

## **FORWARDING LETTER**

M/s \_\_\_\_\_

**Sub: Tender No. SDG2568P20/09 for PROCUREMENT OF ONE (01) NO. LINE TELEMETRY SEISMIC DATA ACQUISITION SYSTEM**

Dear Sirs,

- 1.0 OIL INDIA LIMITED (OIL), a “Navaratna” Category, Government of India Enterprise, is a premier oil Company engaged in exploration, production and transportation of crude oil & natural gas with its Headquarters at Duliajan, Assam. Duliajan is well connected by Air with nearest Airport being at Dibrugarh, 45 km away.
- 2.0 In connection with its operations, OIL invites International Competitive Bids (ICB) from competent and experienced manufacturers through OIL’s e-procurement site for **“PROCUREMENT OF ONE (01) NO. LINE TELEMETRY SEISMIC DATA ACQUISITION SYSTEM”**. One complete set of Bid Document for above is uploaded in OIL’s e-procurement portal. You are invited to submit your most competitive bid on or before the scheduled bid closing date and time through OIL’s e-procurement portal. For your ready reference, few salient points of the Tender are highlighted below:

E-Tender No	:	<b>SDG2568P20/09 DATED 20.09.2019</b>
Type of Bidding	:	<b>SINGLE STAGE TWO BID SYSTEM</b>
Tender Fee	:	NOT APPLICABLE
Bid Closing Date & Time	:	<b>13.11.2019; 11:00 HRS.</b>
Technical Bid Opening Date & Time	:	<b>13.11.2019; 14:00 HRS.</b>
Price Bid Opening Date & Time	:	To be decided later and shall be intimated separately to the technically qualifying bidders.
Bid Security Amount	:	<b>INR 35,00,000.00 OR USD 48,500.00</b>
Bid Security Validity	:	Upto <b>31.07.2020</b>
Bid Submission Mode	:	Bids must be uploaded online in OIL’s E-procurement portal
Bid Opening Place	:	Office of GM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.

Bid Validity	:	Bid should be valid for <b>120 days</b> from actual bid closing date.
Original Bid Security to be submitted	:	Office of GM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.
Performance Guarantee	:	<b>Applicable @ 10% of Order value</b>
Integrity Pact	:	<b>To be submitted as per attached format</b>
Pre-bid Conference		<b>Date: 15th and 16th October' 2019</b> <b>Venue: Oil India Ltd, Duliajan, Assam-786602</b> <b><u>Last date for receipt : 10.10.2019 of Pre-bid Query</u></b>
Contact Details	:	AMRIT L BORA, MANAGER MATERIALS E-MAIL: MMFD1@OILINDIA.IN; PHN: 0374-2808720
E-Tender technical Support	:	TEL: 0374- 2804903, 2807171, 2807192, E-MAIL: ERP_MM@OILINDIA.IN
Bids to be addressed to	:	GM-Materials, Materials Department, Oil India Limited, Duliajan -786602, Assam, India.
<b>LIST OF ANNEXURES APPLICABLE</b>		
General Terms & Conditions	:	MM/GLOBAL/E-01/2005 for E-Procurement ICB Tenders
Annexure-A and AA	:	Specification, price formats, checklists and various notes to bidders
Annexure-B	:	Bid Evaluation & Rejection Criteria
Annexure-C	:	Format for certificate of annual turnover & net worth
Appendix-A1	:	Format of undertaking by Bidders towards submission of authentic information/documents
Appendix-A2	:	PPLC Policy
Others	:	Any other document uploaded online in OIL's E-procurement portal.

3.0 OIL now looks forward to your active participation in the Tender.

Thanking you,  
Yours faithfully,  
OIL INDIA LIMITED

sd/-  
(Amrit Loushon Bora)  
Manager Materials(FD)  
For GM Materials  
For Resident Chief Executive

**PART- AAA :: TECHNICAL SPECIFICATIONS & QUANTITY OF ITEMS**

Sl no	Item description	Quantity
10	Supply of new generation, field proven state-of-the-art, 24 bit delta sigma technology or higher Line Telemetry data acquisition system having facility of integrating cable-less channels (nodes) with its cable part for acquiring 3D seismic data in 'Hybrid mode data acquisition' in different terrain/basins, for details refer Annexure-AA	01 No
20	Pre-despatch Inspection, for details refer Annexure-AA	01 AU
30	Training at Manufacturer's premises, for details refer Annexure-AA	01 AU
40	Installation and Commissioning, for details refer Annexure-AA	01 AU
50	Comprehensive AMC for 4 years, for details refer Annexure-AA	01 AU


**FOR TECHNICAL SPECIFICATIONS, SCOPE OF WORK, REFER TO ANNEXURE-AA**

**NOTE:**

- a) **A Pre-Bid Conference is planned to be held at Oil India Limited, Duliajan, Assam-786602 on 15th and 16th October' 2019** to explain the requirements of Company in details to the interested prospective Bidders and to understand bidders' perspective including exchange of views/clarifications, if any, on the Scope of Work, Bid Rejection/Bid Evaluation Criteria and other terms & conditions of the Tender. Bidders interested to attend the pre-bid conference as above must contact/ communicate with Manager Materials(FD), Oil India Limited, P.O. Duliajan-786602, ASSAM, Phone: 91-374-2808720, E-mail: [mmfd1@oilindia.in](mailto:mmfd1@oilindia.in) well in advance regarding the venue & other related details.
- b) Maximum two (2) representatives from each prospective bidder (authorized to participate in the tender), shall be allowed to participate in the pre-bid conference. All costs associated to attend the pre-bid conference by their representatives shall be borne by the interested Bidders.
- c) The prospective bidders may submit their queries, if envisaged against the tender conditions any, through e-mail/fax/letter to the above mentioned address at least one week prior to the date of pre-bid conference. OIL expects that the Bidders should comply to the tender conditions in toto. However, clarifications/ exceptions/deviations, if required any, should be brought out by the bidders prior to or during the Pre-Bid Conference only. After processing these suggestions, as a sequel to the pre-bid conference, Company shall communicate the changes/modifications in this regard, if agreed any, through an addendum to tender document in e-portal and thereafter Company shall be at liberty to reject all such non-compliant Bids.

