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

For

#### **Empanelment of Suppliers**

for Supply of EVC with Accessories at various GGL locations

REF. NO. GGL/EOI/2024-25/003

EOI Published on 05th July, 2024

Response Submission by 26<sup>th</sup> July, 2024

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

**Kind Attention: VP- Materials** 

**Gujarat Gas Limited** 

9th Floor, Avdhesh House, Opp. Shri Govind Gurudwara,

S. G. Highway, Ahmedabad - 380054, Gujarat

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

Gujarat Gas Limited (GGL) intends to empanel interested & capable suppliers for "Supply of EVC with Accessories 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.
- 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 P	AN)	
1.	Name of Fifth Company (As per 1		
2.	Type of Firm/Company (Tick One)	<ul> <li>□ PROPRIETORSHIP FIRM</li> <li>□ INDIAN COMPANY</li> <li>□ PRIVATE LIMITED</li> <li>□ PRIVATE LIMITED</li> </ul>	
3.	PAN linked with <b>AADHAAR</b> (It is mandatory, in case registered firm is " <b>PROPRIETORSHIP FIRM</b> "  :   YES (Attach screen shot of Income Tax E-filing Portal)  :   NO		
4.	Mirco/Small/Medium Scale	<ul><li>: □ YES (Copy of relevant certificate to be attached)</li><li>: □ NO</li></ul>	
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		
	: Electronic Fund Transfer Mandat elled cheque.	e Form should be submitted as per attached format along with original	
		(SEAL AND SIGNATURE OF BIDDER)	

#### **DECLARATION OF RELATIONSHIP WITH GGL EMPLOYEES**

(on BIDDER'S 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 Ltd. EOI Reference No <b>GGL/EOI/2024-25/003</b> , I/We hereby confirm that ( <i>Bidder shall tick/select any one of the options below - as applicable</i> )		
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.		
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).

#### 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 confi	rm that M/sis having above bank account with us and above request to GGL has
been sigr	ned by authorized signatories, same are matching with our banking records.
Place:	Sign and Seal by bank

#### **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 have by agree to retify and confirm and do have by retify, and confirm all acts doods and things done				
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 OF2				
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,				
The mode of execution of the power of recorney 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.





### BIDDER QUALIFICATION CRITERIA (BQC) FOR SUPPLY OF EVC WITH ACCESSORIES

	Document No.:		
00	-	Original Document	15.06.2024
Rev. No.	Clause No.	Description of change	Date of Issue



No	Criteria		Supporting Documents
А	Technical Criteria		Compliance Required in Technical Evaluation
A.1.	The bidder shall be OEM (Original Equ Manufacturer) of EVC or Authorized partner for supply of EVCs in India.	•	If Bidder is OEM (Original Equipment Manufacturer): Bidder shall submit Declaration letter of being OEM. Letter to be submitted as per the format provided in Annexure- 1A  If Bidder is ASP (Authorized Service Partner): Bidder shall submit Authorization letter issued by OEM. Letter to be submitted as per the format provided in Annexure- 1B
A.2.	Bidder/OEM shall have successfully supplied least ANY of the following quantities of <i>simmaterial during</i> the last <i>7 years</i> reckoned for the EOI published month: -  a One similar completed supply order, each with quantity not less than b Two similar completed supply orders, each with quantity not less than c Three similar completed supply orders, each with quantity not less than  c Three similar completed supply orders, each with quantity not less than  Notes: "Similar material" is defined as offered make model of EVC as per specifications mention this EOI document.	21 Nos. 13 Nos. 11 Nos.	A) Bidders not associated with GGL shall submit Bidder shall submit Purchase Order from client/ end user in single / two / three order(s) as per option selected on the left along with supporting document(s) issued by client/end user such as Inspection Release Note / Completion Certificate / Performance Certificate / any other relevant document (Except Invoice) for the same Purchaser Order(s) for fulfilment of the criteria specified herein. Invoices are not acceptable as a supporting document.  Supporting document issued by client/end user shall have following minimum details clearly indicated: - a) Full Name & Address of Client / End user and signatory of certificate b) Relevant purchase order(s) number and its date c) Date of supporting document d) Name of the Bidder e) Qty. of EVC supplied as per option selected on the left.  If Make / Model, quantity and other criteria as specified on the left is not indicated in the PO/ Work Completion/ Execution/ Performance certificate; then bidder must furnish the scope of work / approved BOM / any relevant documents (issued by client/ end user) to justify the Experience Criteria (Technical) requirements at the time of Bid submission itself.



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		B) Bidders associated with GGL (existing and previously) shall submit GGL Purchase order in single / two / three order(s) as per option selected on the left for fulfilment of the criteria specified herein.
A.3.	OEM shall have valid Type Approval Certificate for offered model of EVC	Valid type approval certificates confirming compliance of the offered model of EVC to the requirement of EN12405 issued by DVGW, NMI, PTB, LNE, FCRI, TIFERNOGAS SRL or other certifying/approving bodies notified/authorized/approved by European commission or American Gas Association along with the technical bid.  NOTE1:  1. In case of other certifying / approving body, additional supporting document to be provided by the Bidder to prove the fact that certifying / approving body is notified/authorized/approved by European commission. Website link to verify the same shall also be provided.

NOTE: Once contract is awarded, it is not permissible to change the make/model of offered EVC during the entire contract duration, without prior written permission from GGL. Such requests may be made provided that the new offered make/model fulfils or exceeds the Minimum requirements listed in BQC and the technical specifications/ Scope of work.

