



**ऑयल इंडिया लिमिटेड**  
(भारत सरकार का उद्योग) पंजीकृत कार्यालय: दुर्गाबाग, अस्म  
**Oil India Limited**  
(A Government of India Enterprise) Registered Office: Durgabag, Assam

Oil India Limited (RP)  
2-A. District Shopping Centre  
Saraswati Nagar, Basni  
Jodhpur-342005,  
Phone- 0291 -2729-473,  
0291 -2729-466  
Fax: 0291-2727050  
Email: km\_kumar@oilindia.in  
erp\_mm@oilindia.in

## **FORWARDING LETTER**

**TENDER NO. SJI8151P16 Dated 10.08.2015**

## **INVITATION TO e-BID UNDER SINGLE STAGE TWO BID SYSTEM**

Dear Sirs,

1.0 Oil India Limited, Rajasthan Project invites Bids for **Supply, Installation, Testing & Commissioning of one (1) no. of online Gas Chromatograph system at Dandewala Gas Processing Complex (DND-GPC), Dandewala, Dist. Jaisalmer, Rajasthan** through its e-Procurement site. The general details of tender can be viewed by opening the RFx [ Tender] under RFx and Auctions. The details of items tendered can be found in the Item Data and details uploaded under Technical RFx.

The prescribed Bid Forms for submission of bids are available in the Technical RFx -  
> External Area - > Tender Documents

### **The tender will be governed by:**

1. Technical specifications and Quantity, **BRC/BEC** and any other notes as per **Annexure – IA**.
2. General terms and Conditions of the tender are as per attached document No. MM/RP/GLOBAL/E-01/2005.
3. The prescribed Bid Forms for submission of bids are available in the tender document folder. Technical Bid Checklist : Annexure-EEE, Response Entry Sheet : Annexure-FFF and Bank Details : Annexure-GGG must be filled-up and submitted along with the technical bid.
4. The tender is invited with firm price for the specified quantity. Further details of tender are given in Technical Rfx -> External Area - > Tender Documents
5. In the event of receipt of only a single offer against the tender within B.C. date, OIL reserves the right to extend the B.C. date as deemed fit by the Company.

During the extended period, the bidders who have already submitted the bids on or before the original B.C. date, shall not be permitted to revise their quotation.

6. Any sum of money due and payable to the contractor (including Security Deposit refundable to them) under this or any other contract may be appropriated by Oil India Limited and set-off against any claim of Oil India Limited (or such other person or persons contracting through Oil India Limited) for payment of sum of money arising out of this contract or under any other contract made by the contractor with Oil India Limited (or such other person or persons contracting through Oil India Limited).
7. All corrigenda, addenda, amendments, time extension, clarifications etc. To the tender will be hoisted on OIL's website ([www.oil-india.com](http://www.oil-india.com)) and in the e-portal (<https://etenders.srm.oilindia.in/irj/portal>) only and no separate notification shall be issued in the press. Prospective bidders are requested to regularly visit the website and e-portal to keep themselves updated.

8. Type of Bidding : **Single Stage Two Bid system**
9. Tender Fee : **INR 1,000.00**
10. Bid security : **INR 59,000.00**
11. Performance Security: : **Applicable (@10% of the PO value)**
12. Integrity Pact : **Applicable**
13. Bid Closing /Opening Date & Time : **Please refer to the e- Tender Portal**
14. Bid Validity : **Bid should be valid for 120 days from bid closing date.**
15. Bid Bond Validity : **Bid Bond should be valid up to 06.08.2016.**

**(Bid bond format has been changed. Please submit bid bond as per revised format. Refer: MM/RP/GLOBAL/E-01/2005)**

### **Special Note:**

#### **1.0 General Qualification Criteria:**

In addition to the general BRC/BEC, following criteria on Bidders' Experience and their financial capabilities shall be considered (**documentary evidence to be provided along with the bid in Technical RFX Response-> User - > Technical Bid**) as on the Bid Closing Date:

- a) Bidder should have experience of successfully executing similar order for at least **INR 17.70 Lakhs** during last 3 years.

Definition of Similar Order: Supply, installation, testing & commissioning Online Gas Chromatograph suitable for custody transfer application of natural gas.

- b) Annual financial turnover of the firm in any of the last 3 financial years or current financial year should not be less than **INR 59.00 Lakhs**.

**2.0 Application showing full address/email address with Tender Fee (Non-refundable) of INR 1,000.00 in the form of a Demand Draft/Banker's Cheque/ Cashier's Cheque in favour of OIL INDIA LIMITED and payable at Jodhpur is to be submitted to Chief Manager (M&C), Oil India Limited, Rajasthan Project, 2A, District Shopping Centre Saraswati Nagar, , Basni, Jodhpur-342005, Rajasthan. Application shall be accepted only **upto** one week prior to Bid Closing date (or as amended in e-portal). The envelope containing the application for participation should clearly indicate "REQUEST FOR ISSUE OF USER ID AND PASSWORD FOR E TENDER NO. SJI8151P16" for easy identification and timely issue of user ID and password. On receipt of requisite tender fee, USER\_ID and initial PASSWORD will be communicated to the bidder (through e-mail) and will be allowed to participate in the tender through OIL's e- Procurement portal. No physical tender documents will be provided. Details of NIT can be viewed using "Guest Login" provided in the e-Procurement portal. The link to e-Procurement portal has also been provided through OIL's web site [www.oil-india.com](http://www.oil-india.com).**

#### **NOTE:**

**a) Tender Fee may also be paid online upto one week prior to the bid closing date (or as amended in e-portal)**

**NOTE:** PSUs and SSI units are provided USER\_ID and initial PASSWORD Free of Cost (as per govt guidelines), however they have to apply to OIL's designated office to issue USER\_ID and initial PASSWORD before the last date of apply.

**3.0 Please note that all tender forms and supporting documents are to be submitted through OIL's e-Procurement site only except following document/materials which are to be submitted manually in sealed envelope super scribed with Tender no. and Due date to Chief Manager (M&C), Oil India Limited, Rajasthan Project, 2A, District Shopping Centre, Saraswati Nagar, Basni, Jodhpur-342005, Rajasthan on or before the Bid Closing Date and Time mentioned in the Tender.**

- a) Original Bid Security
- b) Detailed Catalogue (if any)
- c) Any other document required to be submitted in original as per tender requirement

All documents submitted in physical form should be signed on all pages by the authorised signatory of the bidder and to be submitted in duplicate.

**4.0 The tender is invited under SINGLE STAGE-TWO BID SYSTEM. The bidders are required to submit both the “TECHNO-COMMERCIAL UNPRICED BID” and “PRICED BID” through electronic format in the OIL’s e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender.**

**4.1 Please ensure that Technical Bid / all technical documents related to the tender are uploaded in the Technical RFx Response-> User - > Technical Bid only. The “TECHNO-COMMERCIAL UNPRICED BID” shall contain all techno-commercial details except the prices. Please note that no price details should be uploaded in Technical RFx Response. Offer not complying with above submission procedure will be rejected.**

**4.2 In Technical Bid opening, only Technical Rfx will be opened. Therefore, the bidder should ensure that “TECHNO-COMMERCIAL UNPRICED BID” should contain details as mentioned in the technical specifications as well as BEC/ BRC and upload the same in the Technical RFx Response-> User - > Technical Bid. No price should be given in above Technical Rfx otherwise the offer will be rejected.** Please go through the help document in details before uploading the document and ensure uploading of technical bid in the Technical RFx Response-> User - > Technical Bid only.

**4.3 The “PRICE BID” must contain the price schedule and the bidder’s commercial terms and conditions. The prices of the items should be quoted in “Conditions Tab”.**

5.0 Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the NIT or submission of offers not substantially responsive to the bid in every respect will be at the bidders risk and may result in rejection of its offer without seeking any clarifications.

6.0 Bidders must ensure that their bid is uploaded in the system before the tender closing date and time. Also, they must ensure that above documents which are to be submitted in a sealed envelope are also submitted at the above mentioned address before 15:00 Hrs (IST) on the bid closing date failing which the offer shall be rejected.