**PART- BBB:: GENERAL NOTES TO BIDDERS:**

Sl No	Clause description
1.0	<p>a) Bidders without having E-tender Login ID and Password should complete their online registration at least seven (7) days prior to the scheduled bid closing date and time of the tender. For online registration, Bidder may visit the OIL's E-tender site <a href="https://etender.srm.oilindia.in/irj/portal">https://etender.srm.oilindia.in/irj/portal</a></p> <p>b) Necessary Login ID &amp; Password will be issued by OIL only after submitting the complete online registration by the Bidder. In the event of late registration/incomplete registration by Bidder, OIL INDIA LIMITED shall not be responsible for late allotment of User ID &amp; Password and request for bid closing date extension on that plea shall not be entertained by Company.</p> <p>c) MSEs Units (manufacturers/Service Providers only and not their dealers/distributors) who are already registered with District Industry Centers or Khadi &amp; Village Industries Commission or Khadi &amp; Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts &amp; Handloom or any other body specified by Ministry of MSME are exempted from payment of Bid Security (EMD) irrespective of monetary limit mentioned in their registration, provided they are registered for the item they intend to quote/participate.</p> <p>d) For availing benefits under Public Procurement Policy (Purchase preference &amp; EMD exemption), the interested MSE Bidders must ensure that they are the manufacturer/ service provider of tendered item(s) and registered with the appropriate authority for the said item(s). Bids without EMD shall be rejected, if the technical offer does not include a valid copy of relevant MSE Certificate issued by appropriate authority specifying the item as per tender. Therefore, it is in the interest of such MSE Vendors to furnish a copy of complete certificate to the concerned tender handling officer of OIL at least seven (7) days prior to the scheduled Bid Closing Date of the tender; seeking clarification/confirmation as to whether their registered item is eligible for EMD exemption or not. Late communication in this regard and request for bid closing date extension on that plea shall not be entertained by Company.</p>
2.0	<p><b>Submission of 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.</b></p> <p>a. The Bank Guarantee issued by the Bank must be routed through SFMS platform as per following details:</p> <p>(i) MT 760 / MT 760 COV for issuance of Bank Guarantee</p> <p>(ii) MT 760 / MT 767 COV for amendment of Bank Guarantee</p> <p>The above message / intimation shall be sent through SFMS by the BG issuing Bank branch to HDFC Bank, Duliajan Branch, IFS Code – HDFC0002118; SWIFT Code - HDFCINBBCAL.</p> <p>Branch Address: HDFC Bank Limited, Duliajan Branch, Utopia Complex, BOC Gate, Jayanagar, Duliajan, Dibrugarh, PIN – 786602.</p> <p>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.</p>

3.0	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.
4.0	Bid must be submitted online through OIL’s e-procurement portal. Bid submitted in any other form will be rejected.
5.0	<p>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 DGM 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.</p> <p><b>a) Original Bid Security along with two duplicate copies of Bid Security.</b>  <b>b) Any other documents which have been particularly asked for in this tender for submission.</b></p>
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 the bid closing date and time, failing which the offer shall be rejected.
7.0	<p>The tender is invited under <b>SINGLE STAGE-TWO BID SYSTEM</b>. The bidder has to submit both the “<b>TECHNO-COMMERCIAL UNPRICED BID</b>” and “<b>PRICED BID</b>” 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.</p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 30%;">Notes and Attachments</div> <div style="background-color: yellow; padding: 5px; width: 65%;">→ Only Price Details Should Be Uploaded</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 30%;">Technical attachments</div> <div style="background-color: yellow; padding: 5px; width: 65%;">→ All technical bid documents except price details</div> </div> <p style="margin-top: 20px;">Please do refer “<b>NEW INSTRUCTION TO BIDDER FOR SUBMISSION</b>” for the above two points and also please refer “<b>New Vendor Manual (effective from 12.04.2017)</b>” available in the login Page of the OIL’s E-tender Portal.</p> <div style="margin-top: 20px;">  <div style="position: absolute; top: 10px; right: 10px; background-color: orange; border-radius: 15px; padding: 10px; text-align: center; width: 150px;">       Click here for the New Manual &amp; Instruction     </div> </div>