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

- 1. All qualification documents as mentioned above falls under rejection category and non-submission of any of the requisite documents shall make the bid liable for rejection summarily.
- 2. 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 required. 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.
- 3. Bidders need to provide excel sheet mapping supporting documents file name, page no. to each BQC Clause No. (as per Annexure 2)
- 4. 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 certified/authorized third party agency, shall however be submitted along with the technical bid.
- 5. Bidder to submit the supporting documents against technical criteria for successful execution of Supply of EVC under PO for the supply of maximum / highest number of quantity in last 7 years to be reckoned from EOI/tender publishing month for empanelment.
- 6. In case where Bidder has submitted multiple contracts / POs showing experience on cumulative bases against Single Contract / Rate Contract / PO then PO with maximum/highest supply of EVC shall be considered for evaluation against technical qualification criteria.



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- 7. 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.
- 8. Bidder shall submit contact details (other than GGL) of document issuing authority with minimum as Name & Designation, Office address, Email address and Contact Number
- 9. Documents shall be submitted in line with BQC requirement only.
- 10. Document submitted for Trial Orders or Proof of Concept (PoC) shall not be considered for these criteria.
- 11. Only those documents which are sufficient for qualification shall be uploaded. Extra documents shall be avoided.



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#### **CHECKLIST FOR BIDDERS:**

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

Criteria Sr. No.	Document	Submitted in Technical Bid (Yes/ No)
A.1	In case if the Bidder is an OEM: Declaration letter as per Annexure 1A on OEM's letter head. Product brochures to be uploaded.	
	In case if the Bidder is ASP: Declaration letter as per Annexure 1B on OEM's letter head. Product brochures to be uploaded.	
A.2(A)	GGL associated Bidder (Existing and Previously): Submit GGL issued PO in single / two / three order(s) for fulfilment of the criteria specified herein  Ensure PO submitted fulfils Technical criteria specified above in BQC	
A.2(B)	<b>GGL non-associated Bidder:</b> Submit Purchase Order from client/ end user in single / two / three order(s) along with supporting document(s) issued by client/end user such as Inspection Release Note / Completion Certificate / Performance Certificate / any other relevant document (Except Invoice) for the same Purchaser Order(s) for fulfilment of the criteria specified herein. Invoices are not acceptable as a supporting document.	
	Supporting document issued by client/end user shall have following minimum details clearly indicated: - a) Full Name & Address of Client / End user and signatory of certificate b) Relevant purchase order(s) number and its date c) Date of supporting document d) Name of the Bidder e) Qty. of EVC supplied as per option selected on the left.	
	If Make / Model, quantity and other criteria as specified is not indicated in the PO/ Work Completion/ Execution/ Performance certificate; then bidder must furnish the scope of work / approved BOM / any relevant documents to justify the Experience Criteria (Technical) requirements at the time of Bid submission itself.  NOTE: Bidder to provide contact details (Name, email ID, contact no. and link to verify certificate) of Issuing authority from whom the submitted certificate could be verified.	



A.3	Valid type approval certificates confirming compliance of the offered model of EVC to the requirement of EN12405 issued by DVGW, NMI, PTB, LNE, FCRI, TIFERNOGAS SRL or other certifying/approving bodies notified/authorized/approved by European commission or American Gas Association along with the technical bid.
	Additional supporting documents and Website link as per criteria in case of other certifying / approving body .



#### **Annexure-1A**

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

Ref	
Date	
То,	
Gujarat Gas Ltd.	
9th Floor, Avdesh House, Opp. Shri Gurugobind Gurudwara	
SG Highway, Ahmedabad	
Gujarat – 380054	
EOI description & ID:	
EOI 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 (OEM) of	(Offered Product's name and Model
name). Product brochures of offered Product model are enclosed	here with for reference.
We hereby take the single point responsibility and accountability	for providing all the technical support for executing
the entire EOI scope and this is valid till execution of the entire cor	
supplied against the contract and comprehensive Operation and	Maintenance contract, if applicable.
We also confirm to provide (On chargeable basis) after sales servi	ces support Including Supply of Spares for a period of
Minimum 5 Years from the date of expiry of warranty period of la	
Thanking you.	
Authorized Signatory	
For	
Encl: Product brochure	



#### **Annexure-1B**

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

Ref	
Date	
То,	
Gujarat Gas Ltd.	
9th Floor, Avdesh House, Opp. Shri Gurugobind Gurudwara	
SG Highway, Ahmedabad, Gujarat – 380054	
EOI description & ID:	
EOI 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	
and Model name). Product brochures of offered Items are enclosed	here with for reference.
We would like to bring to your kind attention that since	
as our Authorized Serv created to cater the needs of the Indian natural gas industry.	nce Partiler (ASP) for india, which is specifically
We hereby fully authorize ASP for executing after sales and servic product. We hereby take the responsibility and accountability for p the entire tender scope. This authorization shall be binding on OEN shall include warranty period of the materials supplied agains comprehensive Operation and Maintenance contract, if applicable.	roviding all technical support to ASP for executing If & ASP till execution of the entire contract which
We also confirm to provide (On chargeable basis) after sales service Minimum 5 Years from the date of expiry of warranty period of last and hold harmless GGL in case of any dispute due to whatsoeve pertaining to subject EOI/contract.	supplied material lot. We hereby indemnify, defend
Thanking you.	
Authorized Signatory	
For	
Encl: Product brochure	



