OIL INDIA LIMITED
(A Govt. of India Enterprise)
P.O. Duliajan – 786602, Assam

Telephone No. (91-374) 2808720
Fax No: (91-374) 2800533
Email: materials@oilindia.in; erp_mm@oilindia.in

Tender No. & Date	:	**SDG 9767L19/06 dated: 16.11.2018**
Tender Fee	:	**Not Applicable**
Bid Security Amount	:	**INR 1, 73,000.00 OR USD 2,470.00**
Bidding Type	:	**SINGLE STAGE TWO BID SYSTEM**
Bid Closing on	:	**09.01.2019 (at 11.00 Hrs. IST)**
Bid Opening on	:	**09.01.2019 (at14.00 Hrs. IST)**
Bid Validity	:	**Bid Should be valid for 120 days from bid closing date.**
Bid Bond Validity	:	**Bid Bond Should be valid up to 09.08.2019**
Performance Guarantee	:	**Applicable @ 10% of Order value**
Integrity Pact	:	**Applicable**
List of Annexures Applicable	:	**Annexure - I: Specifications, General & Special notes to bidders** **Annexure- II: Check List (Commercial)** **Annexure-III: Technical Evaluation Matrix (Technical Specs.)** **Annexure IV: Format of undertaking by Bidders towards submission of authentic information/documents**

AA:: SPECIFICATION& QUANTITY OF THE ITEMS TO BE PROCURED

Item no	Material Description	Quantity
10	Molecular Sieves are crystalline metal alumino silicate which have been used for adsorption of moisture from natural gas and also regenerated by removing their water of hydration. These are spherical shaped particle of size 1.6 mm to 5.0 mm (dia.) for dehydration of natural gas as per following specifications: PHYSICAL PROPERTIES (a) Nominal Pore size: 4 A° (Angstroms) (b) Bead Shape: Spherical (c) Bead Size: 1.6 mm to 5.0 mm (dia.) (d) Moisture content @300 deg.C: less than 1.5 % by wt. (e) Bulk density: 720 g/l (f) Crushing Strength: 9 kg. (Minimum) (g) Absorption capacity for water in Wt% (10% relative humidity & 25 deg. C): 20. OPERATING CONDITIONS: (i) Process gas pressure at: (a) Inlet of Dehydrator: 41.2 Kg/cm2. (b) Outlet of dehydrator: 40.8 kg/cm2 (ii) Process gas temperature; 37.8 deg. C. (iii) Regeneration gas temperature: 290 to 300 deg.C DUTY REQUIREMENT: To dehydrate 2.215 MMSCM per day of natural gas saturated with water at above operating condition to a dew point of around minus 101 deg. C (less than 1 PPM) for a continuous 8 hour duty cycle through dehydrator vessel containing molecular sieves.	25,000 KG
20	Ceramic Balls, Diameter: 1/4 inch for improving the gas / liquid flow distribution in adsorber beds of dynamic adsorption processes.	1700 KG
30	Ceramic Balls, Diameter: 1/8 inch for improving the gas/ liquid flow distribution in adsorber beds of dynamic adsorption processes.	1700 KG

BB:: DETAILED TECHNICAL SPECIFICATION FOR MOLECULAR SIEVES & CERMAIC BALLS

Item Note:

Procurement of molecular sieves of 25000.00 kg, Ceramic Ball 1/4 inch of 1700 kg & Ceramic Ball 1/8 inch of 1700 kg.

1. BRIEF SPECIFICATION OF MOLECULAR SIEVE --

Molecular sieve, spherical shaped with particle size 1.6 mm to 5.0 mm (diameter) for dehydration of natural gas as per the specifications given below) :

Physical Properties :
a) Nominal pore size : 4 A0 (Angstroms)
b) Bead shape : Spherical
c) Head size : 1.6 mm to 5.0 mm (Dia.)
d) Moisture Content : Less than 1.5 % by wt. at 300 Deg. C.
e) Bulk Density : 720 g/l
f) Crushing Strength : 9 Kg.(minimum)
g) Absorption Capacity : 20 for water in wt.% (10% relative humidity & 25 deg. C).
i) Max. DP across the bed: Vendor to specify at the beginning
j) Max. DP across the bed at the end of service life : Max. 1.0 Kg/cm2
k) Service life expected : 04 Years (minimum)

2. BRIEF DESCRIPTION OF DEHYDRATION & ADSORPTION PROCESS

The molecular sieves shall be used for dehydration of Natural Gas in the driers (dehydrators). There are two nos. of dehydrators, one is on adsorption cycle and the other is on regeneration cycle. The cycle time is 8 hours and at the end of one cycle, the bed automatically changes over to the next bed. The break up of cycle time is as under:

Heat Cycle : 4 hours 30 mins.
Heat off : 5 mins
Cool cycle : 2 hours 53 mins
Bed pressurization : 15 mins.
Bed change over : 2 mins
Bed depressurization : 15 mins.

Inlet Gas condition
Inlet Gas flow to the dehydrator : 2.215 MMSCM per day (million metric standard cubic meter per day)
Gas pressure at inlet : 41.2 Kg/cm2
Gas pressure at outlet : 40.8 Kg/cm2.
Gas temperature : 37.8 deg. C
Moisture content : Saturated
Dew point at the end of Adsorption cycle : minus 101 deg. C

Average Feed gas condition in Mol. %

Components	Composition (vol%)
Nitrogen	1.43
CO2	1.00
Methane	89.00
Ethane	4.17
Propane	2.13
i-Butane	0.47
n-Butane	0.71
i-Pentane	0.30
n-Pentane	0.21
Hexane +	0.48

Specific gravity: 0.6498

Regeneration Gas Condition
Pressure : 12 Kg/cm2
Flow : 0.218 MMSCM per day
Regen. gas temp. at drier outlet : 230 - 245 deg. C

Regeneration Gas composition in Mol %

Components	Composition (vol%)
Nitrogen	1.05
CO2	0.95
Methane	93.08
Ethane	4.29
Propane	0.62
Specific gravity:	0.5952

The Molecular sieves shall be able to withstand thermal shock generated due to heating/ cooling of bed by regeneration gas without any damage to molecular sieve.