8.0	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. <b><u>No price should be given in above Technical Rfx otherwise the offer will be rejected.</u></b> 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”.
8.1	For convenience of the qualified Bidders and to improve transparency, the rates/cost quoted by bidders against OIL’s e-tenders shall be available for online viewing by such Bidders whose price bids are opened by Company. A Bidder can view item-wise rates/costs of all other such peer bidders against the tender immediately after price bid opening, if the e-tender is floated by Company with PRICE CONDITION. In case the Price-Bid is invited by Company through attachment from under “Notes & Attachment” (i.e. NO PRICE CONDITION), Bidders must upload their detailed Price-Bid as per the prescribed format under “NOTES & ATTACHMENT”, in addition to filling up the “TOTAL BID VALUE” tab taking into account the cost of all individual line items and other applicable charges like freight, tax, duties, levies etc. Under NO PRICE condition (i.e. Price Bid in attachment form), the “Total Bid Value” as calculated & quoted by the Bidder shall only be shared amongst the eligible bidders and Company will not assume any responsibility whatsoever towards calculation errors/omissions therein, if any. Notwithstanding to sharing the “Total Bid Value” or the same is whether filled up by the Bidder or not, Company will evaluate the cost details to ascertain the inter-se-ranking of bidders strictly as per the uploaded attachment and Bid Evaluation Criteria only. Online view of prices as above shall be available to the Bidders only upto seven days from the date of Price-Bid opening of the e-tender.
9.0	PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TO BE TECHNO-COMMERCIALLY ACCEPTABLE.
10.0	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.
11.0	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.
12.0	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 OIL, failing which the offer will be summarily rejected.
13.0	Other terms and conditions of the tender shall be as per “General Terms & Conditions” for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). However, if any of the Clauses of the Bid Rejection Criteria (BRC) / Bid Evaluation Criteria (BEC) mentioned here contradict the Clauses in the “General Terms & Conditions” for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders) of the tender and/or elsewhere, those mentioned in this BEC / BRC shall prevail.

14.0	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.
15.0	Please do refer the User Manual provided on the portal on the procedure How to create Response for submitting offer.
16.0	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.
17.0	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 12 months from date of commissioning and handing over to OIL. 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.
18.0	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.
19.0	Any deviation(s) from the tender specification should be clearly highlighted specifying justification in support of deviation.



20.0	<p>The Integrity Pact is applicable against this tender. OIL shall be entering into an Integrity Pact with the bidders as per format enclosed. 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.</p> <p>OIL's Independent External Monitors at present are as under:</p> <p>SHRI RUDHRA GANGADHARAN, IAS (Retd.), Ex-Secretary, Ministry of Agriculture e-Mail ID : <a href="mailto:rudhra.gangadharan@gmail.com">rudhra.gangadharan@gmail.com</a></p> <p>SHRI RAJIV MATHUR, IPS (Retd.), Former Director (IB) Govt. of India e-Mail ID : <a href="mailto:rajivmathur23@gmail.com">rajivmathur23@gmail.com</a></p> <p>SHRI JAGMOHAN GARG, Ex-Vigilance Commissioner, CVC e-Mail id : <a href="mailto:jagmohan.garg@gmail.com">jagmohan.garg@gmail.com</a></p>
21.0	<p><b>Original Bid Closing Date shall be considered by OIL for evaluation of BRC Criteria in case of any extension of the original bid closing date.</b></p>
22.0	<p>Performance Security clause (Clause No. 10.0 of Section-A) of "General Terms &amp; 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/01/2005. <b>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.</b></p> <p>a. The Bank Guarantee issued by the Bank must be routed through SFMS platform as per following details:</p> <p>(i) MT 760 / MT 760 COV for issuance of Bank Guarantee</p> <p>(ii) MT 760 / MT 767 COV for amendment of Bank Guarantee</p> <p>The above message / intimation shall be sent through SFMS by the BG issuing Bank branch to HDFC Bank, Duliajan Branch, IFS Code – HDFC0002118; SWIFT Code - HDFCINBBCAL.</p> <p>Branch Address: HDFC Bank Limited, Duliajan Branch, Utopia Complex, BOC Gate, Jayanagar, Duliajan, Dibrugarh, PIN – 786602.</p> <p>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.</p> <p>Note: Since the tender have provisions to avail AMC at discretion of OIL, upon finalization of AMC Contract, successful bidder have to submit a separate security deposit in the form of Bank Guarantee of amount 10% of annualised AMC Contract value with validity for entire execution of the contract.</p>
23.0	<p>Bidder to sign and submit completely filled up Technical &amp; Commercial check list failing which their offer will be rejected.</p>



24.0	<p><b><u>Payment terms:</u></b></p> <p>i) 80% of the material value shall be paid against proof of dispatch/shipment of the goods.</p> <p>ii) Remaining 20% of the supply value along with commissioning charges shall be paid after successful commissioning and acceptance of the unit by OIL.</p> <p>iii) Training &amp; Pre-despatch inspection charges will be paid only after successful completion of training &amp; pre-despatch inspection.</p> <p>iv) AMC charges quoted will be released in quarterly basis in equal installments after successful completion of each quarter i.e. payment @ 25% of AMC charges will be released at the end of 1st, 2nd, 3rd and 4th quarter of each year. OIL will enter into separate contract for AMC and the rate quoted by the bidder for the AMC should be kept valid for the entire period of AMC.</p> <p>Bidders must confirm acceptance of above payment terms in their technical bid while quoting.</p>
25.0	<p><b>Liquidated Damage:</b> Refer to “General Terms &amp; Conditions” for e- Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders). The applicable GST on the Liquidated Damage shall have to be borne by the seller. Accordingly, the Liquidated Damage shall be recovered from the seller along with applicable GST.</p>
26.0	<p><b>The items covered in this Tender shall be used by Oil India Limited in the PEL/ML areas and hence Nil rate of Customs Duty towards import (for foreign bidders) and concessional GST @5% (for foreign &amp; indigenous bidder) will be applicable as per Govt. Policy in vogue.</b></p> <p><b>Overseas Bidders are not required to include Customs Duty and IGST components in their quoted cost, since all applicable taxes &amp; Duties in India shall be to the account of Oil India Limited.</b></p> <p><b>In the event of an order on indigenous bidder, OIL will issue Project Authority Certificate (PAC) under Deemed Export Benefit Scheme, where import content is declared by the bidder for availing Custom Duty benefit on the import content.</b></p> <p><b>Supplier shall arrange to provide all necessary documents (invoice etc.) to OIL for applying Essentiality Certificate on receipt of request from OIL, if any. Further, Suppliers shall affect dispatch only on receipt of relevant certificates/shipment clearance from OIL, failing which all related liabilities shall be to Supplier’s account.</b></p>
27.0	<p>Bidders to note that Ministry of Petroleum &amp; Natural Gas, Government of India implemented PPLC Policy to provide Purchase Preference (linked with local content) by notification no. Ref. O-27011/44/2016-ONG-II/FP dtd.25.04.2017. Bidders are requested to take note of the same and to submit their offers accordingly wherever applicable. Policy details are available in APPENDIX-A2</p>