#### Annexure-2

Format for submitting EXCEL SHEET

No	Criteria	File name of Supporting Document(s) Submitted	Page no. of Supporting Document(s) Submitted
A.1.	The bidder shall be OEM (Original Equipment Manufacturer) for supply of EVC or Authorservice partner for supply of EVCs.		
	Bidder/OEM shall have successfully supplie least ANY of the following quantities of <i>sin material during</i> the last <i>7 years</i> reckoned the EOI published month: -	nilar	
A.2.	b Two similar completed supply orders, each with quantity not less than  c Three similar completed supply orders each with quantity not less	21 Nos. 13 Nos. 11 Nos.	
	Notes:  "Similar material" is defined as offered ma model of EVC as per specifications mention this EOI document.		
A.3.	OEM shall have valid Type Approval Cert for offered model of EVC	ficate	



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### **TECHNICAL SPECIFICATIONS**

## FOR SUPPLY OF EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES

Document No: GGL/TS/I&M/SUPPLY/EVC, MODEM & ACCESSORIES/SPEC

00	-	Issued for Tendering	18.12.2022
REV. NO	CLAUSE NO.	REVISION DESCRIPTION	DATE OF ISSUE



EOI: GGL/EOI/2024-25/003

Technical Specification for EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES Document Ref. No.

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Technical Specification for EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES Document Ref. No.

#### 1. INTRODUCTION AND SCOPE

The intent of this specification is to establish minimum requirements to manufacture and supply of EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES.

The scope of work shall cover (but not limited to) Design, Engineering, Documentation, Manufacturing, Supply, Inspection, Testing, Marking, Packaging, Handling, Transportation, Insurance, Loading and Unloading at designated stores of the EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES as per technical requirement / specifications and providing all related services conforming to respective data sheets, this technical specification along enclosed with tender with national / international standards specified.

The scope also includes hiring of Third-party inspection agency from approved TPIA list of GGL by Supplier for inspection as per approved QAP. Inspection charges shall be borne by vendor.

The supplier shall comply with local statutory regulations of Legal metrology of 2009 and Legal Metrology (Enforcement) rules, 2011. EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES shall have compliance and tested in accordance with requirements of PNGRB, Technical Standards & specifications including Safety standards for City or Local Natural Gas Distribution Networks (also known as T4S), BS EN 12405 latest edition in force and as per the requirements of this specification.

Unless otherwise specified, the latest editions of the standards mentioned herein this specification including all corrigendum and revisions shall apply.

#### 2. **DEFINITIONS**

For this specification the following definitions shall apply:

OWNER/ CLIENT	Designates the purchaser of the GOODS and/or SERVICES,
	which are the subject of the AGREEMENT. Gujarat Gas Ltd
	(GGL)
OWNER'S REPRESENTATIVE	Designates the individual or legal entity to which the OWNER
(PMC)	has entrusted various tasks in relation with the carrying out
	of his PROJECT.
CONSULTANT	Consultant engaged by GGL for evaluation of BIDDER
MANUFACTURER	Manufacturer of RPD gas meter.
BIDDER	Designates the individual or legal entity who participates in
	the Tender and submit their Bid
VENDOR/CONTRACTOR/SUPPLIER	Designates the individual or legal entity with whom the order
	has been concluded by the OWNER.
TPIA	Third Party Inspection Agency to be appointed by Vendor/
	Contractor for inspection as per approved QAP.
PROJECT	Designates the aggregate of GOODS and/or SERVICES to be
	provided by one or more CONTRACTOR/SUPPLIERS.
AGREEMENT	Designates the agreement concluded between the OWNER
	and the CONTRACTOR/SUPPLIER, under which the latter
	undertakes to the former the GOODS and/or SERVICES



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Technical Specification for EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES Document Ref. No.

according to the stipulations which are agreed and specified
in the form of an order.

#### 3. ABBREVIATIONS

PNGRB: Petroleum and Natural Gas Regulatory Board

EN: European Standard

TPIA: Third Party Inspection Agency AMR: Automatic Meter Reading

MIU: Meter Interface Unit

**OEM**: Original Equipment Manufacturer

MAOP: Maximum Allowable Operating Pressure

**QAP**: Quality Assurance Plan

**TPIA: Third Party Inspection Agency** 

PO: Purchase Order

#### 4. INVENTORY

For ensuring continuity in metering with immediate replacement in minimum inventory of 10 sets of EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES or 5% of total supplied EVCs WITH MODEM, POWER SUPPLY AND OTHER ACCESSORIES, whichever is higher should be available with the Vendor all the time for immediate replacement. Bidder should submit the monthly report on the inventory to GGL giving the status on inventory. GGL reserves the right to check the inventory at any point of time.

Bidder to ensure that turnaround time to complete any repair shall not be more than one month (Date of intimation to date repaired device is dispatched from supplier works). In case bidder do not complete the repair within one-month, free replacement for the device shall be provided by the Bidder. This requirement to maintain Inventory shall be valid till warranty period only.