Drier Specification
No. of Drier : 2 (one in line + one in Regeneration)
Adsorption flow : Top to Bottom
Regeneration flow : Bottom to Top
No. of beds per drier : One
Drier ID : 2.28 meter, (90 inch)
Drier height : 4.88 meter, (192 inch)

3. BRIEF DESCRIPTION OF LPG EXTRACTION PROCESS (for reference only)
I. Introduction:
OIL's LPG Recovery Plant at Duliajan, designed and commissioned in 1982 by Randall Corporation (USA), is based on turbo expander technology where natural gas in the stream becomes the refrigerant and expands isentropically to give useful energy for compression of gas.
II. Design :
The plant was originally designed to handle 2.215 MMSCM/day (80 MMSCFD) of natural gas to produce 60,000 TPA of 50:50 (w/w) C3:C4 LPG and 12,000 TPA of condensate on 350 days working. However, due to changes in the feed gas composition the plant design capacity has been re-rated as 50,000 TPA of 49:51 (w/w) C3 : C4 LPG and 25,000 TPA of condensate. The tonnage output was based on minimum recovery of 98% the available butanes in the feed gas.
III. Process
The process comprises of broadly the following:
(a) Compression
(b) Dehydration
(c) Product extraction through:
(i) On stream cooling by heat exchange
(ii) Turbo expansion
(iii) Removal of non-condensable and Undesired lighter fractions
(d) Product fractionation

(a) Compression:
Inlet gas at 14 Kg/cm2 enters in inlet gas compressor suction scrubber and then compressed in two stages from two different sources. First it is compressed from 14 Kg/cm2 to 33.8 Kg/cm2 in a (4 stage) centrifugal compressor driven by a 4500 HP

electric motor operating on 11 KV power supply. The heat of compression is partly used in re-boiling the bottom liquid of de-ethanizer and then cooled to 37.8 degree centigrade in water cooled heat exchanger before entering the booster compressor suction scrubber. It is then compressed to 41.9 Kg/cm2 with the help of the booster compressor driven by the turbo expander. No external energy source is required for this. The compressed gas is cooled to 37.8 degree centigrade in a water cooled exchanger and then sent through an inlet filter separator wherein any water that may condense out from compression is knocked out. The gas is then dried in the dehydrators, two Nos. of which are installed for cyclic operation and regeneration.

b) Dehydration:
The dehydrators are filled with molecular sieve of 4 Angstrom size and contains approximate 12500 Kg. of molecular sieve in each dehydrator. The dryness obtained is to a dew point of less than -101 degree centigrade. There are two nos. of Dehydrators. While one of the dehydrators is on line for drying the inlet gas the other one goes through a cycle of heating by heated residue gas to remove the water particles retained within the molecular sieve during the previous operation and then cooling.
The dehydrated gas passes through a dust filter to remove sieve dust etc.

(c) Product extraction:
1. The gas stream after the dust filter is split into two streams. One stream (70% by volume) exchanges heat with cold residue gas from the de-ethanizer overhead and expander separator overhead in the cold gas/gas and warm gas/gas heat exchangers. The other stream (30% by volume) exchanges heat with the cold separator liquid in the gas-liquid exchanger and also with the expander separator liquid in the de-ethanizer feed pre-heater. These two streams then combine to enter the cold separator. By this heat exchange the temperature of the inlet stream to cold separator drops down to (-47) degree centigrade and the temperature of the cold residue gas increases to 32 degrees centigrade.

2. The liquid condensed by lowering the temperature of the inlet gas is separated in the cold separator. These liquids are flashed through the de-ethanizer reflux condenser and gas-liquid exchanger into the de-ethanizer tower.

3. Inlet gas from the top of the cold separator is then allowed to expand in the turbine wheels of the single stage turbine expander to 13.7 Kg/cm2. At the other end of expander shaft is mounted the single stage booster compressor. The horse-power released by expansion is used for second stage pressure boost up. At the designed condition horse-power developed would be around 1670 HP. The expander rotates at a speed of 27,000 rpm. Due to the expansion in the turbine wheel the temperature of the gas stream drops down to around -84 degree centigrade and additional liquefaction takes place.

4. The gas liquid mixture out of the expander is separated in the expander separator. Liquids thus collected, flow to the de-ethanizer feed pre-heater and then to the de-ethanizer. The non-condensed gas at the top of the expander separator goes to join the residue gas stream from de-ethanizer.

(d) Product Fractionations:
1. The product fractionation consists of:
(i) A de-ethanizer column with three separate packed sections and a reboiler
(ii) A de-butanizer column having 34 Glitch ballast trays and reboiler provision through closed circuit hot oil systems with direct fired heater.

2. The liquids formed at the cold separator and the expander separator enter the de-ethanizer column through the pre-designed section of the column packing. By maintaining proper bottom temperature with the help of de-ethanizer reboiler and reflux, undesirably liquefied fraction of C1H4, C2H6 and the excess of C3H8 which is not required for production of LPG is knocked out from the top. This stream meets the gas stream from the expander separator and forms the residue gas for the plant. Temperature of the residues as it comes out of expander separator and de-ethanizer remains in the range of -76 degree centigrade. Before letting it out of the plant this additional refrigeration is recovered in the cold gas-gas & warm gas-gas exchangers explained earlier.