28.1	<b>In case of placement of order, OIL reserves the right to convert the order from FOB Port of export to C&amp;F Kolkata term considering the ocean freight quoted by the party in their offer. In case the order is converted to C&amp;F Kolkata Port, the performance security amount shall also be enhanced considering the quoted ocean freight charges.</b>
28.2	<b>Bidder should confirm in their quotation that in case of C&amp;F order, their nominated freight forwarder should provide Delivery Order under Single Window facility having office of local agent in India at Kolkata and offer 14 days free detention time of containers at discharging port.</b>
29.0	<b>FURNISHING FRAUDULENT INFORMATION/ DOCUMENT: If it is found that a Bidder has furnished fraudulent document/information, the Bid Security/Performance Security shall be forfeited and the party will be debarred for a period of 3(three) years from date of detection of such fraudulent act, besides the legal action. In case of major and serious fraud, period of debarment may be enhanced. In this regard, bidders are requested to submit an Undertaking as per Appendix-A1 along with their offer failing which their offer shall be liable for rejection.</b>

31.0	<p><b>Clauses related to GST</b></p> <ol style="list-style-type: none"> <li>For the purposes of levy and imposition of GST, the expressions shall have the following meanings: <ol style="list-style-type: none"> <li>GST - means any tax imposed on the supply of goods and/or services under GST Law.</li> <li>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.</li> <li>GST Law - means IGST Act 2017, CGST Act 2017, UTGST Act, 2017 and SGST Act, 2017 and all related ancillary Rules and Notifications issued in this regard from time to time.</li> </ol> </li> <li>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 &amp; 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.</li> <li>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 &amp; 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.</li> <li>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-Profitteering 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.</li> <li>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.</li> <li><b>When Input tax credit is available for Set Off</b> 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</li> </ol>
------	---

**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.

## **Appendix-A1**

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)

**BID EVALUATION CRITERIA (BEC)/BID REJECTION CRITERIA (BRC)**

The bids shall conform to the specifications and terms & conditions given in the Tender. Bids shall be rejected in case the items offered do not conform to the required parameters stipulated in the technical specifications and to the relevant international/national standards wherever stipulated. Notwithstanding the general conformity of the bids to the stipulated specifications and terms & conditions, the following requirements must be particularly met by the bidders, without which the offer shall be considered as non-responsive and rejected:

**BID REJECTION CRITERIA (BRC):****A.1 TECHNICAL:****1.0 BIDDER'S ELIGIBILITY:**

- 1.1 The bidder should be an **Original Equipment Manufacturer (OEM)** of the offered item(s).
- 1.2 The offers must be made for telemetry data acquisition system with operation in wire line mode having facility of working in hybrid mode operation as stated in the technical specifications (Section-I of Annexure-AA).
- 1.3 The system must have capability of upgradation to higher channel capacity. It should offer the facility for recording data using analog geophones of 10 Hz.
- 1.4 Bidders to provide cable-less nodes as part of hybrid system stipulated in the technical specifications (Section-I of Annexure-AA).
- 1.5 Bidders must quote for all items and undertake that they would carry out installation/commissioning of all equipment including the third party items. The bidder should guaranty support for the same for minimum 7 (seven) years from the date of commissioning with regard to providing service, spares and consumables.
- 1.6 Graphical display of ground spread configuration and fault status of data acquisition station units to be provided.
- 1.7 The system should have extensive line management facility including "Look ahead" and "Look back" facilities.
- 1.8 The data acquisition station units/links offered should be in accordance with the clause 2.9 of Section -I of Annexure-AA.
- 1.9 Complete list of spares to be supplied along with individual price against spare kit for central controlling/recording unit and peripherals should be attached separately. Prices should be shown in the priced bid only.
- 1.10 Bidder must have atleast (01) one authorized support center in India to provide immediate maintenance and repairing services.
- 1.11 The equipment specifications must be provided as per bid format and all the columns of the "Technical Check list" and "Price schedule", enclosed as Section-III and Section-IV respectively, should be filled in properly. However, prices should be kept blank in the technical bid.

- 1.12 Acceptance test: The bidder should undertake to completely assemble the system including shock proof & mounting of the same in cabin on the truck along with integration of different peripherals/items such as plotters, printers, Tape drives, external storage systems, power supplies generator etc. so that the system becomes ready for deployment in the field after commissioning.

## **2.0 BIDDER'S EXPERIENCE:**

- 2.1 The bidder must have experience in manufacturing of both line telemetry and cable less system. Documentary evidence to substantiate manufacturing experience as above must be submitted in the form of self –certified copy which should be on the letter head and duly signed and sealed by CEO/CFO/any other person who holds the Power of Attorney of the company or by the statutory Auditor. A copy of Power of Attorney shall also be submitted for the same.
- 2.1 The bidder must have the experience of successful supply and commissioning of minimum 01 (one) No. of the tendered item/similar item\*\* in the last 05 (five) years preceding from the original bid closing date of this tender.