#### 5. DATA SHEET FOR EVC

Sr. No.	Description	Specifications
1	Туре	Microprocessor based – Non Rechargeable battery operated Volume
		corrector approved as per EN 12405 with Pressure Transducer and
		Temperature sensor suitable for mounting on the meter in the field location.
		The EVC shall have suitable provision for Wire Sealing with an objective to
		ensure EVC internals are not accessible without tampering / breaking of wire
		seal. In case EVC and MODEM is integrated then the circuit required to power
		the MODEM shall not impact the performance of EVC. Bidder to clearly
		specify earthing requirement along with necessary drawings for trouble free
		operation of EVC and modem. Also, in case inbuilt Modem fails then it should
		be possible to replace defective modem without any need of sending entire
		EVC back to Bidder's workshop. Replacement of modem module is envisaged
		in the Safe area.
2	Make	Bidder to Furnish
3	Model No.	Bidder to Furnish
4	Material	Non-corrosive material- (Bidder to Furnish the detail)
5	Function	To measure actual gas volume, pressure, temperature, and calculate
		compressibility factor and correction factor of the gas. Based on that EVC



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		shall calculate standard volume of gas. The unit shall be complete in all respects to achieve the functionality mentioned here in.
6	Inputs	Pulse output from RPD meter for flow. 2 LF (LF1 & LF2) and 1 Anti Tampering input from RPD meter to be collected. Coherence (difference between LF1 & LF2) and Anti tampering function shall be there in EVC. EVC shall not measure short and excess pulses. Bidder shall ensure access of EVC all the times. Bidder shall ensure that EVC is compatible with any make and model of RPD or Turbine Meter with input mode as LF pulses.
		Temperature signal from RTD (PT1000/PT500/PT100) thermal element. All interconnecting cable shall be screened. The RTD with Cable (Minimum 2.5 m) and cabling accessories to be supplied by the Bidder. Length of RTD shall be 50 mm. There shall be a provision to configure backup / fix value in case of temperature malfunction. Smart Temperature transmitter providing accuracy at par with Tender specifications is also acceptable.
		Pressure signal from pressure sensor of measured range of 0.8 to 10 bar(a)/0-10 bar (g)/ 0.9 to 10 bar(a) for 150#, 3-49 bar (g) / 4 to 30 bar(a) / 3 to 40 bar(a) for 300#, 4 to 70 bar(a) / 20 to 100 Bar(A) / 3-99 bar (g) for 600#.
		Pressure sensor to be individually calibrated and its characteristics shall be stored within the volume corrector. The pressure sensor shall be external type (i.e. tubing from meter to EVC for pressure sensing is not acceptable) and replaceable at site. Cable Length: Minimum 2.5 m.
		Pressure sensor supplied shall be suitable for mounting at the meter side which has ¼" NPT port (No need of isolation valve in between). If end connection size of a pressure sensor is different, then suitable adaptor shall be supplied by the Bidder with the pressure sensor. It should not be possible to disconnect / remove Pressure transmitter wire from the pressure sensor/transmitter.
		EVC shall have provision to upgrade pressure sensor to higher range (up to 49 bar for 300#, up to 99 bar for 600#). Bidder shall be able to provide such optional pressure sensor (on chargeable basis) shall be made available as spare for the EVC.
		Total No. of Pressure sensors in the supplied EVC shall be as per line items specified in SOR.
		Provision for wire sealing shall be available on pressure sensor. There shall be a provision to configure backup / fix value in case of pressure malfunction. Provision for Logs and threshold limit setting facility for this optional/additional pressure sensor shall be at par with primary pressure sensor.
		For conversion devices type 1, the maximum permissible errors (MPE) expressed as relative values, applicable to the volume at base conditions or to the conversion factor shall be as specified in Table 2 of EN 12405-1:2018
		For conversion devices type 2, the maximum permissible errors (MPE) expressed as relative values, applicable to the various indications or the



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		various separated elements, shall be as specified in Table 3 of EN 12405-1:2018		
7	Parameters to	Line Tempera	nture	
	be monitored /	Line Pressure		
	calculated	Uncorrected flow rate		
		Corrected flow rate		
		Cumulative Uncorrected volume		
		Cumulative Corrected volume Compressibility and Correction factor		
		•	volume of today	
			lume of today	
			ed volume till yesterday	
		Total Uncorre	ected Volume instantaneous  All below alarms shall be stored in archive data with date &	
			time stamp: The alarms should be visible on the display panel.	
		ms	Battery Low	
		ları	Pressure beyond set threshold limits (High and low).	
		A/	Temperature beyond set threshold limits (High and low)	
		'gu	Uncorrected flow beyond set threshold limits (High and low)	
		Warning / Alarms	Correction factor beyond set threshold limits (High and low)	
		Wa	Threshold limits as specified above shall be User configurable.	
			Fault in measurement	
			EVC Malfunction	
			Tampering (Removal / cut of pulse cable from the meter)	
			ction: To be specified by the Bidder.	
8			have following communication type as per line items specified	
		in SOR. Communication types specified in SOR shall be applicable for internal as well as external modems.		
		as well as ext	ernai modems.	
		Dialala a ala allua	and the all an arrange as blood for internance ation 50/60 Madages	
			provide all necessary cables for interconnecting EVCs, Modems,	
			y and stabilizer shall be supplied by Bidder. Interconnecting	
	Online Communication		n EVC and Modem not applicable in case of internal modems.	
			ensure that EVC is AMR (Automatic Meter Reading) compatible Mandatorily (Bidder may offer any additional industry leading	
			ols). Any other protocol may be provided as additional.	
			Modbus addresses list for all offered parameters shall be	
			bidder. Demonstration of Modbus communication for Select	
		· ·	over Modbus simulator shall be provided by the Bidder before	
		dispatch of EVCs. Same shall be included in TPI by the Bidder.		
		One Optical port for local communication with the Laptop.		
		One Optical port for local communication with the Laptop.  One dedicated port for internal/external modem.		
		Additional RS232 / RS485 port shall be provided for 3 <sup>rd</sup> party modem or		
		interface connection. This port shall be additional to communication port for		
			nodem supplied along with the EVC.	
			able to communicate Locally and Remotely simultaneously.	
			orts and cable should be there for Local and remote	
		communication		
L				