7.0 Bid must be submitted electronically only through OIL’s e-procurement portal. Bid submitted in any other form will be rejected.

**8.0 SINGLE STAGE TWO BID SYSTEM** shall be followed for this tender and only the PRICED-BIDS of the bidders whose offers are commercially and technically acceptable shall be opened for further evaluation.

**9.0 a) The Integrity Pact is applicable against this tender.** OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide **Annexure-XII** of the tender document. This Integrity Pact proforma has been duly signed digitally by OIL's competent signatory. The proforma has to be returned by the bidder (along with the technical bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Any bid not accompanied by Integrity Pact Proforma duly signed (digitally) by the bidder shall be rejected straightway. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid.

**b) The name of the OIL's Independent External Monitors at present are as under:**

- 1. SHRI RAGHAW SHARAN PANDEY, IAS (Retd.),**  
e-Mail ID : rspandey\_99@yahoo.com
- 2. SHRI RAJIV MATHUR, IPS (Retd.),**  
e-Mail ID : rajivmathur23@gmail.com

**Their email ids are also furnished in OIL's website, [www.oil-india.com](http://www.oil-india.com)**

10.0 The tender shall be governed by the Bid Rejection & Bid Evaluation Criteria given in enclosed **Annexure-IA**. However, if any of the **Clauses of the Bid Rejection Criteria / Bid Evaluation Criteria** (as per **Annexure-IA**) contradict the **Clauses of the tender and / or General Terms & Conditions** as per Booklet No. MM/RP/GLOBAL/E-01/2005 elsewhere, those in the **BEC / BRC** shall prevail.

11.0 Materials to be supplied hereunder shall be new, unused, of recent make, of best quality & workmanship and shall be guaranteed by the seller against defects arising from faulty materials, workmanship or design. Defective goods / materials or parts notified by OIL to the seller shall be replaced immediately by the supplier at the supplier's expense at no extra cost to OIL.

12.0 Bidder to quote best delivery period

13.0 To ascertain the substantial responsiveness of the bid OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in toto must be received on or before the deadline given by the company, failing which the offer will be summarily rejected.

14.0 All the Bids must be Digitally Signed using Class 3 digital certificate (*e-commerce application*) with organisation name as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India.

**15.0 The following points are deemed as “non-negotiable” and offer shall be rejected straightaway without seeking clarification in case of the following:**

- i. Validity of bid shorter than validity indicated in the tender.**
- ii. Original Bid Security not received within the stipulated date and time mentioned in the tender.**
- iii. Bid security with (a) Validity shorter than the validity indicated in tender and/or (b) Bid security amount lesser than the amount indicated in the tender.**
- iv. In case the party refuses to sign the Integrity Pact.**

**16.0 BIDDERS ARE REQUIRED TO QUOTE WITH MINIMUM VALIDITY OF 120 DAYS FROM THE BID CLOSING DATE AS PER NIT REQUIREMENT. BIDS WITH LESSER VALIDITY SHALL BE REJECTED.**

**17.0 Performance Security:** Successful bidder will be required to furnish a Performance Security @10% of the order value. For details about performance security and exemption for submission of the same, please refer Clause No. 10.0 of General Terms and Conditions vide MM/RP/GLOBAL/E-01/2005 for E-Procurement ICB Tenders. The Performance Security must be valid for a period of 12 months from the date of commissioning of the equipment at site or 18 months from the date of dispatch/shipment whichever is earlier. The bidder should confirm submission of the requisite Performance security (in the event of order) in their offer itself, failing which the offer will be rejected.

**18.0** You are required to submit original Bid Security at the office of Chief Manager (M&C), Oil India Limited, Rajasthan Project, 02-A, Saraswati Nagar, District Shopping Centre, Basni, Jodhpur-342005, Rajasthan, India on or before the Bid Closing Date and Time of the technical bid. The bid security should be of amount INR 59,000.00 in conformity with OIL's prescribed format as Bank Guarantee enclosed with the booklet MM/RP/GLOBAL/E-01/2005 or a Bank Draft/Cashier cheque in favour of OIL INDIA LIMITED and payable at Jodhpur, Rajasthan (India).

**19.0** For details about Bid Security and the eligibility for exemption of bid security, please refer to Clause 9.0 under Section A of General Terms and conditions for Global Tender vide booklet MM/RP/GLOBAL/E-01/2005. Also please refer Annexure-VII vide MM/RP/GLOBAL/E-01/2005 to obtain the format for Bank Guarantee. A scanned copy of the bid security should be uploaded alongwith the offer for our information. If the bid security in ORIGINAL of above mentioned amount is not received within bid closing date and time, the bid submitted through electronic form will be rejected without any further consideration. The bidders who are exempted from submitting Bid Security should attach documentary evidence alongwith their technical bid. The Bank Guarantee/LC towards Bid Security shall remain valid for 180 days more than the Bid Validity i.e. 300 days validity is required from the date of Bid opening.

**20.0** Benefits to Micro & Small Enterprises (MSEs) as per prevailing Govt guidelines as applicable on B.C date shall be given. MSEs who are interested in availing the benefits will upload with their offer proof of their being MSE registered for the item tendered. The MSE are also required to upload scanned copies of relevant documents indicating details of registration alongwith validity, name of the registering organization and

details of the item, ownership etc., failing which, their offer may not be liable for consideration of benefits to MSEs.

21.0 Please do refer the User Manual provided on the portal on the procedure How to create Response for submitting offer.

**NOTE:**

**Bidders should submit their bids (preferably in tabular form) explicitly mentioning compliance / non compliance to all the terms and conditions of NIT.**

Yours Faithfully

Sd-  
(KRISHNA MOHAN KUMAR)  
DY. MATERIALS MANAGER  
FOR CHIEF MANAGER (M&C)  
FOR EXECUTIVE DIRECTOR (RP)



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Email: km\_kumar@oilindia.in  
erp\_mm@oilindia.in

### ANNEXURE-IA

**Tender No. & Date : SJI8151P16 Dated 10.08.2015**

**Bidding Type : Single Stage Two Bid system**

**Bid Closing on : As mentioned in e-portal**

**Technical Bid Opening on : As mentioned in e-portal**

**OIL INDIA LIMITED (Rajasthan Project) invites Indigenous Bids for items detailed below:**

#### **1.0 TECHNICAL SPECIFICATIONS WITH QUANTITY:**

<b>SL. NO. MAT. CODE</b>	<b>MATERIAL DESCRIPTION</b>	<b>QUANTITY</b>	<b>UOM</b>
10 OC000295	SUPPLY OF ONLINE GAS CHROMATOGRAPH at OIL's DANDEWALA GAS PROCESSING COMPLEX (DND-GPC), DANDEWALA, DIST. JAISALMER, RAJASTHAN	1	NO
20	INSTALLATION, COMMISSIONING & TESTING OF GAS CHROMATOGRAPH UNDER SL. NO. 10 ABOVE	1	AU

**Note:** The bidder has to fill "FORMAT-A" and submit the same duly signed along with the bid. Please find the file FORMAT-A\_SJI8151P16.pdf uploaded separately in the Tender Documents folder.

#### **INTRODUCTION:**

1.1 The following definition will apply for this document

- Owner: Oil India Limited.
- Bidder/Vendor: who is opting to quote for the system.
- Sub-vendor: Supplier of the system bought by the bidder.
- Camp Site: OIL's Tanot Village Complex. Tanot is around 120 kms. from Jaisalmer City.
- Plant Site: OIL's Dandewala Gas Processing Complex. Dandewala is around 35 kms. from Tanot Camp Site.

1.2. Environmental Condition:

- Ambient Temperature (Max./Min.): 55 degC/-6 degC
- Annual Rainfall : 25 mm (Average)

1.3. Oil India Limited (OIL), a Govt. of India "Navratna" Company engaged in the business of Exploration, Production and Transportation of Crude Oil & Natural Gas and production of



LPG. This requirement is for the gas processing plant of OIL located at Dandewala, Jaisalmer district in Rajasthan.