3. The bottom liquid from de-ethanizer flows on level control to de-butanizer tower where LPG and condensate are separated out. LPG comes out at the top which is cooled to ambient temperature and sent for storage in Bullets & Horton Spheres. The bottom condensate is similarly cooled and stored in separate storage tanks.

CC:: <u>SPECIAL NOTES TO BIDDERS:</u>

The bid shall conform generally to the terms and conditions given in this document. Notwithstanding the general conformity of the bids to the stipulated specifications, the following requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and rejected:

1.The bidder shall bid for all 03 (three) items mentioned in NIT. Partial bidding shall be rejected. The bidder shall qualify for all the three items and all the items shall be procured from the same bidder.

2.The unit of measurement of the items shall be as per item description in NIT. e.g KG.

3.The supplier shall agree to provide warranty/guarantee bonds of the supplied items for a period of minimum 12 months from the date of commissioning of the item.

4.Bidder shall also to submit Bed void volume, pressure drop, mass transfer rate calculation sheet along with the offer for our evaluation. Detail catalogue of the offered product shall be enclosed along with the offer.

5.The offer shall be in English language only.

6.Inspection/ Test certificate of the supplied item shall be provided by supplier with the materials.

7. User's list and performance certificate of the product from users shall be submitted along with the offer.

8. Any deviation from tender specification must be reported in the offer.

9. The authorised distributor has to submit "Authorization Letter" from original Manufacturer along with offer.

10. Packing of materials shall be strong and sturdy enough such that it can withstand loading/unloading, pushing and crane lifting etc. and transit damage. All packings must be carried out in waterproof manner. The bidder must confirm these in their offer. In case of damage of materials during transit, the bidder shall replace the same at free of cost.

DD:: GENERAL NOTES TO BIDDERS:

Sl No	Clause description
1.0	The tender will be governed by "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) including Amendments & Addendum to "General Terms & Conditions" for e-Procurement.
2.0	**Bid Security/EMD/Performance Bank Guarantee – Must be paid either through online mode or Submission of Bank Guarantee/LC only. No DD/Cheques/Cashier Cheque or any other mode will be acceptable.**
3.0	Bid must be submitted online through OIL's e-procurement portal. Bid submitted in any other form will be rejected.
4.0	Please note that all tender forms and supporting documents are to be submitted through OIL's e-Procurement site only except following documents which are to be submitted manually in sealed envelope super scribing tender no. and due date to The GM Materials, Materials Department, Oil India Limited, Duliajan- 786602, Assam on or before 13:00 hrs (IST) on the Bid Closing Date mentioned in the Tender. **a) Original Bid Security along with two duplicate copies of Bid Security.** **b) Any other documents which have been particularly asked for in this tender for submission.** The Bank Guarantee issued by bank must be routed through SFMS platform as per following details: a. (i) "MT760/ MT760 COV for issuance of bank guarantee (ii) MT767/ MT767 COV for amendment of bank guarantee The above message/intimation shall be sent through SFMS by the BG issuing bank branch to Axis Bank, Duliajan Branch, IFS Code: UTIB0001129. Branch Address: Axis Bank Ltd., Duliajan Branch, Daily Bazar, Jyotinagar, Duliajan, Dist-Dibrugarh, Pin- 786602. b. The vendor shall submit to OIL the copy of the SFMS message as sent by the issuing bank branch along with the original bank guarantee.
5.0	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 the bid closing date and time, failing which the offer shall be rejected.
6.0	The tender is invited under **SINGLE STAGE-TWO BID SYSTEM**. The bidder has to submit both the **"TECHNO-COMMERCIAL UNPRICED BID"** and **"PRICED BID"** 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" shall contain all technical and commercial details except the prices which shall be kept blank. Details of prices as per Bid

	format / Commercial bid to be uploaded as attachment in the Attachment Tab "Notes and Attachments". Any offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned in the tender. **Notes and Attachments** ➔ **Only Price Details Should Be Uploaded** **Technical attachments** ➔ **All technical bid documents except price details** **Please do refer "NEW INSTRUCTION TO BIDDER FOR SUBMISSION" for the above two points and also please refer " New Vendor Manual (effective 12.04.2017) " available in the login Page of the OIL's E-tender Portal.** 
7.0	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. The "PRICE BID" must contain the price schedule and the bidder's commercial terms and conditions. Details of prices as per Bid format / Commercial bid can be uploaded as Attachment under the attachment option under "Notes & Attachments".
8.0	PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TO BE TECHNO-COMMERCIALLY ACCEPTABLE.
9.0	Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the bid 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.
10.0	Please mention clearly in your quotation the Net. Weight, Gross Weight & Volume, Indian Agent's Name and its Commission, Payment Terms, Ocean Freight/Air Freight Charges, Port of Loading, Delivery period, Country of origin with manufacturer's name, etc.
11.0	All the Bids must be Digitally Signed using "Class 3" digital certificate (e-commerce application) only 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" digital certificate, will be liable for rejection.
12.0	Please do refer the User Manual provided on the portal on the procedure How to create Response for submitting offer.
13.0	*Bidders to note that Govt. of India under Micro, Small and Medium Enterprises Development (MSMED) Act 2006, has proclaimed the Public Procurement Policy, 2012 with effect from 1st April,*