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Document	t Ref. No.	
		Bidder shall provide the MODBUS list for the individual parameters. Any change in the list, shall be time to time reviewed & provided. Preferably the Modbus list shall be editable.
		Modbus RTU Communication as alternate using RTU/Data Concentrator in
		case GSM / GPRS based communication becomes obsolete by Telecom firms.
9	5	
10	Display	Display shall be scrollable, single large graphical LCD type with keypad buttons at front. Displaying all units, messages, alarm, etc. in English like  a) Date and time, b) Pressure in Bar, c) Temperature in Deg C, d) Compressibility factor e) Conversion factor f) Corrected flow rate in Sm3/hr g) Uncorrected flow rate in m3/hr h) Uncorrected cumulative counter in m3, i) Corrected cumulative counter in Sm3, j) Yesterday's consumption, k) Today's consumption, l) monthly consumption m) Battery voltage n) Pressure out of range o) Temperature out of range p) Flow over range q) Notification tab for warnings, alarms, errors etc. r) Alarms s) Date wise consumption minimum for last 30 days,
11	Unite of Display	Display shall not flicker at any time.
11	Units of Display	As per EN12405
12	Power supply	Lithium type Battery (3.6 V DC) along with mounting hardware and minimum 5 years' life (Bidder to specify the conditions under which life will be calculated). Battery pack should be intrinsically safe and replaceable in Field itself, without any loss of EVC configuration data.
		By Battery pack, it is meant either standalone battery or battery with suitable connector is required. These Batteries/battery packs shall not be of proprietary type (which requires special circuits /cards inside battery pack) and GGL shall be free to procure approved batteries / battery packs from OEM of EVCs or directly from battery manufacturers.  Voltage/Current Rating: (to be specified by Bidder)  Socket type connection for battery shall be provided to avoid data loss during the replacement. EVC shall have provision for the external power supply source. Configuration and log data should not be lost/auto changed at the time of battery replacement.
13	Configuration Setup	By default, configuration shall be done at factory for all volume corrector with process conditions, sensor and flow meter's characteristic and calibration for direct on-site operations. GGL will provide the list of configuration parameters to be pre-configured in the EVC. Configuration and log data shall not be lost/ reset at the time of date change or any



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		reconfiguration. EVC shall have a provision to set Gas Hour and Gas day
		(Locally as well as remotely).
		Any version change information shall be communicated by BIDDER. In case
		of requirement of upgradation / degradation of version, Bidder shall do it at
		site without any additional cost to GGL. Date and time stamped log should
		be created whenever configuration is changed/edited like what changes
		have been carried out and by which login ID.
14	Construction	EN 12405 - Electromagnetic Compatibility.
	Standards	EN 61000-4-2, 3, 4, 6 - Electromagnetic Compatibility.
	(latest edition)	EN 50039 - Electrical system for intrinsic safety.
	(10.0000 00.000)	EN 50020 - Electrical equipment for hazardous area.
		AGA-7 - Calculation of flow.
		AGA-8 Detailed- Calculation of Compressibility factor.
		EN 60529 - Degree of protection.
		EN 60079- Explosive Atmosphere Standards
		PNGRB T4S Regulation standard.
		IS 5571 & IS 5572.
15	Calculations	Compressibility calculation shall be as per the following: AGA-8 latest (gross
	Standards	and detailed methods) AGANX19, S-GERG and Table of Z
16	Features	Archive Logs with Avg, Min, Max & actuals for below limits:
		1. Min 30 Days Interval Log Data (Bidder to specify the duration of interval)
		2. Min 90 Days Hourly Log data
		3. Min 180 Days Daily Log Data
		4. Min 2 years of Monthly Data
		5. Audit trial facility for 200 event or parameter logs and 100 alarms.
		(Bidder to specify if not meeting above criteria)
		Each of these logs mentioned above shall store minimum following values:
		Temperature (Min, Max and Avg.)
		Pressure (Min, Max and Avg.) – log to include data for both Pressure
		sensors if supplied with the EVC.
		Uncorrected flow rate (Min, Max and Avg.)
		Corrected flow rate (Min, Max and Avg.)
		Uncorrected volume
		Corrected volume
		Cumulative Uncorrected volume
		Cumulative Oricorrected volume
		Compressibility and Correction factor  The discontinuous (Time factor to the start)
		• Flow time (Time for which gas flow detected). With Flow time data in EVC logs, user shall be able to determine for how much time there was a flow of gas in a particular log. e.g.
		in Hourly log between 9 am to 10 am, industry was consuming gas for 30 minutes only, then Flow time
		in hourly log between 9 to 10 am for that day shall be 30 minutes. Flow time will be helpful for checking
		meter flow (uptime & down time) daily, hourly flow pattern & also to do analysis in case of meter/EVC malfunction (pulse missing, total meter malfunction, EVC malfunction, battery drain etc.) If possible,
		then bidder shall provide flow time feature.
		Shall have built in diagnostics to detect proper functioning of EVC. EVC shall
		be able to display an alarm in case of any of the metrological sensor is failed.
		EVC shall have a provision to configure the backup values for Pressure and
		Temperature sensors which would come in force if any of these sensors fail.