**1.4. Area of Installation:**

Field: Class I, Division 1, Gas Group D Hazardous area

Control Room: Safe Area

**1.5. Project Information:**

OIL intends to install 1 (one) no. of complete online Gas Chromatograph package in the existing gas custody transfer skid with complete integration with existing Flow Computer & SCADA.

**2.0 SCOPE:**

2.1 Bidder's scope of work will be design, engineering, material selection, manufacturing, supply, nameplate marking, inspection, testing, calibration, shipping, erection, testing and commissioning of Online Gas Chromatograph for natural gas custody transfer application with associated hardware to achieve the functionality as specified. The scope also includes documentation as per tender, drawings preparation & training.

2.1.1 This specification, together with the data sheets attached herewith, covers the minimum requirements for the scope mentioned above in Para 2.1.

Bidder shall include supply of all the parts / components, may or may not be listed herewith, for smooth operation, maintenance, satisfactory performance of the system for the purpose mentioned in this document and does not limit only to the mentioned topics, but include all that is required for ensuring the delivery of system totally capable of providing the required functions and quality.

2.1.2 Vendor would be responsible for erection, testing & commissioning of the entire system at plant site upto satisfaction of the owner.

2.1.3 The applicable National/ International codes and standards shall be suitably applied for the design, engineering, material selection, testing of the entire system.

2.1.4 Data sheets indicate type, minimum design of sampling system requirements and material of construction for Gas Chromatograph and its sampling system. However, this does not absolve the vendor of the responsibility for proper selection with respect to the following:

- a. Proper design of the sampling system and gas chromatograph to measure the component of interest to the stated accuracy.
- b. Selection of materials for all the parts of the gas chromatograph system so as to be compatible with the process stream and surrounding atmosphere as per purchaser's data sheets.
- c. The Chromatograph & Sample conditioning system shall be designed in such a way that the same can be used in dry natural gas as well as wet natural gas.

2.1.5 Vendor shall note that the offered instruments shall be suitable for the ambient conditions and process operating pressure & temperature as mentioned in the tender.

2.1.6 Vendor shall be responsible for selection of the correct model, no. of instruments to meet the specifications contained in this spec. In case model no. is required to be changed

at later date, the same shall be done by the vendor without any price or delivery implications.

2.1.7 Offer shall be clear, un-ambiguous (with no alternatives) and complete with all data sheets, catalogues etc.

2.2 Vendor's scope of supply shall include supply of following major components as per specification as a minimum:

- a. Sample conditioning system suitable for both dry as well as wet natural gas. The sample is required to be taken from an isolation valve of size: ¾ inch NPT (M)
- b. Field Mounted GC Analyzer unit.
- c. Panel mounted controller as a remote part of the gas chromatograph.
- d. Control Panel for mounting of remote controller.
- e. One laptop for configuration, analysis & trouble shooting with serial port.
- f. GC operating software suitable for operating, diagnostics and maintenance activity. All necessary software for operation & maintenance of the system should be licensed in OIL's name. The software shall be supplied in CD/DVD format only.
- g. Printer if not in-built connected to control unit along with connecting cables, shall be supplied.
- h. All Cables, Glands, Terminals, Tubing, structural items, cable trays, supports, panel accessories, enclosures, mounting accessories required for installation of the system.
- i. Cable & connectors for interconnection with flow computer & SCADA, interfacing software & integration with 02 numbers of flow computers of Daniel make & model S600+. It may be noted that Serial Communication Module is already installed in SCADA.
- j. Necessary Hardware & software for data transmission between chromatograph and flow computers as well as SCADA system.
- k. Materials for preparation of concrete platform for field units.
- l. Canopy / shelter to protect the field equipments from direct sunlight & rain.
- m. Necessary locking arrangement for restricting the access to the GC panels where applicable.
- n. Special & standard tools and tackles required for operation & maintenance of GC.
- o. Hard & soft copies of hardware & software manuals, GA drawing, wiring diagram, calculations, and all other relevant documentation.
- p. Bidder shall supply all spares & consumables (other than gas cylinders) required for commissioning and for minimum one year operation of the entire system.
- q. Bidder is required to provide carrier & calibration/standard gas cylinders. The content of the carrier gas (minimum 3 nos. of cylinder) & calibration gas (minimum 2 nos. of cylinder) should cater for atleast 12 months of continuous operation & 18 months of quarterly calibration.
- r. Calibration gas & carrier gas Cylinders which will be skid mounted in field and suitable for installation in hazardous area and specified weather condition. This shall also include the pressure regulators, gauges etc.

2.3 Bidder must provide complete list of O&M spares for 5 years with part number & price. This will not be considered for bid evaluation.

2.4 The vendor's scope of work shall also include the following as a minimum:

- a) Factory Acceptance Test (FAT) for the complete package at vendor's works.
- b) Preparation of concrete platform for mounting the GC field units, Installation of the gas chromatograph including sampling system in the process line, field units, control room unit, cabling from field to control room, cabling inside the control room etc.

- c) Integration of the GC with 2 nos. of existing Flow Computer of Daniel make (Model: S600+).
- d) Panel wiring, testing & commissioning of the GC, establishing communication with flow computer & OIL's SCADA system.
- e) Training on the operation of the GC to the field staff at site.
- f) Validation of analyzer during commissioning by using certified calibration sample gas in presence of OIL's concerned customer.
- g) Painting of complete system for protection against saline & tropical atmosphere.
- h) Site Acceptance Test (SAT) for the complete package at site.
- i) Inspection and testing of all components, sub-assemblies, and complete assemblies of items manufactured at vendor's works, and other sub-vendor's works.
- j) Training at vendor's training centre on the operation, configuration & maintenance of the GC to OIL personnel after successful commissioning of the complete package.
- k) Any work not specifically mentioned but otherwise required, as per statutory rules / codes and standards / specifications for the completion and operation of equipments have to be done by the vendor without any commercial implications.

2.5 Barriers/Isolators must be provided for GC controller. Isolator for mains supply, Terminal Blocks etc. shall be fully wired and mounted in the control Panel.

2.6 Online Gas Chromatograph shall be connected to Daniel make S600+ flow computer (2 nos.). Hence suitable interface & integration with the Flow Computers is under GC Vendor's scope. All necessary hardware / software for establishing communication with flow computers shall be in vendor's scope. Moreover, Vendor has to establish communication between Gas Chromatograph & OIL's SCADA system (Yokogawa STARDOM) through serial communication.

2.7 Vendor shall provide certificate for all the tests indicated in this specification.

2.8 Special Tools and Tackles for Operation & Maintenance of GC shall be in vendor's scope. List must be furnished along with the offer.

2.9 All units of measurement for various items in vendor's specification sheets shall be to the same standards as in purchaser's data sheets. All instruments shall be graduated in the same engineering units as indicated in purchaser's data sheets.

2.10 Vendor shall not offer any prototype instruments in his bid. All instruments offered should have been proven in oil & gas industries before bidding.

#### 2.11 DRAWINGS & DATA:

Vendor shall submit all the data/drawings/documents as indicated below:

A: Along with the offer:

Vendor's Offer shall include a detailed specification sheet for Gas Chromatograph system which shall contain the following information:

- a. All the details regarding type, construction, materials, accessories etc. of the Online Gas Chromatograph along with technical catalogue.
- b. Detailed sketch showing various components of sampling and sample conditioning system.
- c. Sample flow rates required for achieving response time, the recommended length and size of the sampling tube between process tap and sampling system.

- d. Any special cabling requirements including shielding and grounding requirements and maximum permissible distances of separation between the field and the control room mounted units etc.
- e. A copy of the Certificate of intrinsic safety/ flameproof from statutory body like FM, CMRI etc. as applicable.
- f. Consumption figures of electrical power and other utilities for complete gas chromatograph system.
- g. Overall dimensions of major units to be mounted in field as well as in the control room.