	2012 in respect of procurement of goods and services, produced and provided by micro and small enterprises, by its Ministries, Departments and Public Sector Undertakings for promotion and development of Micro and Small Enterprises. A new Clause on applicability of Public Procurement Policy for procurement of goods from Micro and Small Enterprises (MSE) in the tender is furnished vide Amendment to General Terms and Conditions for Global Tender (MM/GLOBAL/E-01/2005). Bidders are requested to take note of the same and to submit their offers accordingly.
14.0	The items shall be brand new, unused & of prime quality. The manufacturer shall warrant (in the event of an order) that the product supplied will be free from all defects & fault in material, workmanship & manufacture and shall be in full conformity with ordered specifications. This clause shall be valid for 18 months from date of shipment or 12 months from date of commissioning and handing over to OIL, whichever is earlier. The defective materials, if any, rejected by OIL shall be replaced by the supplier at their own expense. Bidders must confirm the same in their quotations.
15.0	Quantity of Individual item may be increased or decrease at the time of final placement of order. The minimum FOB/FCA charges in case of partial order for reduced quantity/enhanced quantity shall have to be indicated by the bidder. In case, this is not indicated specifically, the charges quoted would be pro-rata calculated and the same will be binding on the bidder.
16.0	Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.
17.0	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. 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. If any bidder refuses to sign Integrity Pact or declines to submit Integrity Pact with the offer, their bid shall be rejected straightway. OIL's Independent External Monitors at present are as under: SHRI RAJIV MATHUR, IPS (Retd.), Former Director (IB) Govt. of India e-Mail ID : rajivmathur23@gmail.com SHRI SATYANANDA MISHRA, IAS(Retd.) Former Chief Information Commissioner & Ex-Secretary, DOPT, Govt. of India E-mail Id : satyanandamishra@hotmail.com SHRI JAGMOHAN GARG, Ex-Vigilance Commissioner, CVC e-Mail id : jagmohan.garg@gmail.com
18.0	Performance Security clause (Clause No. 10.0 of Section-A) of "General Terms & Conditions for Global Tenders (MM/GLOBAL/01/2005)" has been amended and the new clause is detailed in the Amendment dated 25.04.2016 issued to MM/GLOBAL/E-01/2005. **Successful bidder will be required to furnish a Performance Bank Guarantee @10% of the order value. Bidders to note the same and to confirm its acceptance in their offers**. The Bank Guarantee issued by bank must be routed through SFMS platform as per following details: a. (i) "MT760/ MT760 COV for issuance of bank guarantee (ii) MT767/ MT767 COV for amendment of bank guarantee

	The above message/intimation shall be sent through SFMS by the BG issuing bank branch to Axis Bank, Duliajan Branch, IFS Code: UTIB0001129. Branch Address: Axis Bank Ltd., Duliajan Branch, Daily Bazar, Jyotinagar, Duliajan, Dist-Dibrugarh, Pin- 786602. b. The vendor shall submit to OIL the copy of the SFMS message as sent by the issuing bank branch along with the original bank guarantee.
19.0	Bidder to sign and submit completely filled up Commercial check list and Technical Evaluation Matrix and Technical specification failing which their offer will be rejected.
20.0	**Payment terms: Refer to "General Terms & Conditions" for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders)**
21.0	**Liquidated Damage: Refer to "General Terms & Conditions" for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). In case of deduction of LD, LD amount will be deducted along with applicable rate of GST.**
22.0	Bidders are required to submit the summary of the prices in their price bids as per bid format (Summary), given below **(strike out whichever is not applicable).** **(i) Price Bid Format (SUMMARY) for Foreign Bidders:** **(A) Basic Material Value (to indicate HSN code)(item wise):** **(B) Packing & FOB charges (item wise):** **(C) Total FOB Value, A+B:** **(D) Ocean Freight Charges up to Kolkata, India (item wise):** **(E) Banking & Insurance, @1.5% of C :** **(F) CIF Value, C+D+E :** **(G) Basic Custom Duty On F:** **(H) CIF + CD Landed Value (F+G):** **(I) IGST @ 18% on H:** **(J) Compensatory Cess, if any:** **(K) CIF+CD+ GST Value, H+I+J :** **(L) Total Value:** **(M) Total Value in words :** **(N) Gross Weight:** **(O) Gross Volume :** **(ii) Price Bid Format (SUMMARY) for Indigenous Bidders:** **(A) Basic Material Value (to indicate HSN code) (item wise):** **(B) Packing & Forwarding charges, if any (item wise):** **(C) Total Ex-Works Value, A+B:** **(D) Applicable rate of GST on C:** **(E) Compensatory Cess, if any:** **(F) Total FOR Despatching Station Value, C+D+E:** **(G) Inland Freight Charges upto Duliajan, Assam including GST (item wise):** **(H) Transit Insurance Charges @0.5% on F, including GST:** **(I) Total, F+G+H:** **(J) Total Value in words :** **(K) Gross Weight:** **(L) Gross Volume:** **(M) Import Content, if any:**

23.0	The items covered by this tender will attract **Custom Duty on merit rate**. Indian bidders are required to quote **NON DEEMED EXPORT** price.
24.0	**EVALUATION OF OFFERS:** (A) The evaluation of bids shall be done as per the Price Bid Format (SUMMARY) provided as per Para 22.0 above and detailed below. (B) 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 amounts in words shall prevail and will be adopted for evaluation. (C)For conversion of foreign currency into Indian currency, B.C. selling (Market) rate declared by State Bank of India, one day prior to the date of price bid opening shall be considered. However, if the time lag between the opening of the bids and final decision exceed 3(three) months, then B.C. Selling(Market) rate of exchange declared by SBI on the date prior to the date of final decision shall be adopted for conversion and evaluation. (D)To ascertain the inter-se-ranking, bid prices shall be converted into Indian Rupees and the comparison of responsive bids shall be made as under, subject to corrections / adjustments, if any. **1. When only foreign bidders are involved:** Comparison of bids will be done on the basis of "TOTAL VALUE" as mentioned in para **22.0, (i), (K) above**. NOTE: *Banking charge in the country of the foreign bidder shall be borne by the bidder. Banking charge 1% for payment through Letter of Credit. If confirmed L/C at buyer's account is required, 1.5 % will be loaded. **2. When only domestic bidders are involved:** Comparison of bids will be done on the basis of "TOTAL VALUE" as mentioned in para **22.0, (ii), (I)** above. **3. When both foreign and domestic bidders are involved:** The Grand Total Value of domestic bidder **as per para 22.0, (ii), (I) excluding (G+H) i.e** Grand Total Value of domestic bidder excluding inland transportation charges including GST and Insurance charges including GST worked out as above and Grand Total Value of the foreign bidder worked out **as per Para 22.0, (i), (K)** will be compared. Note: When more than one domestic bidders fall within price preference range, inter-se-ranking will be done on Grand Total Value basis. If the Government of India revises these evaluation criteria the same as applicable on the bid closing date will be adopted for evaluation of the offers
25.0	**Clauses related to GST** 1. For the purposes of levy and imposition of GST, the expressions shall have the following meanings: (a) GST - means any tax imposed on the supply of goods and/or services under GST Law. (b) Cess – means any applicable cess, existing or future on the supply of Goods and