*(Similar item\*\*: All the items are required to be as per the maximum/minimum parameters stipulated in the technical specifications given in the tender).*

The following documentary evidences to substantiate experience records of the Bidder must be submitted alongwith the technical bid, failing which the Bid shall be treated as incomplete and rejected:

- (a) Copy of Purchase order(s)/contract(s) awarded by Client(s)
- (b) Any one or combination of the following documents that confirms the successful execution of each of the purchase order(s) / contract(s) -
  - True copies of Original Signed and sealed Completion report/performance certificate from the clients (on Client's/User's official letter head with signature & stamp) duly notarized by Government Notary.
  - OR**
  - Copy of Bill of Lading
  - OR**
  - Copy of Consignee delivery receipts/challans
  - OR**
  - Copy of Tax Invoice/Excise Gate Pass issued under relevant Act/rules
  - OR**
  - Copy of Commercial Invoice/Payment Certificate

### **NOTES:**

- [i] The Purchase Orders/contracts date need not be within 5 (five) years preceding original bid closing date of this tender. However, the execution of supply must be within 5 (five) years preceding the original bid closing date of this tender.**
- [ii] In the event of any extension to the bid closing date of the tender, the original scheduled bid closing date shall be considered for evaluation of BRC clauses.**
- [iii] Against all supporting documents submitted by the bidder alongwith the technical bid, originals must be kept ready and to be produced for verification of OIL, if called for.**
- [iv] Systems sold to its own subsidiary will not be accounted as supply experience.**



- 3.0 The Bid along with all technical documentation must be in English Language.
- 4.0 The bidder must submit full technical literature of the offered item(s) as per the Tender requirements along with the technical bid. The bidder's offer must meet all the technical specifications mentioned against each item of the tender document.
- 5.0 The truck, equipment, Tools and all test equipment offered must be brand new, unused and **not manufactured before one year** prior to the date of placement of order (LOI) and of highest standard of the present day oil and gas geophysical industry. All items necessary for safe and economic operations by the unit are to be included in the bid irrespective of whether they are mentioned explicitly or not in this document. The system and its sub-systems should be engineered to make it easily adaptable for future up-gradations. Bidder must submit an undertaking to this effect along with their technical bid.
- 6.0 Bid evaluation will be done only for those bids which offer full quantities of goods as mentioned in the Tender document. Hence, all materials as indicated in the material description of the tender should be offered. However, if any of the items mentioned in the tender are not quoted by the bidder as they are not required for the type of equipment offered by the bidder, the bidder must mention the same in the bid document. Also, if any alternate items are required against such unquoted items, the bidder must quote those alternate items with an appropriate note. In absence of such declaration by the bidder against the unquoted items (if any) in its bid, it will be presumed that the bidder has not offered these items and the bid will not be considered for evaluation.
- 7.0 **Delivery:** Time is of the essence and materials must be supplied within Six (6) months in the event of an order. Therefore, Bids submitted by Bidders quoting delivery schedule more than Six (6) months shall not be accepted. Overseas Bidders must quote shipment (FOB/CIF) within Six (6) months from the date of opening of Letter of Credit by OIL and indigenous Bidders must quote delivery/despatch within Six (6) months from the date of placement of order by OIL. In case of offers of composite nature having supply of both indigenous and foreign items, it will be the sole responsibility of the bidder to co-ordinate for effecting delivery/despatch of goods within Six(6) months from placement of order for the purpose of ensuring delivery of all the ordered items simultaneously at OIL Duliajan.

**(A.2) BRC - FINANCIAL:**

- 1.0 The bidder shall have an annual financial turnover of minimum US\$ 17,22,000.00 or Rs. 1,250.00 Lakhs during any of the preceding 3 (Three) financial/accounting years reckoned from the original bid closing date of the tender.
- 2.0 "Net Worth" of the bidder must be positive for the financial/accounting year just preceding to the original Bid Closing Date of the Tender **(i.e., Year 2018-19)**.
- 3.0 Considering the time required for preparation of Financial Statements, if the last date of preceding financial/accounting year falls within the preceding six months reckoned from the original bid closing date and the Financial Statements of the preceding financial/accounting year are not available with the bidder, then the financial turnover of the previous three financial/accounting years excluding the preceding financial/accounting year will be considered. In such cases, the Net worth of the previous financial/accounting year excluding the preceding financial/accounting year will be considered. However, the bidder

has to submit an affidavit/ undertaking certifying that 'the balance sheet/Financial Statements for the financial year 2018-19 has actually not been audited as on the original bid closing date'.

**Note:**

- a) For proof of Annual Turnover & Net worth any one of the following document must be submitted along with the technical bid:-
    - i) A certificate issued by a practicing Chartered Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual Turnover & Net worth as per format prescribed in ANNEXURE-C.
    - OR
    - ii) Audited Balance Sheet alongwith Profit & Loss account. In case of foreign bidders, self-attested/digitally signed printed published accounts are also acceptable.
  - b) In case the bidder is a Central Govt. Organization/PSU/State Govt. Organization/Semi-State Govt. Organization or any other Central/ State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.
- 4.0 In case the Audited Balance Sheet and Profit & Loss Account submitted along with the bid are in currencies other than INR or US\$, the bidder shall have to convert the figures in equivalent INR or US\$ considering the prevailing conversion rate on the date on which the Audited Balance Sheet and Profit & Loss Account is signed. A CA certificate is to be submitted by the bidder regarding converted figures in equivalent INR or US\$.

**(A.3) BRC – COMMERCIAL:**

Commercial Bid Rejection Criteria will be as per Section D of General Terms & Conditions of Global Tender (MM/GLOBAL/E-01/2005) with following Special Bid Rejection Criteria.