B: After Placement of Order:

Vendor shall submit the following certified drawings and specification sheets for Gas Chromatograph

(\* marked shall be submitted for approval)

- i) \* Bill of Material of the complete G.C. system.
- ii) \* G.A. drawing with overall Dimension of both sampling unit & Rack.
- iii) \* Certificates of the Standard gas to be supplied along with GC.
- iv) Sampling interconnection details identifying each component with make and model number.
- v) Detailed interconnection diagram for process, piping and tubing. (Hook up Diagram)
- vi) Installation drawings.
- vii) Cabling details including shielding / grounding requirements.
- viii) Utility consumptions.
- ix) Technical Literatures, Installation & Commissioning Manuals for all supplied items.
- x) Quality Assurance Plan.
- xi) Software required for the system.
- xii) Wiring Diagram of control room mounted controller.
- xiv) Cable Parameters (Capacitance, Inductance, L/R ratio) for interconnection cable between field and the control room mounted units for intrinsically safe system.
- xv) Vendor shall provide certificate for all the tests indicated in Para 5.0 of this specification. In addition, vendor shall provide the %manufacturer's certificate of Conformity+ to purchaser's specifications as per clause 2.2 of DIN 50049/EN10204 or in any other applicable international/ national standard type.
- xvi) Foundation details.

Note: The documents shall be submitted within 4 weeks of placement of order. All documents (wherever applicable) should clearly mentioned owner's project number.

### **3.0 ESSENTIAL CRITERIA:**

3.1 The offered ONLINE GAS CHROMATOGRAPHS shall comply with the following essential criteria:

- a. The GC offered against this tender, shall be from the bidder's existing range of production & bidder shall certify to this effect.
- b. The offered gas chromatograph system shall be certified by weights and measures approved laboratories, such as NMI / PTB or other reputed National Standard laboratories of its country of origin such as compliant for Natural Gas custody transfer application. Certificates for the same should be furnished along with technical bid. If the same is not in English version, duly translated copy in English should be furnished by the Vendor.
- c. Vendor must provide Guarantee/Warranty for the complete package for any trouble or defect, originating with the design, material, workmanship or operating characteristics of any materials, arises at any time upto twelve (12) months from the date of successful

installation & commissioning or eighteen (18) months from the date of last shipment whichever period shall first expire.

d. The method of calculation i.e. ISO 6976 and GPA 2172 shall be user selectable. The methods shall be the latest versions at the time of commissioning.

3.2 All interconnecting wiring shall be color coded / numbered & terminal blocks shall be clearly identified.

3.3 Material of construction:

3.3.1 Unless otherwise specified the material of construction of all components wetted by the sample, shall be stainless steel 316, as a minimum. Vendor shall ensure the compatibility of material of each component with the process fluid.

3.3.2 The material of all soft parts like diaphragms and o-rings shall be PTFE.

3.3.3 Non metallic materials for casings, enclosures & instrument covers shall be avoided.

3.4 Process stream sampling shall be continuous.

3.5 The Gas Chromatograph performance shall be within specifications when the supply voltage varies by  $\pm 10\%$  of specified value and supply frequency varies by  $\pm 3$  HZ of specified value.

3.6 Unless otherwise specified, all threaded connections shall be NPT.

3.7 All the supplied items shall be suitable for classified (hazardous) area as mentioned in the tender. Unless otherwise specified, the enclosures shall be to the following standards:

a) Weather proof housing: IP 66 as per IEC . 529 / IS . 2147.

b) Flame proof housing: Flame proof Ex (d) as per IEC . 79/IS-2148.

c) Lightning protection conformity: As per IEC 62305 for field mounted GC as well as for control unit are to be provided separately. The intrinsically safe and explosion proof equipment shall be certified by statutory bodies like FM, CMRI etc.

3.8 The Gas Chromatograph analyser, standard gas cylinders etc. shall be mounted on cabinet of self-standing skid, in general. The foundation of skid shall have holes to anchor it to the ground with anchor bolt.

3.9 In general, all the offered items are to comply with maximum pressure and temperature data specified in data sheets. In exceptional cases, standard cell or such part of instrument with a rating lower than maximum pressure and temperature can be offered provided suitable conditioning.

#### **4.0 NAMEPLATE:**

4.1 The Gas Chromatograph and its accessories shall have a Stainless Steel nameplate firmly attached to it at a visible place, furnishing the following information as applicable:

a. Manufacturer's Serial No. and Model No.

b. Manufacturer's name / trade mark.

c. Area classification in which the equipment can be used.

#### **5.0 INSPECTION AND TESTING:**

OIL personnel will carry out inspection & testing at vendor's works before final dispatch of the materials. The vendor should inform OIL for inspection atleast 10 working days before the inspection date. Transportation, boarding/lodging for OIL personnel will be in OIL's scope.

5.1 Purchaser reserves the right to test and inspect all the items at the vendor's works. Vendor shall provide necessary facilities, utilities, labour and consumables required for carrying out the job.

5.2 Vendor shall submit the following test certificates and test reports for purchaser's review:

- a. Dimension verification certificate for analyzer.
- b. Material test certificate for all wetted parts like valves, regulator body, pipe / tube, fittings, etc.
- c. Manufacturer's test reports for all wetted parts.
- d. Leak test report of gas chromatograph system including sample handling system using nitrogen or instrument air at 1.5 times the maximum working pressure.
- e. Twenty Four hour environmental test chamber repeatability test report for establishing the repeatability of the offered GC for the complete operating temperature range.
- f. Calibration report of the Gas Chromatograph.
- g. Test reports for calibration gas, carrier gas.

5.3 Witness Inspection:

5.3.1 Following tests shall be carried out, as a minimum at Vendor's works which will be witnessed by OIL personnel:

- a. Physical dimensional verification and workmanship.
- b. Bill of material check for the complete package.
- c. The Gas Chromatographs shall be calibrated using a test sample 50% of scale reading for the component of interest.
- d. Repeatability shall be demonstrated for a period of at least 4 hours continuously using a standard sample.
- e. Effect of variation in the power supply, voltage and frequency, to be verified. The Gas Chromatograph must function satisfactorily.

## **6.0 SHIPPING:**

6.1 All threaded openings shall be suitably covered to prevent entry of foreign material.

6.2 Each major part shall be sealed in thick plastic bags. Suitable moisture absorbent shall be provided for electronic components. The package shall be suitable for storing in climate as per specified ambient condition.

## **7.0 REJECTION:**

Vendor shall make his offer in detail, with respect to every item of the purchaser's specifications. Any offer not confirming to this shall be summarily rejected.

8.0 All documents and literatures are to be supplied in English Language. The Unit of measurement for all the parameters will be as per Data sheet.

9.0 All the Field mounted equipments, Control room mounted instruments and necessary tubing, cables, enclosures, mounting accessories are in vendor's scope. The system should

be supplied in a ready to install condition at site. All the operation, performance and maintenance guideline to be demonstrated during Inspection and documents to be furnished along with dispatch of the Equipments.

#### **10.0 Payment Terms:**

10.1 The bidder must quote material cost & Installation, commissioning charges as separate. Inspection charges (if any) and Training charges if quoted as extra, will be considered as Installation & commissioning charges.

10.2 The bid without installation & commissioning charges will be rejected.

10.3 The payment will be made as follows:

- a) 80% of the material cost (FOR destination) will be paid after receiving the complete materials at site.
- b) 20% of the remaining material cost (FOR destination) + 70% of the total installation & commissioning charges will be paid after completion of successful installation & commissioning at site.
- c) 30% of the remaining installation & commissioning charges will be paid after successful off-site training at vendor's training centre.