Services as per Goods and Services Tax (Compensation to States) Act, 2017.

(c) GST Law - means IGST Act 2017, CGST Act 2017, UTGST Act, 2017 and SGST Act, 2017and all related ancillary Rules and Notifications issued in this regard from time to time.

2. The rates quoted by the bidders shall be inclusive of all taxes, duties and levies. However, bidders are required to provide separately the rate and amount of all types of taxes, duties and levies. In case, the quoted information related to various taxes, duties & levies subsequently proves wrong, incorrect or misleading, OIL will have no liability to reimburse the difference in the duty/ tax, if the finally assessed amount is on the higher side and OIL will have to right to recover the difference in case the rate of duty/ taxes finally assessed is on the lower side. Further, bidders have to clearly show the amount of GST separately in the Tax Invoices. Further, it is the responsibility of the bidders to make all possible efforts to make their accounting / IT system GST compliant in order to ensure availability of Input Tax Credit (ITC) to Oil India Ltd.
3. Offers without giving any of the details of the taxes (Including rates and amounts) as specified above will be considered as inclusive of all taxes including GST. When a bidder mentions taxes as extra without specifying the rates & amount, the offer will be loaded with maximum value towards taxes received against the tender for comparison purposes. If the bidder emerges as lowest bidder after such loading, in the event of order on that bidder, taxes mentioned by OIL on the Purchase Order/ Contracts will be binding on the bidder.
4. Bidders are required to pass on the benefit arising out of introduction of GST, including seamless flow of Input Tax Credit, reduction in Tax Rate on inputs as well as final goods by way of reduction of price as contemplated in the provision relating to Anti-Profiteering Measure vide Section 171 of the CGST Act, 2017. Accordingly, for supplies made under GST, the bidders should confirm that benefit of lower costs has been passed on to OIL by way of lower prices/taxes and also provide details of the same as applicable. OIL reserves the right to examine such details about costs of inputs/input services of the bidders to ensure that the intended benefits of GST have been passed on to OIL.
5. Oil India Ltd. shall declare the value of free issue of materials and services, if any, involved in the execution of the contract. The Contractor should consider the same while working out the GST liability, if any. Further in cases where GST is leviable on any facilities provided by OIL and used by bidders and the consideration for which is recovered by OIL in the form of reduction in the invoice raised by bidders then OIL will raise GST invoices on such transactions and the same will be reimbursed by bidders.
6. **When Input tax credit is available for Set Off**
   Evaluation of L-1 prices shall be done based on Quoted price after deduction of Input Tax Credit (ITC) of GST, if available to OIL.OIL shall evaluate the offers on the basis of the quoted rates only and any claim subsequently by the bidders for additional payment/liability shall not be admitted and has to be borne by the bidders
   When Input tax credit is NOT available for Set Off
   Evaluation of L-1 prices shall be done based on Quoted price only. OIL shall evaluate the offers on the basis of the quoted rates only and any claim subsequently by the bidders for additional payment/liability shall not be admitted and has to be borne by the bidders
7. Bidders agree to do all things not limited to providing GST compliant Tax Invoices or other documentation as per GST law relating to the supply of goods and/or services covered in the instant contract like raising of and /or acceptance or rejection of credit notes / debit notes as the case may be, payment of taxes, timely filing of valid statutory Returns for the tax period on the Goods and Service Tax Network (GSTN), submission of general information as and when called for by OIL in the customized format shared by OIL in order to enable OIL to update its database etc. that may be necessary to match the invoices on GSTN common portal and enable OIL to claim input tax credit in relation to

	any GST payable under this Contract or in respect of any supply under this Contract. 8. In case Input Tax Credit of GST is denied or demand is recovered from OIL by the Central / State Authorities on account of any non-compliance by bidders, including non-payment of GST charged and recovered, the Vendor/Supplier/Contractor shall indemnify OIL in respect of all claims of tax, penalty and/or interest, loss, damages, costs, expenses and liability that may arise due to such non-compliance. OIL, at its discretion, may also withhold/recover such disputed amount from the pending payments of the bidders.
26	**Delivery period:** Bidders to categorically confirm a delivery schedule within Six (6) months, FOB Port of dispatch, after establishment of letter of credit (in case of foreign bidder) or for dispatch of the equipment within Six (6) months after receipt of formal order (in case of indigenous bidder) failing which their offer will be rejected.

ANNEXURE – II

CHECK LIST

THE CHECK LIST MUST BE COMPLETED AND RETURNED WITH YOUR OFFER. PLEASE ENSURE THAT ALL THESE POINTS ARE COVERED IN YOUR OFFER. THESE WILL ENSURE THAT YOUR OFFER IS PROPERLY EVALUATED. PLEASE SELECT "Yes" OR "No" TO THE FOLLOWING QUESTIONS, IN THE RIGHT HAND COLUMN.