- 1.0 Bids are invited online under **Single Stage Two Bid System**. Bidders must prepare the Techno-Commercial Bid (Unpriced) as well as the Priced Bid separately and upload both these bids in OIL's e-procurement portal at the designated fields separately assigned. **Please note that no price details should be furnished in the Technical (i.e. Unpriced) bid.** The "Unpriced Bid" shall contain all techno-commercial details except the prices/costs. The rate and amount columns in the unpriced technical bid must be kept blank. The "Price Bid" must contain the price schedule and the bidder's commercial terms and conditions. Bidder not complying with above submission procedure will be rejected.
- 2.0 The prices/rates offered against the tender must remain firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price condition shall be treated as non-responsive and rejected. No discount whatsoever should be quoted separately. Rates/prices quoted must be net of all discount.
- 3.0 Bids received in physical form against online invitation shall be rejected (except the documents specifically called for in hard copies, if any). Also, modifications to bids received after the bid closing date & time shall not be entertained.
- 4.0 Bids containing incorrect/false/misleading statement(s) shall be rejected.

- 5.0 Validity of the bid shall be **minimum 120 days** from the date of actual Bid Closing Date. Bids with lesser validity shall be straightway rejected.
- 6.0 Bid Security (EMD) as applicable must either be deposited through online payment gateway or submitted to OIL in the form of original Bank Guaranty (hard copy) on or before the scheduled Bid Closing date of the Tender. The Validity and Amount of Bid Security (EMD) must be strictly as specified in the covering letter of this bid document. Bid shall be rejected without further reference, if the Bid Security (EMD) is not received strictly as above, except where exempted. OIL will not assume any responsibility whatsoever for submission of deficient/faulty Bid Security or for delay/non-delivery of the same.
- 6.1 For exemption for submission of Bid Security please refer Clause No. 9.8 (Section A) of “General Terms & Conditions” for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005 for E-procurement (ICB Tenders).
- 7.0 Bidders must confirm that goods/materials to be supplied against the order arising out of this tender shall be of recent make, unused, of the best quality & workmanship and free from defects. The Bidder must undertake to stand guaranteed the supplies for a period of twelve (12) months from the date of commissioning, against any defects arising from faulty materials, workmanship or design. Defective goods/materials rejected by OIL, whether the entire lot or part thereof, shall be replaced immediately by the supplier at the supplier’s expenses at no extra cost to OIL.
- 8.0 Successful bidder shall be required to furnish a Performance Security equivalent to ten percent (10%) of total evaluated value of Order within 30 days of receipt of LOI/notification of award. The Performance Bank Guaranty must remain valid throughout the period of execution, including extension if any. Non-submission of Performance Security as above by the successful Bidder shall lead to cancellation/termination of award including forfeiture of their Bid Security, besides other penal actions as per OIL’s Banning Policy. Bidders should undertake in their bids to submit Performance Security as stated above
- (Note: Since the tender have provisions to avail AMC at discretion of OIL, upon finalization of AMC Contract, successful bidder have to submit a separate security deposit in the form of Bank Guarantee of amount 10% of annualised AMC Contract value with validity for entire execution of the contract.)
- 9.0 Online Bid must be uploaded together with the Integrity Pact and the same must be duly signed digitally. If any bidder refuses to sign Integrity Pact or declined to submit Integrity Pact with the offer, their bid shall be rejected straightway.
- 10.0 Bidder must quote for all items and services being sought for in the tender, failing which the bid shall be treated as incomplete and will merit for rejection straightway.
- 11.0 Bidders are required to submit the summary of the prices in their price bids as per bid format (Summary), provided vide PART-BB of SECTION-IV of ANNEXURE-AA

12.0 Bidders shall accept and comply with the following clauses as given in the Bid Document, failing which bid shall be liable for rejection:

- i) Liquidated Damages
- ii) Warranty/Guarantee of material
- iii) Arbitration / Resolution of Dispute
- iv) Force Majeure
- v) Applicable Laws

13.0 A bid shall be rejected straightway if it does not conform to any one of the following clauses:

- a) Validity of bid shorter than the validity indicated in the Tender.
- b) Original Bid Security not received within the stipulated date & time mentioned in the Tender.
- c) Bid Security with (i) validity shorter than the validity indicated in Tender and/or (ii) Bid Security amount lesser than the amount indicated in the Tender.

#### **BID EVALUATION CRITERIA:**

The bids conforming to the specifications, terms and conditions stipulated in the enquiry and considered to be responsive after subjecting to the Bid Rejection Criteria will be considered for further evaluation as per General Terms and Conditions for Global Tender and the Bid Evaluation Criteria given below:

- 1.0 The evaluation of bids shall be done as per the Price Bid Format (SUMMARY) provided in the Tender and detailed below
- 2.0 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.
- 3.0 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.
- 4.0 To ascertain the inter-se-ranking, the comparison of the responsive bids will be made as under, subject to corrections / adjustments given herein.
  - a) Domestic Bidders must quote inland freight charges upto Duliajan. In case bidder fails to quote inland freight charges, highest freight quoted by domestic bidder (considering pro-rata distance) against this tender or OIL's estimated freight, whichever is higher, shall be loaded to their offer for comparison purpose.
  - b) For enquiries with duty exemption benefit – The items covered under this enquiry shall be used by OIL in the PEL/ML areas and hence, applicable customs duty for import of goods shall be zero in case of Foreign Bidders. However, IGST @5% shall be applicable. Indigenous bidder shall be eligible for concessional rate of GST @5% against Essentiality Certificate.

**4.1 When only foreign bidders are involved:**

For evaluation of each individual items, Total value as per para **Part-BB of Section-IV (i) R** will be compared.

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. And 1.5 % if confirmed LC at buyer's account is required.