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		Shall have data security through hardware switch facility. Volume conversion and metrological configuration parameters to be protected through hardware switch.
		Parameters and programmed constants shall be stored in EEROM/non-volatile memory.
		The stored data shall be retrievable by using PC/Laptop/online remote communication.
		Suitable dedicated port shall be available on the volume corrector for portable PC connection other than port provided for Modem connectivity.
		Software required shall be supplied for remote access of the EVC and retrieval of all data at Site as specified. Software shall have phonebook facility. Software shall have feature to schedule the dialing of group of companies. With auto dialup facility & auto creating/saving database in PC or laptop after remote as well as local data fetching. Remote Reading
		software provided along with the EVC shall have provision to set automatic dialing of sites / group of sites at pre-defined date and time. Bidder shall
		furnish the dial out facility. Software shall be able to dial sites manually and
		automatically as per schedule in both GSM and GPRS modes.  EVC continues to perform its metrological function even while the
		communication is in progress.  EVC shall be configurable to send the SMS to concern person whenever there
		is change in critical metrological parameters or occurrence of such alarm.
17	Keypad	Weather proof Membrane Type / Touchpad based Keypad with security enabled keypad.
18	Hazardous Area	Certified intrinsically safe for area classification IEC ZONE 1GR IIA/IIB T3. ATEX certification and intrinsically safe. Certification class shall be marked on the volume corrector. Bidder shall provide the CE type certification.
19	Site Conditions	Ambient Temperature range -20 to 55 deg C, Hot, Humid, Tropical, Saline. EVC shall able to sustain medium level of shock/vibration.
20	Enclosure	Shall be Explosion proof w better with Class 1, Division 1., Group 'D', ATEX
21	EVC Mounting	approval. IP 65 or better ingress protection shall be provided in the EVC.  Outdoor or external with fully stable mounting facility with any RPD meter (using strong pole and clamping facility to avoid any vibration of EVC resulting in malfunctioning of equipment). The mounting plate shall be non-corrosive in nature. (Preferably Aluminum with powder coating). BIDDER shall ensure to provide common design for the both vertical and horizontal installation provision.
		EVC stand design to be approved from GGL before supply.
		EVC mounting bracket supply is in the scope of EVC supplier. Bidder shall provide all required accessories to mount the EVC like rod, plate, suitable clamps, nuts, bolts etc. along with the EVC.
		Suitable Mounting plate for supplied EVC shall be supplied by the Bidder that can be fixed on the gas Pipeline in Horizontal and vertical orientation. Bidder shall provide all required accessories to mount the EVC like rod, plate, suitable clamps, nuts, bolts etc. along with the EVC.



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22	Overall	As per EN12405 latest standard (Supporting document to be submitted along
	Accuracy of EVC	with the bid).
23	Data Storage	Live Pressure - Min, Max, Avg & Actual
		Live Temperature - Min, Max, Avg & Actual
		Uncorrected volume last hour
		Corrected volume last hour
		Configuration parameters
		Malfunctioning alarm log with date and time stamp
		Peak Uncorrected and corrected Flow values & Time.
		Present day volume.
		Previous day volume.
		Corrected Counter
		Uncorrected Counter
		Corrected Counter(Under Alarm)
		Uncorrected Counter(Under Alarm)
		Log data to be stored in EVC. This shall be stored in FIFO.(1st In First Out)
		Deletion shall have authorization. Change in the configuration except the
		counter & impulse data shall not erase the data. Change in Date & time also
		erases the data, Bidder need to ensure that data is restorable if required.
24	Other	Two sets of software for retrieving the stored data at site and also through
24	Other	remote access, programming the volume corrector using portable
		PC(laptop), software based on All prevailing windows OS shall be supplied.
		Collected data shall be stored in OEM software database. Communication /
		optical cables (From EVC to laptop) shall be provided as per the requirement
		specified separately in Annexure – 3. In future, if required more Optical
		cables shall be provided by the Bidder based on GGL request.
		3 sets of volume corrector documentations including product literature,
		software/hardware manual, maintenance instruction, calibration
		certificates, approval certificates etc shall be supplied.
		certificates, approval certificates etc shall be supplied.
25	Warranty	All parts shall be warranted for 18 months from the delivery date or 12
23	vvairanty	months from commissioning date whichever is earlier.
26	Packaging	Appropriate material and method shall be used for packing to protect the
20	Packaging	material from damage during transportation. All necessary markings like
		normal position, handle with care etc. shall be mentioned on package.
27	Spares and	Bidder shall furnish certificate to provide after sales services support
	Services	Including Supply of Spares (On chargeable basis) for a period of Minimum 5
	SELVICES	Years from the date of supply of EVCs and associated accessories (Like
		Modem, power supply, stabilizer etc.) under the subject tender.
28	Testing	Each EVC shall be individually tested and test certificate submitted along with
20	resuiig	the EVC. Demonstration of EVC against tendered specifications shall be
		provided by the Bidder to GGL before dispatch of EVCs.
29	Training	Bidder shall provide one-time on-site hands on training and device
23	i i ali lilig	installation and commissioning demonstration.
		mistanation and commissioning demonstration.
		Training needs shall be fulfilled at no extra cost to GGL.
		Training needs shall be rainined at no extra cost to OOL.
		Hands on training shall be provided by the Bidder at GGL designated
		locations. Maximum clusters of locations could be 4 in this case.
		וטכמנוטווז. ועומאווזועווו כועזנכוז טו וטכמנוטווז כטעוע שב 4 ווו נוווז כמזב.