A.COMMERCIAL

Sl#	REQUIREMENT	COMPLIANCE
1.0	Whether bid submitted under Single Stage Two Bid System?	Yes / No
2.0	Whether quoted as manufacturer?	Yes / No
3.0	**Whether ORIGINAL Bid Bond (not copy of Bid Bond) as per Revised Format(Annexure VII Revised) Sent separately? If YES, provide details**	Yes / No
	(a) Amount :	
	(b) Name of issuing Bank :	
	(c) Validity of Bid Bond :	
4.0	Whether offered firm prices ?	Yes / No
4.1	Whether quoted offer **validity of 120 days from** the bid closing date of tender?	Yes / No
4.2	Whether quoted a firm delivery period?	Yes / No
4.3	Whether agreed to the NIT Warranty clause?	Yes / No
4.4	Whether confirmed acceptance of Payment Terms as per NIT?	Yes / No
5.0	**Whether confirmed to submit PBG as asked for in NIT?**	**Yes / No**
5.1	**Whether agreed to submit PBG within 30 days of placement of order?**	**Yes / No**
6.0	Whether Price submitted as per Price Schedule (refer Para 12.0 of BRC vide Annexure – II)?	Yes / No
7.0	Whether quoted as per NIT (without any deviations)?	Yes / No
7.0	Whether quoted any deviation?	Yes / No
7.1	Whether deviation separately highlighted?	Yes / No
8.0	Whether indicated the country of origin for the items quoted?	Yes / No
8.1	Whether technical literature / catalogue enclosed?	Yes / No
8.2	Whether weight & volume of items offered indicated?	Yes / No
9.0	For Foreign Bidders - Whether offered FOB / FCA port of despatch including sea / air worthy packing & forwarding?	Yes / No
9.1	For Foreign Bidders – Whether port of shipment indicated. To specify:	Yes / No
9.2	For Foreign Bidders only - Whether indicated ocean freight up to Kolkata port (Excluding marine insurance) ?	Yes / No
9.3	Whether Indian Agent applicable ?	Yes / No
	If YES, whether following details of Indian Agent provided?	
	(a) Name & address of the agent in India – To indicate	
	(b) Amount of agency commission – To indicate	
	(c) Whether agency commission included in quoted material value?	

10.0	For Indian Bidders – Whether indicated the place from where the goods will be dispatched. To specify :	Yes / No
10.1	For Indian Bidders – Whether road transportation charges up to Duliajan quoted?	Yes / No
10.2	For Indian Bidders only - Whether offered Ex-works price including packing/forwarding charges?	Yes / No
10.3	For Indian Bidders only - Whether indicated import content in the offer?	Yes / No
10.4	For Indian Bidders only - Whether offered Deemed Export prices?	Yes / No
10.5	For Indian Bidders only – Whether all applicable Taxes & Duties have been quoted?	Yes / No
11.0	Whether all BRC/BEC clauses accepted ?	Yes / No
12.0	Whether Integrity Pact with digital signature uploaded?	Yes / No
12.1	**Whether all the clauses in the Integrity Pact have been accepted?**	Yes / No

B. TO BE FILLED UP IN DETAIL:

Sl No	Requirement	Bidder's Reply
01	Make and Model of the Items	
02	Bid validity	
03	Payment Terms	
04	Guarantee/Warranty Terms	
05	Delivery Period	
08	Port of Despatch / Despatching Station	
09	Confirm submission Integrity pact, if required as per NIT	
10	Confirm submission PBG, if required as per NIT	
11	Compliance to: a) Liquidated Damage b) Warranty/Guarantee c) Arbitration/Resolution of Dispute d) Force Majeure *e)* Applicable laws	
12	Exception/Deviations quoted, if	

	any, to be given in details or refer to respective page of the bid documents	

Signature _____

Name _____

Designation _____

TECHNICAL EVALUATION MATRIX (TO BE FILLED IN BY BIDDER DULY SIGNED)				
ITEM SPECIFICATION				
Clause No.	DESCRIPTION	BIDDER'S RESPONSE		
		(Complied / Not Complied / Deviation / Not Applicable)	Bidder's offer (Specification/ parameter etc)	Reference of Document name / Serial no / Page no etc of their bid for documentary evidence to support the offer / compliance
10	"Molecular Sieves are crystalline metal alumino silicate which have been used for adsorption of moisture from natural gas and also regenerated by removing their water of hydration. These are spherical shaped particle of size 1.6 mm to 5.0 mm (dia.) for dehydration of natural gas as per following specifications: PHYSICAL PROPERTIES (a) Nominal Pore size: 4 A° (Angstroms)			

	(b) Bead Shape: Spherical (c) Bead Size: 1.6 mm to 5.0 mm (dia.) (d) Moisture content @300 deg.C: less than 1.5 % by wt. (e) Bulk density: 720 g/l (f) Crushing Strength: 9 kg. (Minimum) (g) Absorption capacity for water in Wt% (10% relative humidity & 25 deg. C): 20. OPERATING CONDITIONS: (i) Process gas pressure at: (a) Inlet of Dehydrator: 41.2 Kg/cm2. (b) Outlet of dehydrator: 40.8 kg/cm2 (ii) Process gas temperature; 37.8 deg. C. (iii) Regeneration gas temperature: 290 to 300 deg.C DUTY REQUIREMENT: To dehydrate 2.215 MMSCM per day of natural gas saturated with water at above operating condition to a dew point of around minus 101 deg. C (less than 1 PPM) for a continuous 8 hour duty cycle through dehydrator vessel containing molecular sieves.			
20	Ceramic Balls, Diameter: 1/4 inch for improving the gas / liquid flow distribution in adsorber beds of dynamic adsorption processes.			
30	Ceramic Balls, Diameter: 1/8 inch for improving the gas/ liquid flow distribution in adsorber beds of dynamic adsorption processes.			
1.	**DETAILED TECHNICAL SPECIFICATION FOR**			

