checking the Lock-up Pr. at Test Bench (Max. 27 mbar)	100%			P	W
		Relief Pressure @ Pe of 0.5 bar to 5.0 bar	Checking the Relief Pr. at Test Bench (Range 34±2 mbar)	100%			P	W
		Over Pr-Shut-Off @ Pe of 0.5 bar to 5.0 bar	Checking the Over Pr. shutoff at Test Bench (Range 60± 5 mbar)	100%			P	W
5	Inspection of Final Regulator	Dimensions of Assembly	As Per Approved Dwg.	100%	EN 88-2	Test Reports and certificates	P	W
		Surface Coating & colour as per manufacturer standard	Visual	100%			P	W
		Checking of Markings & Label for Visibility	Visual as per GGL specification	100%			P	W
		Inlet & Outlet Connection	As per Annex-A (INLINE)	100%			P	W
		Filter at Inlet	Visual	100%			P	W
		Checking Seal	Visual	100%			P	W

Note:-

W-Witness of quantity shall as per inspection level 1 AQL 1 as per IS 2500(part 1):2000

Pe-Upstream Pressure

Pa-Downstream Pressure

Annexure A:(Reference standard: IS 2500)				
Sr. No.	Batch Size	Sample Size	Acceptance No.	Rejection No.
1	2 to 500	20	0	1
2	501 to 3200	50	1	2
3	3201 to 10000	80	2	3
4	10001 to 35000	125	3	4
5	35001 to 150000	200	5	6
Explanation:-				
No. of samples inspected will be equal to the sample size given by the plan. If the no. of nonconforming product(s) is equal to or less than the acceptance no., the non-conforming product(s) will be removed from the lot and the remaining lot accepted. If the no. of non-conforming product(s) is equal to or greater than the rejection number, the whole lot will be retested for that particular parameter and rejected products, if any, will be replaced by fresh OK products.				