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#### 6. DATA SHEET FOR MODEM

1.1 1.2 1.3	Description General Specification Power Requirements Connectors & Fasteners Operating	Proposed Specification  ons  Bidder to furnish  Serial connector: (Commensurate with EVC port supplied)  Power connector: Bidder to furnish  SIM receptacle: Bidder to specify SIM slot as Macro/Micro/Nano
1.2	Requirements Connectors & Fasteners	Serial connector: (Commensurate with EVC port supplied)  Power connector: Bidder to furnish
	Connectors & Fasteners	Power connector: Bidder to furnish
	Fasteners	Power connector: Bidder to furnish
1.3		
1.3	Operating	SIM receptacle: Bidder to specify SIM slot as Macro/Micro/Nano
1.3	Operating	
		-20 to 55 deg C
	Temperature	
	Range	
1.4	Material	Polycarbonate
1.5	Certifications	<ul> <li>ATEX approval, for hazardous installation (In case of Integrated modems). ATEX approval of EVC is acceptable in case of integral modem.</li> <li>ATEX approval for safe area installation and connection with EVC installed in Hazardous area (In case of separate modem) Modem with ATEX approval is required for safe area installation (In case of separate / external modem) which satisfies EVC ATEX requirement. Alternatively, connection between modem and EVC could be provided through suitable intrinsically safe barrier also (As per EVC ATEX requirement).</li> <li>Intrinsically safe</li> <li>CE mark</li> <li>EMC: FCC part 2, 15, 22, 24, EN 55055 &amp; EN 55024</li> <li>Safety: III 60950, EN 60950</li> </ul>
		Safety : UL 60950, EN 60950
1.8	Make	Bidder to Furnish
1.9	Model	Bidder to Furnish
2.	Electrical characteri	· ·
2.1	Switching modem ON/OFF	The device is permanently powered (when connected to the external power supply).  The provision for manually ON/OFF the Time Window shall be provided by
		the Bidder.  It should be possible to activate the Modem (at site) for remote communication with server.
2.2	Over & Under	Bidder shall specify the guaranteed working parameters.
<b>-</b>	Voltage	parameters, and gamenters in summing parameters.
2.3	0	
2.4		
2.5	Interface	Commensurate with EVC interface supplied, auto bauding function, At command set based on V.25 ter and GSM 07.05 & 07.07.
2.6	Data	Asynchronous 2400, 4800, 9600, and 14400 bps.
3.	MODEM Housing &	other accessories
3.1	MODEM Housing	IP 65 and better



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3.2	Power Supply	External power supply shall be the main source for operation of Modem.
		Modem shall be equipped with backup battery and modem's operation shall
		be configurable to work in time window mode in case power supply is not
		available. Modem shall switch back to external power supply automatically
		soon after power is resumed (Modem shall not be consuming Battery once
		external power is available). Modem shall be suitable to operate on external
		power supply alone in case battery is drained/not connected/not available.
		Bidder to ensure that battery life of modem shall be at least two years.
		bluder to cristic triat battery life of modern shall be at least two years.
		Battery backup is required in internal as well as external type modems.
		Battery backup is required in internal as well as external type modellis.
		In case of rechargeable as well as non-rechargeable batteries, bidder to
		ensure that battery life of modem shall be at least two years.
		,
		In case of external modem, Battery backup in case of rechargeable battery
		shall be at least 7 days.
		Requirement to operate on Time window shall be applicable in case supplied
		Modem battery is rechargeable as well as non-rechargeable.
4.	Others	
4.1	Security	MODEM shall be configurable for the signal from EVC for SMS /Event output.
		SMS alert shall be configurable to send up to 03 persons.
4.2	Spares & Services	Bidder shall furnish certificate to provide after sales services support
		Including Supply of Spares (On chargeable basis) for a period of Minimum 5
		Years from the date of supply of Modem under the subject tender.

#### 7. DATA SHEET FOR FRP PANEL

Data Sh	Data Sheet of FRP Box & Mounting Pole			
Sr. No.	Description	Proposed Specification		
1	Make	Bidder to Furnish		
2	Model	Bidder to Furnish		
3	Confirming	IS 13410. BIDDER shall provide the Test certification for the same.		
	Standard			
4	Typical	600 L * 400 W * 350 D (in mm) with one compartment.		
	Dimensions			
5	Operating Temp	Range 0 to 60 Deg C.		
6	Process	5mc – Sheet Molding compression by Hot Compression.		
7	Color	Off-White		
8	Withstand	Min. 150 Deg C		
	Temperature			
9	Door Hinge	SS 316/304 with sealing hole option.		
	material			
10	Clamp	Wall mounted SS clamp.		
11	Back Sheet	Mounting of accessories inside box- 5mc sheet.		
12	Bolt and Nut with	SS 316, M10 pole clamp fixing Bolt & Nut with washer, MS Hot dip Bolt		
	washer	M6*25 mm for 5mc sheet & pole flat fixing.		
13	Gland	Collapsible gland – 03 nos' (02 nos' -11 mm ID and 01 nos' – 07mm ID).		



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14	Inside Equipment	Modem	
		Power Supply unit	
		Voltage Stabilizer	
15	Mounting	On 2" ERW Mounting pole	
Genera	General Specifications for Mounting Pole:		
1	Material	ERW Steel Pipe	
2	Top End	Close type welded cap	
3	Coating	Hot Dip Galvanized	
4	Typical	1100 * 50 (In mm)	
	Dimensions		
5	Base Plate	150 * 150 * 5(In mm), Provision on plate for anchor fastening.	
Test cer	Test certificate shall be provided for ERP sheet		

Test certificate shall be provided for FRP sheet.

Note: FRP box should fit Modem, Power Supply Unit and Voltage stabilizer.