#### **Special Conditions for the bidders:**

1. The offer shall be evaluated as received. So, bidders are required to quote strictly as per the tender requirement. Bidder shall also submit an unpriced copy of the pricing schedule. This shall include details of all the components/ equipments supplied.
2. Bidder shall note that the supply, erection & commissioning the complete Gas Chromatograph system shall be ordered from one single bidder only.
3. Bidder shall furnish a complete list of deviations if any from this tender document. Otherwise it will be assumed that there is no deviation from this tender document and no further deviation will be accepted.
4. The bidder has to fill the format %A+as mentioned in the tender and submit the same duly signed along with the bid.
5. Bidder to note that any information not asked in this tender document but is important to support the functional requirement must also be provided.
6. Bidder (OEM) shall provide backup engineering & maintenance support and spare parts support for a minimum period of 10 years.
7. Bidder shall note that it is mandatory to supply the same make and model of any equipment/component for which a particular make/model has already been specified in the tender document.
8. All non-intrinsically safe terminals required for interfacing the system in shelter to control room shall be housed in explosion proof boxes. These explosion proof boxes shall be certified by statutory bodies like FM, CMRI etc.
9. Bidder shall note that they are fully responsible for selection of proper material, design and installation technique to take care of plugging and corrosion problem in the sample line and their components. Any related problem noticed at any stage of execution job shall be taken care by the bidder without any implication.
10. Bidder shall note that there is likelihood of liquid carryover problem in plant upset condition. Bidder to provide suitable system to take care of the same.
11. Chromatograph operation shall not be affected by or compensated for ambient or sample temperature fluctuations.
12. Bidder may sub-contract a part of the job to any other third party. The actual work to be carried out by the third party should be clearly specified by the bidder during bid submission. Successful bidder has to be always present at site during execution of the assigned part of the job by the third party. OIL may provide accommodation only to the third

party personnel depending on the availability at camp site. Details of the third party personnel to be deployed should be provided to OIL before execution of the job.

13. The offered Chromatograph shall be such that they are easily expandable & reconfigurable by OIL for any new application in future. Any stream addition for future modification shall not involve any requirement of fresh license, if any from the bidder.

14. Shipment shall be thoroughly checked for completeness before final packing and shipment. The shipment will be considered complete after receiving all the materials at plant site. Bidder shall be fully responsible for any delay in installation & commissioning as per schedule because of incomplete supply of equipment/components.

15. If required, bidder may visit OIL's plant site before bidding with prior permission from OIL. However, OIL will not be responsible for providing any transportation, accommodation & fooding to the bidder for such plant visit.

16. Bidder is required to provide complete transportation of all the materials upto our plant site at Dandewala (DND-GPC), Jaisalmer District.

17. The FAT/SAT procedures to be submitted by the bidder for approval by the owner. This document shall include the information related to each test (purpose of the test, definition, procedure for the test, test results, final acceptance).

18. Bidder shall note that owner shall provide accommodation, fooding at owner's camp site, transportation (to & fro) from Jaisalmer to the camp site and transportation (to & fro) from camp site to plant site to maximum two nos. of personnel of the successful bidder during installation & commissioning of the system. Accommodation will be provided by the owner as per availability at camp site. Bidder should not take such charges into account while quoting for installation & commissioning charges.

19. Manufacturer of the GC must have operating authorized service centres in India. The address details with phone nos. of all the service centres should be provided during submission of bid.

20. The defective materials, if any, rejected by OIL shall be replaced by the bidder at their own expenses and within the shortest possible time. Warranty period will not be counted from the date of rejection till receipt of the replaced materials at site.

21. Supplier has to visit plant site for commissioning of the materials within 20 days of the intimation from OIL of complete receipt of the materials at site.

22. Supplier must follow all safety norms prescribed by OIL while carrying out the job.

23. Supplier has to obtain necessary security passes etc. to enter the worksite. OIL shall arrange for the necessary security passes.

24. Successful bidder has to arrange for all necessary tools, measuring equipments for carrying out the job.

#### **SPECIFICATIONS FOR ONLINE GAS CHROMATOGRAPH:**

~ Application:

Dry as well as wet Natural gas custody transfer application.

~ Service:

Measurement / calculation of the following parameters for custody transfer:

# Analysis of gas composition CH<sub>4</sub> to C<sub>6</sub>+ (in mole %), CO<sub>2</sub> & N<sub>2</sub>

# Gas Specific Gravity

# Gas Calorific Value (Net & Gross in Kcal/SCM)

# Compressibility Factor

~ Detailed Specifications:

1. Type: Continuous On. line Gas Chromatograph microprocessor controlled.



2. No. of Streams: 1 sample stream + 1 calibration stream. However, the Gas Chromatograph should have the option to add more sample stream in future, if required (minimum 4 nos.).
3. a) Column: Column with high resolution & low carrier gas consumption.  
b) Column size (length / dia.): By Vendor
4. Analysis Output: Full composition of any natural gas from CH<sub>4</sub> to C<sub>6</sub>+, CO<sub>2</sub> & N<sub>2</sub>, Calorific value (NCV & GCV), Specific Gravity.
5. Repeatability: Better than  $\pm 0.025\%$  for all calculated properties.
6. Detector: High performance Thermal conductivity type.
7. Analysis time: Less than 5 Min.
8. Sample Handling System:
  - a. Sample conditioning system shall consist of pressure, flow & temperature regulation, sampling valves, tubes, filters, fittings etc. Sample conditioning system shall be mounted in a cabinet with enough working space.
  - b. A fast loop set up shall be provided on the sample conditioning system to ensure fresh representative gas analysis will be available at all times.
  - c. The sampling system shall be designed to move the sample from the process to the Gas Chromatograph in the shortest possible time.
  - d. Sampling system shall include block valves on process sampling lines.
  - e. The sample handling system shall be designed in such a way that it can handle both dry as well as wet natural gas.
  - f. Gas chromatograph & analyzer electronics shall preferably be mounted in a cabinet with enough working space. Cabinet shall be field mounted & weatherproof to NEMA 4 / IP66 with cabinet door having elastomeric gasket. Cable entry shall be provided from lower side of the cabinet & tubing entry shall be from side.
  - g. Sample shall be returned to the atmosphere at a safe height.
  - h. In case temperature is required to be maintained in the sample handling system, suitable hardware needs to be provided.
  - i. All items of the sampling system shall be from reputed manufacturer like Parker, Asco, Wika, Swagelok, Hoke, Nuvo Fima etc. The details should be provided to OIL for prior approval.

#### 9. Gas Chromatograph Field Unit:

- a. The chromatograph chamber of gas chromatograph which houses the columns shall be maintained at a constant temperature level.
- b. Hook up arrangement: By vendor
- c. Power supply:
  - i) OIL will provide 230V AC, 50 HZ UPS power supply at control room. If any other voltage level is required by the vendor for its supplied equipments, the supply of necessary converter/ rectifier shall be in vendor's scope.
  - ii) Vendor shall supply explosion proof isolator switches for main power supply in Gas Chromatograph cabinet.
  - iii) Vendor to furnish cable entry size for signal, power & control cables.
  - iv) Cable supply & laying from field to control room shall be in vendor's scope. The approximate distance from field unit to control room shall be approx. 100 mtr.
- d. Gas Chromatograph field equipments shall be suitable for the ambient conditions and shall guarantee that the performance of the GC shall not deteriorate up to the specific ambient conditions. All associated field mounted electronic equipments supplied with GC system shall be complying with the Lightning Protection standard IEC 62305 (wherever applicable). Documentary proof shall be furnished in support.

- e. The Analyzer Unit shall be fully microprocessor controlled with heated oven, Detectors column flow adjustments Access panel, carrier gas controls etc. and certified for Hazardous area installation in the field.
- f. The Detector system and electronics shall withstand high and low temperatures.
- g. The Gas Chromatograph shall have retention time reproducibility character with analyzer programs stored in EEPROM and with battery backed CMOS memory. The GC shall store the data for minimum recent 1200 cycle. Vendor shall furnish the maximum capacity of the GC to store the data in the offer. Print out can be taken as and when required basis.
- h. The Gas Chromatograph shall have auto diagnosis feature and shall display error/ warn messages about the status of every parameter and eventful malfunctioning.
- i. Gas Chromatograph shall be compact, rugged and of proven design to meet the specific needs as mentioned in the tender.

#### 10. Cylinders:

- a. Two nos. Of Calibration gas cylinder with 2 stage pressure regulators shall be supplied with GC. The detailed specifications are given in the annexure II.
- b. Carrier gas cylinders with 2 stage pressure regulators shall be supplied with manifold. The two cylinders have to be installed to a dedicated system for providing automatic switchover to standby cylinder when the first cylinder is exhausted. All the accessories required for this purpose shall be provided by vendor. Three Numbers of cylinders are required to be supplied by vendor. The detailed specifications of the carrier gas are given in annexure III.
- c. All gas cylinders shall be located near the gas chromatograph & shall be supplied with gas cylinder rack with free standing support.