**4.2 When only domestic bidders are involved or when more than one domestic bidders are in contention in case of mixed response:**

For evaluation of each individual items, Total value as per para **Part-BB of Section-IV (ii) S** will be compared.

**4.3 When both foreign and domestic bidders are involved:**

For evaluation of each individual items, Total value as per para **Part-BB of Section-IV (i) R of Foreign Bidders** will be compared with Total value as per para **Part-BB of Section-IV (ii) S (excluding F, G, H & I) of Domestic Bidders.**

Note: 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.

- 5.0 Other terms and conditions of the enquiry shall be as per General Terms and Conditions for Global Tender. However, if any of the Clauses of the Bid Rejection Criteria / Bid Evaluation Criteria (BEC / BRC) mentioned here contradict the Clauses in the General Terms & Conditions of Global Tender of the tender and/or elsewhere, those mentioned in this BEC / BRC shall prevail.

\*\*\*\*\* **END OF ANNEXURE – B** \*\*\*\*\*

**CERTIFICATE OF ANNUAL TURNOVER & NET WORTH**

TO BE ISSUED BY PRACTISING **CHARTARD ACCOUNTANTS' FIRM** ON THEIR LETTER HEAD

**TO WHOM IT MAY CONCERN**

This is to certify that the following financial positions extracted from the audited financial statements of M/s.....(Name of the bidder) for the last three (3) completed accounting years upto..... **(as the case may be)** are correct

<b>YEAR</b>	<b>TURN OVER In INR (Rs.) Crores/ US \$ Million) *</b>	<b>NET WORTH In INR (Rs.) Crores / US \$ Million ) *</b>

\*Rate of conversion (if used any): USD 1.00 = INR .....

Place:

Date:

Seal

Membership No:

Registration Code:

Signature

**\*Applicable only for GLOBAL tenders**

**OIL INDIA LIMITED**  
**DULIAJAN, ASSAM**

**PROCUREMENT OF ONE NUMBER OF 3D SEISMIC DATA ACQUISITION  
SYSTEM**

**ANNEXURE-AA**  
**To**  
**TENDER NO. SDG2568P20/09**

**DEATAILS OF ENCLOSURES**

1. Technical specifications : Section-I

Main Seismic Data Equipment	Section IA
Cable less part of Equipment	Section IB
Peripherals	Section IC
Ground Electronics For Line Telemetry Equipment	Section ID
Recorder Cabin and Truck	Section IE
Generator	Section IF
Consumables, Spares and Repair Kit	Section IG
Pre dispatch Inspection, Delivery, Installation and Commissioning & Training	Section IH
Warranty & AMC	Section II

- |                          |               |
|--------------------------|---------------|
| 2. Commercial Check List | Section - II  |
| 3. Technical Check List  | Section - III |
| 4. Price Schedule        | Section - IV  |



## **SECTION- I**

### **TECHNICAL SPECIFICATIONS OF ONE (01) NUMBER OF 3D SEISMIC DATA ACQUISITION SYSTEM**

#### **1.0 SCOPE**

One (1) no. of new generation, field proven state of-the-art, 24 bit delta sigma technology or higher Line Telemetry data acquisition system having facility of integrating cable-less channels (nodes) with its cable part for acquiring 3D seismic data in '**Hybrid mode data acquisition**' in different terrain/basins. The detailed specification of the equipment is as follows:

#### **2.0 GENERAL**

**2.1** The Seismic Data Acquisition System shall have capability of **hybrid mode** operation in land seismic data acquisition (with deployment Cabled and Cable-less sensors simultaneously under the same shooting template (recording spread)). The system shall offer:

- Single point platform (Common Central Platform) to allow recording of seismic data of a shot (source) simultaneously in both Cabled and Cable-less recording channels (sensors) deployed in the acquisition spread.
- Capability of producing complete seismic record (shot-gathers etc.) comprising (integrating) the data from Cabled and Cable-less sensors active under the recording spread (shooting template).

The seismic data acquisition system shall have complete adaptability for any survey size, for any source for any condition and for any terrain.

**2.2** The seismic data acquisition system should be complete as per specifications/detail requirement given herewith (underneath) and be ready for the deployment in the field. The system should comprise of all basic components and other necessary ancillary hardware & software components fully compatible with offered ground electronics, shooting system, data harvesting device and communication devices etc. for full-fledged multiline field operation.

**2.3** Irrespective of the specifications/detail requirement given herewith (underneath) vendor should ensure that the system is fully operational with deployment of 6000 channels (5000 channels of line telemetry system & 1000 channels of cable-less system i.e. system should be capable of handling both cabled & cable less channels deployed under single acquisition spread). If any additional items are required for the purpose, vendors need to provide / quote the same.