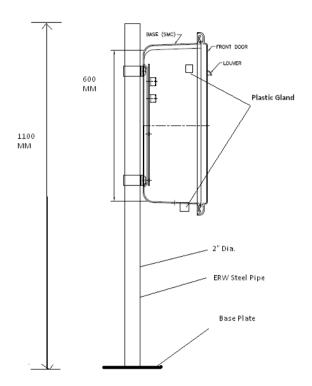


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#### Annexure - 1

#### **Typical Drawing for FRP Box with Mounting Pole:**



PROJECT - MOUNTING POLE MATERIAL - ERW STEEL PIPE COATING - POWDER COATING DIMENSION - 1100\*50 (MM)

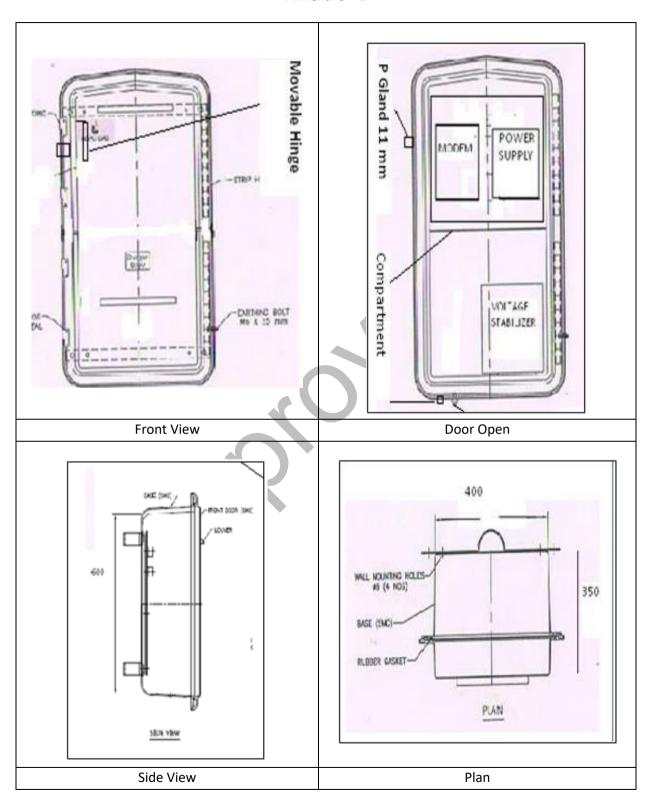




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#### Annexure – 2





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#### 8. DATE SHEET FOR POWER SUPPLY AND VOLTAGE STABILIZER

Sr. No.	Description	Specification	
Genera	Specifications Power sup	ply:	
1	Make	Bidder to furnish	
2	Model	Bidder to furnish	
3	Input Range	230 V AC +/- 10%	
4	Output Range	Shall be suitable for trouble free operation of the supplied modem.	
5	Current Rating	Bidder to ensure correct rating is supplied as required for the supplied	
		modem.	
6	Ambient Temperature	0 Deg C to 50 Deg C	
7	Enclosure	IP65 and Above	
8	Certification	Intrinsically safe IA, for safe area installation	
9	Dimension	Bidder to furnish and should fit into box	
10	Off load voltage	Bidder to furnish	
11	On load voltage	Bidder to furnish	
12	Current limiting	Bidder to furnish	
13	Frequency	50 Hz (+/-3%)	
14	Protection	Fuse protection for Over and Under voltage protection, Short circuit	
		protection.	
General	<b>Specifications for Digital</b>		
1	Make	Bidder to furnish	
2	Capacity	0.5 KVA	
3	Input Voltage range	180 V to 295 V AC	
4	Output Voltage	230 V +/- 10%	
5	Cooling	Air Cooled	
6	Winding	Copper Wound	
7	Duty Cycle	Continuous	
8	Frequency	47-53 Hz	
9	Ambient Temperature	0 to 50 Deg C	
10	Protection	Over Voltage	
		Under Voltage	
		Spike Filtration up to 5 KV	
		EMI/RFI protection	
		Input Fuse for over voltage & Under voltage protection	
Test cer	st certificate shall be provided for the same.		



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#### 9. QUALITY ASSURANCE (QA)

The Contractor/Manufacture /Bidder shall submit QAP after getting firm order from Owner for their review and approval. Prior to dispatching of materials, Bidder shall offer material lot to TPIA/Owner for final acceptance test as per approved QAP at their premise following for review of TPIA / EIC at the time of final inspection at Bidder premise prior to dispatch of materials.

#### 10. INSPECTION / DOCUMENTS

Inspection shall be carried out as per Owner Technical Specification / approved QAP.

TPIA /EIC shall carry out final inspection at Bidder premise before dispatching of materials. Contractor / Manufacture /Bidder shall furnish all the material test certificates, proof of approval / license 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.

Contractor / Manufacture /Bidder shall furnish all the codes / documents shall be made available for reference of TPIA /EIC at the time of inspection.

For any control, test or examination required under the supervision of TPIA/EIC against approved QAP, Bidder shall intimate through letter/mail to TPIA/EIC one (1) week in advance about inspection date and place along with production schedule.

Even after third party inspection, EIC/Owner reserves the right to select a sample of items / materials randomly from each manufacturing batch / lot & 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.

Hiring of NABCB approved TPI is in scope of bidder

#### 11. DOCUMENTS OF PRECEDENCE

In case of conflict between the requirements of this specification and that of the referred codes, standards and specifications, the requirements of the referred codes, standards and specifications shall govern.



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#### Annexure – 3

- Bidder shall supply 40 nos. of Optical cables to establish connectivity between EVC and laptop locally.
   Optical cable's magnet strength shall be sufficient to hold the cable firmly to EVC during operation with laptop.
- 2. Dispatch locations for these Optical cables shall be given post award of PO.