#### 11. Controller / Programmable Control Unit:

- a) Type: Microprocessor based device & shall directly interact with gas chromatograph to control its various functions.
- b) Functions: It shall be capable of performing the following functions as a minimum:
  - i. Control of analysis functions in a cycle from operation of sampling valves to detection of peaks, precise calculation for peak measurements, area integration, internal normalization, etc. including chamber temperature control.
  - ii. Automatic zero adjustment & calibration of the GC.
  - iii. Configuration of the GC.
  - iv. Display analysis results & diagnostic messages.
  - v. Provide serial output for components being analyzed for communication with flow computers, SCADA, etc.
  - vi. Other diagnostic parameters.
  - vii. Generation of Gas Analysis Report (scheduled or on- demand) and Automatic Generation of 24 hrs. Average Report & Fortnightly Average Report for:
    - (a) Gas Composition, (b) Gross Calorific Value (c) Net Calorific Value and (d) Specific Gravity.
  - viii. 24 hrs. & Fortnightly average Caloric value (NCV & GCV) report shall be stored in user configurable modbus address for connectivity. The digit after decimal for average GCV & NCV shall be user configurable. The default setting shall be with 3 digit round-off after decimal point at the modbus address.
  - ix. The calculation of heating value (NCV & GCV) shall be user configurable as per but not limited to the following standard:

- a) GPA 2172 in accordance with GPA 2145 (at 14.686 psia & 60degF)
- b) ISO 6976 (at 1.0332 kg/cm<sup>2</sup>a & 15 DegC)

The unit for heating value (NCV & GCV) shall be user configurable (Kcal/SCM, MMBTU/SCM, MMBTU/ft<sup>3</sup>, MJ/SCM etc.). The default configuration in the modbus shall be in Kcal/SCM.

c) The programmer shall have an alphanumeric display for input / output signals, Diagnostics results and other parameters with integral alphanumeric keyboard for data entry and other manual commands.

The controller located remotely to the GC, following functions should be ensured in control room:

- i. Display of various parameters.
- ii. Printing facility in control room.
- iii. Troubleshooting from control room.
- iv. Facility to switch between streams, performs calibration, change cycle times, access alarms & reset the same, etc.

d) The programming shall be user friendly. Field modifications of data tables and chromatogram application shall be possible under password protection.

e) The system (i.e. gas chromatograph & programmer) configuration & application program shall be stored on a non-volatile memory. Battery backup shall be provided in case memory is volatile. The design shall ensure that the application program and data tables remain unaffected in case of power fluctuation or failure.

f) The programmer shall be capable of stream selection in case of multi stream gas chromatograph. The selection shall be automatic in a pre-programmed sequence or manually from programmer fascia or programming PC as applicable.

g) Calibration: Automatic calibration with user selectable time intervals.

h) Diagnostics: Online automatic diagnostics for periodic self-checking of system integrity & alarming.

i) Inputs / Outputs /Serial port:

i. Operator inputs via keyboard.

ii. Field Unit input to controller via RS 232/485.

iii. Potential free contact output for malfunction.

iv. Analog Output: Minimum four nos. Analog Output (4 . 20 mA, isolated) signals for driving 600 ohms load resistance each for user configurable outputs. The tentative outputs shall be as under:

- 1. Gas Calorific Value (Net)
- 2. Gas Calorific Value (Gross)
- 3. Specific Gravity
- 4. Spare

v. Serial Port: Minimum 05 nos. of serial port apart from one which are required to connect the field unit to control room unit are to be provided with each GC.

a. One RS 232/485 serial communication link to connect multiple (at least 02 nos.) flow computers. The protocol shall be MODBUS RTU or ASCII and the same shall be user selectable. In case more no. of RS 232/485 ports are required to connect these flow computers, the same shall be provided by the vendor additionally. Atleast one number of multiplexer with minimum 5 port to be provided for the flow computers.

b. One RS 485 serial communication port for connecting OIL& SCADA (MODBUS protocol) output.

c. One RS 232 serial communication port for connecting the Laptop.

d. Two nos. of Serial Communication Port as spare.

e. The serial ports should be user configurable for RS232 and RS485.

vi. Printer Port: If not in-built in the controller, one additional port to connect the serial printer/ USB port in case of Laser Printer.

vii. Ethernet Port: Minimum one no. as spare.

Note: Complete details and documentation with respect to protocol details with message structure, frame structures, synchronizing / timing signals, memory locations for data addressability and interface software driver details shall be furnished.

j) Cabling: Vendor to provide required interconnecting cables & cables from Field to the control room. All cables to be supplied with cable glands of double compression type and certified suitably. Cables shall be armoured type.

k) Printer: Printer in-built or separate shall be supplied for printing the Gas Analysis Report, an average report in a format indicating data, time & day, type of analysis etc. The Printer shall also be for Alarm Printing, Alarm Reports, Event log etc. Printer table shall also be included in the scope of the Bidder.

n) Laptop: Laptop shall be supplied for configuration, gas analysis report generation & trouble shooting. A 3rd Generation Intel Core i7 Processor (64 Bits) , Windows 7 Professional or Higher OS with recovery CD/DVD, 8 GB RAM, 1 TB Hard Disc, Microsoft Office 10 Professional with 15+LCD display to be supplied. The laptop shall have a serial port. The following makes are only acceptable:

i) DELL, ii) LENOVO, iii) HP

14. Specification of Calibration/Standard gas:

As per Annexure II.

15. Specification of Carrier gas:

As per Annexure III.

16. Training:

The requirements of training for owner personnel are set forth herein:

1. On-site Training: The training shall be provided to minimum 5 personnel for minimum 01 full day on the operation & maintenance of the complete system after successful commissioning.

2. Off-site Training: The training shall be provided at vendor's training centre for minimum 02 personnel in one group for the supplied system after successful commissioning of the system. The training module shall be of minimum 2 days duration covering the complete functional & operational aspects of the system along with troubleshooting and maintenance aspects. Transportation, boarding/lodging etc. for OIL personnel will be in OIL's scope. Hard copy of training manual for the system to be provided to each participant.

## **ANNEXURE - I:**

### **SERVICE CONDITIONS:**

No of Stream : 1 Sample + 1 Calibration

Operating Gas Pressure  
(Kg/cm<sup>2</sup>) : 23 - 30 Kg/cm<sup>2</sup>

Operating Gas Temp  
(degC) : 20 to 58 degC

Type of gas (Dry/wet) : Dry

Flow (MMSCMD) : 0.7 (Maximum), but the system should have capacity  
to handle upto 1 MMSCMD of gas.

Size of the Isolation Valve where the sample conditioning system to be installed : ¾ inch NPT (M).

**GAS COMPOSITIONS OF THE PRODUCED GAS:**

COMPOSITION	MOLE (%)
C1	42-46
C2	0.7-0.9
C3	0.1-0.2
ISO- C4	0.02-0.03
N-C4	0.03-0.05
ISO-C5	0.01-0.02
N-C5	0.01-0.02
C6	0.02-0.07
N2	27-30
CO2	24-29

NOTE: THE MOLE% OF THE GAS COMPOSITION IS FOR INFORMATION FOR THE BIDDERS ONLY. MOLE% MAY CHANGE DURING ANY FUTURE PROCESSING OF THE GAS FOR REMOVING ANY CONSTITUENT IN THE GAS. THE QUOTED SYSTEM SHOULD BE COMPATIBLE FOR ANY MOLE% CHANGE.

**ANNEXURE II:**

**Technical Specifications of Calibration/Standard Gas:**

Item Description: Standard Gas Mixture having natural gas component (C1, C2, C3, I-C4, N-C4, I-C5, N-C5, C6, N2, CO2).

Cylinder: The standard gas mixture to be supplied in 10 liters water capacity steel cylinders with Brass valve connection IS 3224 / BS 341. The cylinders shall have passed the necessary certification and bear valid hydro test certificates. Bidder should provide Manufacturing test certificate, material test certificate, valid hydro test certificate, CCOE certificate for the gas cylinders. The cylinder shall bear details: Serial No., Working

Pressure, Tare Weight, Manufacturer name, Connection type, Hydro test details. Cylinder shall have valve guard / cap.