	MOLECULAR SIEVES & CERMAIC BALLS			
i)	Procurement of molecular sieves of 25000.00 kg, Ceramic Ball 1/4 inch of 1700 kg & Ceramic Ball 1/8 inch of 1700 kg. 1. BRIEF SPECIFICATION OF MOLECULAR SIEVE -- Molecular sieve, spherical shaped with particle size 1.6 mm to 5.0 mm (diameter) for dehydration of natural gas as per the specifications given below) : Physical Properties : a) Nominal pore size : 4 A0 (Angstroms) b) Bead shape : Spherical c) Head size : 1.6 mm to 5.0 mm (Dia.) d) Moisture Content : Less than 1.5 % by wt. at 300 Deg. C. e) Bulk Density : 720 g/l f) Crushing Strength : 9 Kg.(minimum) g) Absorption Capacity : 20 for water in wt.%(10% relative humidity & 25 deg. C). i) Max. DP across the bed at the beginning : Vendor to specify j) Max. DP across the bed at the end of service life : Max. 1.0 Kg/cm2 k) Service life expected : 04 Years (minimum)			
ii)	2. BRIEF DESCRIPTION OF DEHYDRATION & ADSORPTION PROCESS The molecular sieves shall be used for dehydration of Natural Gas in the driers (dehydrators). There are			

	two nos. of dehydrators, one is on adsorption cycle and the other is on regeneration cycle. The cycle time is 8 hours and at the end of one cycle, the bed automatically changes over to the next bed. The break up of cycle time is as under: Heat Cycle : 4 hours 30 mins. Heat off : 5 mins Cool cycle : 2 hours 53 mins Bed pressurization : 15 mins. Bed change over : 2 mins Bed depressurization : 15 mins. Inlet Gas condition Inlet Gas flow to the dehydrator : 2.215 MMSCM per day (million metric standard cubic meter per day) Gas pressure at inlet : 41.2 Kg/cm2 Gas pressure at outlet : 40.8 Kg/cm2. Gas temperature : 37.8 deg. C Moisture content : Saturated Dew point at the end of Adsorption cycle : minus 101 deg. C Average Feed gas condition in Mol. % Components Composition (vol%) Nitrogen 1.43 CO2 1.00 Methane 89.00 Ethane 4.17 Propane 2.13 i-Butane 0.47 n-Butane 0.71			

	i-Pentane 0.30 n-Pentane 0.21 Hexane + 0.48 Specific gravity: 0.6498 Regeneration Gas Condition Pressure : 12 Kg/cm2 Flow : 0.218 MMSCM per day Regen. gas temp. at drier outlet : 230 - 245 deg. C Regeneration Gas composition in Mol % Components Composition (vol%) Nitrogen 1.05 CO2 0.95 Methane 93.08 Ethane 4.29 Propane 0.62 Specific gravity: 0.5952 The Molecular sieves shall be able to withstand thermal shock generated due to heating/ cooling of bed by regeneration gas without any damage to molecular sieve. Drier Specification No. of Drier : 2 (one in line + one in Regeneration) Adsorption flow : Top to Bottom Regeneration flow : Bottom to Top No. of beds per drier : One Drier ID : 2.28 meter, (90 inch) Drier height : 4.88 meter, (192 inch)			

iii)	3. BRIEF DESCRIPTION OF LPG EXTRACTION PROCESS (for reference only) I. Introduction: OIL's LPG Recovery Plant at Duliajan, designed and commissioned in 1982 by Randall Corporation (USA), is based on turbo expander technology where natural gas in the stream becomes the refrigerant and expands isentropically to give useful energy for compression of gas. II. Design : The plant was originally designed to handle 2.215 MMSCM/day (80 MMSCFD) of natural gas to produce 60,000 TPA of 50:50 (w/w) C3:C4 LPG and 12,000 TPA of condensate on 350 days working. However, due to changes in the feed gas composition the plant design capacity has been re-rated as 50,000 TPA of 49:51 (w/w) C3 : C4 LPG and 25,000 TPA of condensate. The tonnage output was based on minimum recovery of 98% the available butanes in the feed gas. III. Process The process comprises of broadly the following: (a) Compression (b) Dehydration (c) Product extraction through: (i) On stream cooling by heat exchange (ii) Turbo expansion (iii) Removal of non-condensable and Undesired lighter fractions (d) Product fractionation (a) Compression:			

	Inlet gas at 14 Kg/cm2 enters in inlet gas compressor suction scrubber and then compressed in two stages from two different sources. First it is compressed from 14 Kg/cm2 to 33.8 Kg/cm2 in a (4 stage) centrifugal compressor driven by a 4500 HP electric motor operating on 11 KV power supply. The heat of compression is partly used in re-boiling the bottom liquid of de-ethanizer and then cooled to 37.8 degree centigrade in water cooled heat exchanger before entering the booster compressor suction scrubber. It is then compressed to 41.9 Kg/cm2 with the help of the booster compressor driven by the turbo expander. No external energy source is required for this. The compressed gas is cooled to 37.8 degree centigrade in a water cooled exchanger and then sent through an inlet filter separator wherein any water that may condense out from compression is knocked out. The gas is then dried in the dehydrators, two Nos. of which are installed for cyclic operation and regeneration. b) Dehydration: The dehydrators are filled with molecular sieve of 4 Angstrom size and contains approximate 12500 Kg. of molecular sieve in each dehydrator. The dryness obtained is to a dew point of less than -101 degree centigrade. There are two nos. of Dehydrators. While one of the dehydrators is on line for drying the inlet gas the other one goes through a cycle of heating by heated residue gas to remove the water particles retained within the molecular sieve during the previous operation and then cooling. The dehydrated gas passes through a dust filter to remove sieve dust etc.			