Gas Mixture Pressure: Standard Gas mixture need to be supplied at a minimum pressure of 75 kg/cm<sup>2</sup>.

Stability of Gas Mixture: The supplied gas mixtures should be stable for a period of 24 months minimum.

Composition: All units are in mole%.

Certification Accuracy:  $\pm 1\%$

Preparation Tolerance:

Range	Preparation Tolerance
Components above 25%	$\pm 2\%$
Components in the range of 1% to 10%	$\pm 5\%$ or better
Components in the range of 0.5% to 1%	$\pm 10\%$ or better
Components <0.5%	$\pm 20\%$ or better

Impurity: Water content less than 5 ppm

Helium less than 1 ppm

Hydrogen less than 1 ppm

Oxygen less than 5 ppm

The supplier's Laboratory should be accredited in accordance with ISO/IEC 17025:2005 (ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories) from Nationally or internationally recognized Laboratory for Testing and Calibration of Natural Gas. Bidder is required to submit valid certificate of such accreditation.

Performance Evaluation: The Supplier should submit Performance Evaluation Certificate in accordance with ISO-10723 for their Master Gas Chromatograph which they use for analysis and calibration of Natural Gas Mixture.

Preparation Method: The Calibration Laboratory shall prepare the mixtures by Gravimetric Method as per ISO 6142 (ISO 6142: 2001 Gas analysis - Preparation of calibration gas mixtures- Gravimetric method).

Method of Calibration: The Calibration Laboratory shall perform the Calibration Service of their reference mixtures as per ISO 6143:2001 (Gas analysis - Comparison methods for determining and checking the composition of calibration gas mixtures.)

Traceability Certificate: Bidder shall provide Traceability certificate for the gas mixtures as per National/International standards.

Certificate of Calibration: Standard gas mixtures offered and to be supplied should be certified by direct comparison for Natural Gas with Primary reference gas mixtures that are certified and issued by nationally or internationally recognized Laboratories. Certified copies of certificate, Schedule of Accreditation for calibration & Testing provided by the accreditation agencies should be submitted.

The contents of the certificate shall include information described in ISO 6141: 2000 (Gas analysis - Requirements for certificates for calibration gases and gas mixtures)

Bidder shall furnish certificate of analysis for each cylinder with following information (quality/analysis certificate shall be from OEM of calibration gas mixtures):

- a) Supplied concentration of the Gas (in mole %)
- b) Physical properties calculated according to ISO 6976
- c) Method of preparation of calibration gas mixture
- d) Safety instructions/ MSDS
- e) Signature & names of the certifying officers signing the analysis certificate
- f) Traceability of the standard used for calibration
- g) Cylinder number
- h) gas pressure, cylinder volume
- i) stability period
- j) minimum pressure of utilization
- k) Date of certification & the period of validity of the certificate

#### GAS COMPOSITION OF STANDARD/CALIBRATION GAS:

Components	In Mole%
C1	Balance
C2	0.8
C3	0.15
i-C4	0.03
n-C4	0.04
i-C5	0.02
n-C5	0.02
C6	0.07
N2	27.0
CO2	27.0

Total Mole% after balancing with C1 should be 100%.

#### **ANNEXURE III:**

##### Technical Specifications of Helium Gas:

- 1. Type of Gas: Pure Helium Gas
- 2. Purity of Gas: 99.999% He,  
Balance Maximum of impurities N<sub>2</sub><5 ppm, O<sub>2</sub><2 ppm, CO+CO<sub>2</sub><0.5 ppm, THC<0.5 ppm, H<sub>2</sub>O<4 ppm
- 3. Cylinder Capacity: 47/50 liters Water Capacity
- 4. Cylinder Pressure: 140 kg/cm<sup>2</sup>.
- 5. Stability period of Gas: Must be valid upto complete utilization of the cylinders.
- 6. Supply of Cylinders: To be done by vendor.
- 7. 2-stage SS regulators with gauge Regulators for carrier gas cylinders shall be in Vendor's scope.

8. Hydro testing of each Cylinder Hydro test is required to carry out for each cylinder & test certificate should be submitted for the same.
9. Gas composition Certificate Required for each cylinder with traceability details. Certificate should mention concentration of impurities. Copy of valid traceability certificate required.
10. Requirements for cylinders:  
Documents & certification:
- a. Manufacturing test certificate
  - b. Certification from CCOE, Nagpur
  - c. Latest valid hydro test certificate.
  - d. Material test certificate
- Other requirements:  
Cylinders should be equipped with neck ring cap & brass valve conforming to IS: 3224.

## **2.0 BID REJECTION CRITERIA (BRC):**

### **A. TECHNICAL**

The bidders who intend to participate shall meet the minimum requirement as per the following criteria. :

2.1 Bidder should be a regular manufacturer for Online Gas Chromatograph suitable for custody transfer application of natural gas.

2.2 The bidder should have designed, manufactured, tested, supplied & successfully commissioned at least 1 (one) no. of the same offered system suitable for custody transfer services in the last five years reckoned from the commencement of floating of this tender. Documentary evidences should be submitted from the end user.



2.3 The GC offered by the bidder shall be from his existing range of production.

2.4 For Authorized Supplier:

In case the manufacturer(s) who do not submit bid directly as a matter of their corporate policy, they may submit bid through authorized supplier. In such cases, the concerned supplier may submit the offer as %Bidder+subject to fulfilling the following criteria:

Bidder shall supply the GC of the manufacturer who meets the qualification criteria mentioned at Clauses 2.1 to 2.3 above.

The bidder shall furnish an authority certificate from the manufacturer confirming the Bidder's status as their authorized supplier. The authority certificate shall valid upto the completion of tenure of the order in accordance with the bidding document.

The bidder shall furnish from manufacturer, a certificate indicating that the manufacturer as a corporate policy does not quote directly and their materials are quoted through authorized supplier only.

Bidder should have successfully commissioned at least 1 (one) no. online GC system of any make in the last 3 years reckoned from the commencement of floating of this tender. Documentary evidence should be submitted from the end user.

One manufacturer can quote through only one supplier and a supplier shall offer product of only one manufacturer.

The bid shall be liable for rejection in case of change of the proposed manufacturer after submission of bid.

Bidder shall provide certificate from the manufacturer clearly mentioning commissioning support (if required during commissioning), backup engineering, maintenance support and spare parts support for the complete supplied system for a minimum period of 10 years from the date of final order placement. The bid shall be liable for rejection without this certificate. The format is as given below:

Quote

### **CERTIFICATE FOR LOGISTIC SUPPORT**

(To be signed by authorized signatory of the manufacturer on company's Letterhead)

1. On behalf of M/s \_\_\_\_\_ I, hereby confirm that the Gas Chromatograph and associated systems quoted by our Authorised Supplier M/s \_\_\_\_\_

for Oil India Limited against Tender No. \_\_\_\_\_ shall continue to be supported by us.

2. Further confirm that in case of placement of order, we shall provide commissioning support (if required during commissioning), backup engineering, maintenance support and spare parts support to OIL for the supplied system for a period of 10 years from the date of placement of order.

(SIGNATURE WITH COMPANY SEAL)

Unquote

2.5 The bidder shall provide details of GC system supply made in previous seven years. The previous supplied GC may not be the same model.

2.6 The bidder shall not be put on holiday by OIL or blacklisted by any Government Department/ Public Sector till placement of order.

Documents Required:

1. Document in support of clause no. 2.1:

- a) Proof of being the Manufacturer for Online Gas Chromatograph.
- b) Certificate for the supplied Gas Chromatograph suitable for custody transfer services, duly signed by weights and measures approved laboratories, such as NMI / PTB or other reputed National Standard laboratories of its country of origin.
- c) In case bidder is authorized supplier as per clause no. 2.4, bidder is required to submit above mentioned documents (a & b) and an undertaking from the OEM that bidder is their

authorized supplier along with other documentary evidences as mentioned in clause no. 2.4.

2. Document in support of clause no. 2.2:

- a) Detailed copies of purchase orders.
- b) Successful completion certificate issued by the end user as per purchase order.

## **B COMMERCIAL:**

(i) Bids are invited under %Single Stage Two Bid System+. Bidders have to submit both the %Techno-commercial Unpriced Bids+and %Priced Bids+through electronic form in the OIL's e-Tender portal within the bid Closing date and time stipulated in the e-tender. The Techno-commercial Unpriced bid is to be submitted as per scope of works and Technical specification of the tender and the priced bid as per the online Commercial bid format. Any offer not complying with the above shall be rejected straightway.

(ii) In Technical Bid opening, only the %Technical RFX Response+ tab will be opened. Therefore, the bidder should ensure that Technical Bid is uploaded in the Technical RFX Response- >User->Technical Bid only. No price should be given in above %Technical RFX Response+tab, otherwise the offer will be rejected. Please go through the help document provided in OIL's e-Portal, in details before uploading the documents.

### **(iii) Bid security:**

The bid must be accompanied by Bid Security of INR 59,000.00 in OIL's prescribed format as Bank Guarantee or a Bank Draft/Cashier cheque in favour of OIL. The Bid Security shall be submitted manually in sealed envelope superscribed with Tender no. and Bid Closing date to Chief Manager (M & C), Oil India Limited, Rajasthan Project, 2A District Shopping Centre , Saraswati Nagar , Basni Jodhpur-342005, Rajasthan, India on or before the Bid Closing Date and Time mentioned in the Tender. If bid security in ORIGINAL of above mentioned amount is not received within bid closing date and time , the bid submitted through electronic form will be rejected without any further consideration. The Bank Guarantee towards Bid Security shall be valid for 300 days from Bid closing date.

In case of extension of Bid Closing date against the tender where a bidder has already submitted his bid with requisite bid security validity within the original B.C. Date, such bidders will extend validity of bid security covering the extended period of the bid closing date.

### **(iv) Performance Security:**

Successful bidder will be required to furnish a Performance Security @10% of the order value. For details about performance security and exemption for submission of the same, please refer Clause No. 10.0 of General Terms and Conditions vide MM/RP/GLOBAL/E-01/2005 for E-Procurement ICB Tenders. The Performance Security must be valid for a period of 12 months from the date of commissioning of the equipment at site or 18 months from the date of dispatch/shipment whichever is earlier. The bidder should confirm submission of the requisite Performance security (in the event of order) in their offer itself, failing which the offer will be rejected.

(v) Validity of the bid shall be minimum 120 days from the Bid Closing Date.

(vi) The prices offered will have to be firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and rejected.

(vii) Bids received in physical form, but not uploaded in OIL's e-Tender Portal will be rejected.

(viii) The Bid documents are not transferable. Offers made by bidders who have not been issued the bid document by the Company will be rejected.

(ix) Any Bid containing a false statement shall be rejected.

(x) Bids received by Company after the bid closing date and time will be rejected.

(xi) All the Bids must be Digitally Signed using %Class 3+ digital certificate with Organisation's name (e-commerce application) as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India. The bid signed using other than %Class 3 with Organisation's Name+digital certificate, will be rejected.

(xii) Technical RFx Response folder is meant for Technical bid only. Therefore, No price should be given in Technical RFx Response folder, otherwise the offer will be rejected.

(xiii) Price should be maintained in the %online price schedule+ only. The price submitted other than the %online price schedule+ shall not be considered. **The prices of the items should be quoted in "Conditions Tab".**

(xiv) **Integrity Pact :**

OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Annexure XII of the tender document. This Integrity Pact proforma has been duly signed digitally by OIL's competent signatory. The proforma has to be returned by the bidder (along with the technical bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Any bid not accompanied by Integrity Pact Proforma duly signed (digitally) by the bidder shall be rejected straightway. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid.

### **3.0 BID EVALUATION CRITERIA (BEC)**

3.1 The bids conforming to the terms and conditions stipulated in the tender and considered to be responsive after subjecting to the Bid Rejection Criteria as well as verification of original of any or all documents/ documentary evidences pertaining to BRC, will be considered for further evaluation as per the Bid Evaluation Criteria.

3.2 The bids will be technically evaluated based on the requirements given in (Scope of Works and Detailed Specifications) of the tender document. For commercial evaluation of bids, total cost of the main equipment with all the accessories, installation & commissioning charges will be considered.

3.3 For evaluation of bids, total cost of the equipment with all the accessories, installation commissioning, testing charges etc. as per tender specification will be considered. Comparison of offers will be done on Total F.O.R Oil India Limited's Gas Processing Plant, (DND-GPC) at Dandewala near Tanot in Jaisalmer district (155 KMs approx. Distance from Jaisalmer Township) of Rajasthan basis as under:

- (A) Total Material Cost for 1 No. of online gas chromatograph with all the accessories
- (B) Packing and Forwarding Charges,
- (C) Total Ex-works value, ( A + B ) above
- (D) Excise Duty as applicable on ( C ) above (Please indicate applicable rate of Tax)
- (E) Sales Tax as applicable on ( C + D ) above (Please indicate applicable rate of Tax)
- (F) Total FOR Manufacturing station Value, ( C + D +E) above
- (G) Road Transportation charges including loading and unloading of Gen Sets at DND-GPC
- (H) Insurance charges
- (I) Installation/Commissioning Charges including service tax
- (J) Inspection/Testing Charges, if any
- (K) Total value ( F+ G + H+ I + J )

3.4 To evaluate the inter-se-ranking of the offers, Rajasthan Entry Tax on purchase value will be loaded as per prevailing Govt. of Rajasthan guidelines as applicable on bid closing date. Bidders may check this with the appropriate authority while submitting their offer.

3.5 Installation /Commissioning charges should be quoted separately which shall be considered for evaluation of offers. These charges should include amongst others to and fro fares, boarding /lodging and other expenses of the Commissioning Engineers during their stay in Rajasthan. All personnel, Income and Service Tax etc. towards the service provided by the supplier shall be borne by the supplier and will be deducted at source. Bidder should confirm about installation/commissioning in their Bid. Inspection/Testing charges, if any, shall be quoted separately which shall be considered for evaluation of offers.

3.6 If there is any discrepancy between the unit price and the total price, the unit price will prevail and the total price shall be corrected. Similarly, if there is any discrepancy between words and figure, the amount in words shall prevail and will be adopted for evaluation.

3.7 To ascertain the substantial responsiveness of the bid, OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in total must be received on or before the deadline given by the company, failing which the offer will be summarily rejected.

#### **STANDARD NOTES:**

1.0 Materials to be supplied hereunder shall be new, unused, of recent make, of best quality & workmanship and shall be guaranteed by the seller against defects arising from faulty materials, workmanship or design. Defective goods / materials or parts notified by OIL to the seller shall be replaced immediately by the supplier at the supplier's expense at no extra cost to OIL.

2.0 Bidders are to quote for Unit Material value, Packing/Forwarding Charges, Taxes & Duties as applicable, Transportation, loading, unloading, erection, installation, testing and commissioning charges upto Oil India Limited's Gas Processing Plant, DND-GPC at Dandewala near Tanot in Jaisalmer district (155 KMs approx. Distance from Jaisalmer Township) of Rajasthan, Insurance Charges, Payment Terms, **Best Delivery Period**, Net. & Gross Weight etc. in their offer.

- 3.0 For order with F.O.R. Destination term, 100% payment against dispatch document will not be entertained. In this regards please refer payment terms in ANNEXURE - MM/RP/GLOBAL/E-01/2005. Bidders are advised to take note of this while mentioning payment term.
- 4.0 In the event of receipt of only a single offer against the tender within B.C. date, OIL reserves the right to extend the B.C. date as deemed fit by the Company. During the extended period, the bidders who have submitted the bids on or before the original B.C. date shall not be permitted to revise their quotation.
- 5.0 The prices offered will have to be firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and rejected.
- 6.0 Other terms and conditions of the enquiry shall be as per General Terms and Conditions for Global E-Tender vide MM/RP/GLOBAL/E-01/2005. However, if any of the Clauses of this tender document contradict the Clauses of the booklet MM/RP/GLOBAL/E-01/2005 elsewhere, those in this tender document shall prevail.

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