	(c) Product extraction: 1. The gas stream after the dust filter is split into two streams. One stream (70% by volume) exchanges heat with cold residue gas from the de-ethanizer overhead and expander separator overhead in the cold gas/gas and warm gas/gas heat exchangers. The other stream (30% by volume) exchanges heat with the cold separator liquid in the gas-liquid exchanger and also with the expander separator liquid in the de-ethanizer feed pre-heater. These two streams then combine to enter the cold separator. By this heat exchange the temperature of the inlet stream to cold separator drops down to (-47) degree centigrade and the temperature of the cold residue gas increases to 32 degrees centigrade. 2. The liquid condensed by lowering the temperature of the inlet gas is separated in the cold separator. These liquids are flashed through the de-ethanizer reflux condenser and gas-liquid exchanger into the de-ethanizer tower. 3. Inlet gas from the top of the cold separator is then allowed to expand in the turbine wheels of the single stage turbine expander to 13.7 Kg/cm2. At the other end of expander shaft is mounted the single stage booster compressor. The horse-power released by expansion is used for second stage pressure boost up. At the designed condition horse-power developed would be around 1670 HP. The expander rotates at a speed of 27,000 rpm. Due to the expansion in the turbine wheel the temperature of the gas stream drops down to around -84 degree centigrade and			

	additional liquefaction takes place. 4. The gas liquid mixture out of the expander is separated in the expander separator. Liquids thus collected, flow to the de-ethanizer feed pre-heater and then to the de-ethanizer. The non-condensed gas at the top of the expander separator goes to join the residue gas stream from de-ethanizer. (d) Product Fractionations: 1. The product fractionation consists of: (i) A de-ethanizer column with three separate packed sections and a reboiler (ii) A de-butanizer column having 34 Glitch ballast trays and reboiler provision through closed circuit hot oil systems with direct fired heater. 2. The liquids formed at the cold separator and the expander separator enter the de-ethanizer column through the pre-designed section of the column packing. By maintaining proper bottom temperature with the help of de-ethanizer reboiler and reflux, undesirably liquefied fraction of C1H4, C2H6 and the excess of C3H8 which is not required for production of LPG is knocked out from the top. This stream meets the gas stream from the expander separator and forms the residue gas for the plant. Temperature of the residues as it comes out of expander separator and de-ethanizer remains in the range of -76 degree centigrade. Before letting it out of the plant this additional refrigeration is recovered in the cold gas-gas & warm gas-gas exchangers explained earlier.			

	3. The bottom liquid from de-ethanizer flows on level control to de-butanizer tower where LPG and condensate are separated out. LPG comes out at the top which is cooled to ambient temperature and sent for storage in Bullets & Horton Spheres. The bottom condensate is similarly cooled and stored in separate storage tanks.			
SPECIAL NOTES FOR BIDDERS:				
1.	The bid shall conform generally to the terms and conditions given in this document. Notwithstanding the general conformity of the bids to the stipulated specifications, the following requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and rejected:			
2.	The bidder shall bid for all 03 (three) items mentioned in NIT. Partial bidding shall be rejected. The bidder shall qualify for all the three items and all the items shall be procured from the same bidder.			
3.	The unit of measurement of the items shall be as per item description in NIT. e.g KG.			
4.	The supplier shall agree to provide warranty/guarantee bonds of the supplied items for a period of minimum 12 months from the date of commissioning of the item.			

5.	Bidder shall also to submit Bed void volume, pressure drop, mass transfer rate calculation sheet along with the offer for our evaluation. Detail catalogue of the offered product shall be enclosed along with the offer.			
6.	The offer shall be in english language only.			
7	Inspection/ Test certificate of the supplied item shall be provided by supplier with the materials.			
8.	User's list and performance certificate of the product from users shall be submitted along with the offer.			
9.	Any deviation from tender specification must be reported in their offer.			
10.	The authorised distributor has to submit "Authorization Letter" from original Manufacturer along with offer.			
11.	Packing of materials shall be strong and sturdy enough such that it can withstand loading/unloading, pushing and crane lifting etc. and transit damage. All packings must be carried out in waterproof manner. The bidder must confirm these in their offer. In case of damage of materials during transit, the bidder shall replace the same at free of cost			

Annexure-IV

Format of undertaking by Bidders towards submission of authentic information/documents
(To be typed on the letter head of the bidder)

Ref. No_____ Date _____

Sub: Undertaking of authenticity of information/documents submitted
Ref: Your tender No._____ Dated _____

To,
The HOD-Materials
Materials Deptt,
OIL, Duliajan

Sir,

With reference to our quotation against your above-referred tender, we hereby undertake that no fraudulent information/documents have been submitted by us.

We take full responsibility for the submission of authentic information/documents against the above cited bid.

We also agree that, during any stage of the tender/contract agreement, in case any of the information/documents submitted by us are found to be false/forged/fraudulent, OIL has right to reject our bid at any stage including forfeiture of our EMD and/or PBG and/or cancel the award of contract and/or carry out any other penal action on us, as deemed fit.

Yours faithfully,
For (type name of the firm here)

Signature of Authorised Signatory

Name :

Designation :

Phone No.

Place :

Date :

(Affix Seal of the Organization here, if applicable)

********** **END OF DOCUMENT**********