**2.4** The acquisition system offered should be of the **latest make & model** available at the time of bid submission.

- 2.5** The seismic data acquisition system should be capable of multi-line operations and shall allow selection of requisite nos. of channels per line/swath for 3D seismic work. The system implies, unless otherwise explicitly mentioned, recording equipment (Clause 3.0 of Section IA), cable less equipment (Item 4.0, section IB), ground electronics for line telemetry equipment (item 11.0, section 1D), data harvesting unit, data integration & transcription unit (item 4.1. and 4.2, section IB), and product support (item 21.0 & 22.0, section IG) capable of recording 3D seismic data.
- 2.6** The system should have the capability of up gradation to higher channel capacity up to minimum 10,000 channels (for both line telemetry part and cable-less part).The system should also have a capability to record data using mix of geophones and hydrophones within the same acquisition spread.
- 2.7** The system should work on a user-friendly menu driven software. The details of the software along with number of channels supported per license for data acquisition should be enclosed in the documentation with the offer. The details of all the other offered software required for field QC status, field management, shooting operation and data harvesting / data transcription etc. along with licenses should also be documented & enclosed with the offer.
- 2.8** Easy to use graphical user Interface in real time mode. Capability of providing graphical & numeric display of the acquisition spread configuration and on the fly status and fault detection of data acquisition station units/links, telemetry cables, Crossing Station Units, Power Supply Units, Batteries, Geophones, Instrument test results etc. in real time mode. For the cable less part, GPS (Global Positioning System), Battery, Sensor Status and self-diagnostic test of unit(s) will be required.
- 2.9** Appropriate number of Data Acquisition Station Units/Links should be supplied as mentioned vide item 11.1, Section-ID.
- 2.10** The data acquisition station units/links, ground electronics for land / Marshy Area seismic should be rugged for field use and should be waterproof up to minimum one (01) meter.
- 2.11** All the peripheral equipments and accessories offered along with the seismic data acquisition system and ground electronics should also be of the brand new, **latest make & model** available at the time of bid submission if otherwise not stated specifically.
- 2.12** If the company desires to buy any additional items (manufacturer items) quoted in the bid after the placement of firm order to the respective bidder; the bidder shall provide the items at the same rate, terms & condition to Oil India Limited (OIL) irrespective of the quantum. However, this order will be placed within Three (03) years from the date of placement of firm order. For the third party equipment/software the item will be supplied either equivalent or upgraded as per available in the market.
- 2.13** The acquisition system should support impulsive energy source (Dynamite) controller as well as non-impulsive energy source (Vibrator) controller during seismic data acquisition.
- 2.14** The system must be fully scalable.

- 2.15** The central recording system should (including man-machine interface /operator console) be duly interfaced and hooked up with the seismic data storage device (Rugged Internal Storage devices or External Storage Devices with RAID 5 & RAID 1 or higher available configurations respectively), shooting systems, radios for two way communication, peripheral equipments like plotters, LED or higher monitors (to display operational, test and Quality Control data), and other modules / accessories necessary to operate the system optimally as per the specifications/requirements. The Central recording system should be mounted on suitable shock mounts so as to withstand the shocks & vibrations encountered during transportation in cross country. The entire central recording system should be mounted in an adequately & properly air-conditioned cabin.
- 2.16** Central Controlling/recording unit should be capable of initializing and setting up of recording parameters of the data acquisition units/Links.
- 2.17** The system is broadly inclusive of the following modules:
- Central Recording Unit (combination of hardware & software)
  - Line Telemetry part (Cabled channels)
  - Cable-less part (Cable-less channels)
  - Data Harvesting & Data Integration facility and Transcription unit (combination of hardware & software)
  - Source Encoder & Decoder system
  - Up-hole/ LVL Recording Equipment
  - Radio Communication system (walkie-talkie etc.)
  - Instrument Cabin Truck (for Central Recording Unit), Genset and Genset mounted Truck.
  - Cabin for data harvesting/data coping facility

## **SECTION-IA**

### **3.0 MAIN SEISMIC DATA EQUIPMENT**

#### **3.1 CENTRAL RECORDING / CONTROLLING UNIT (CRU) – 2 Nos.**

The central recording system with minimum components:

- a) Central Station Computer
- b) Quality Control Computer ( Real time data QC)
- c) Central Radio Unit
- d) Suitable Communication Tools
- e) Source Encoder/Decoder
- f) Data storage devices

#### **3.2 CENTRAL CONTROLLING/RECORDING UNIT (CRU) – 2 Nos.**

- Channel capacity - Software License for Recording 10,000 channels at 2ms Sample Interval (SI) for both impulsive and non-impulsive operation.
- Multiline capacity - minimum 16 seismic lines.
- Sample Interval - 0.5, 1, 2 and 4 milliseconds.
- Recording Length - Selectable up to 20 seconds or more @ 2ms SI.
- Auxiliaries Channels -  $\geq 4$

**3.2.1** The CRU should have all the required hardware and software for displaying seismic data on the monitors and it should be possible to take hard copy print & plots as well in a real time mode. The CRU should be capable to give the monitor records (hard copy) of all the active channels in a real time mode as each shot is taken. The system should also be capable to reproduce the monitor records of each shot with different gain, filters etc. during the time of recording in the field.

**3.2.2** The System shall offer capability of continuing (allowing) shooting and seamless data transmission to CRU in occasion of multiple cuts /disruption of the cables in the acquisition spread. The system shall have **fault tolerant architecture** to allow all data handling elements to communicate with each other to transmit data seamlessly, at high speeds and without interruption. The system shall ensure non-stop production by featuring local data storage/rerouting, and new levels of redundancy. The system shall have intelligent network that allows troubleshooting and testing of the line to be carried out during production to minimize downtime. The system shall have capability of continuous real time System QC (Battery Status, Sensor Status etc.).

- 3.2.3 Data recording** - Data recording facility in the CRU to be provided on one of the following:

Internal hard disk with RAID 5 or higher configuration having actual storage capacity of minimum 4 TB or more

**Or**

External Storage devices (NAS storage or equivalent) with RAID 1 or higher configuration and storage capacity of minimum 4 TB or more

Note: For either of the option offered as mentioned it is a prerequisite that redundancy & integrity of the recorded data is maintained.

- 3.2.4 Recording Format** - SEG Y and / or SEG D **(Rev.3.0)**

- 3.2.5** System and the associated application software should have the facility for Import & Export of Receiver, Source & Relation files in industry standard formats (viz. SPS, SEG-P1, PRJ files etc.), logging of observer's parameters etc.

- 3.2.6** The system shall have map facility to display on QC monitor on which positions of the devices laid out in the field to be displayed. These can include any combination of cable station and nodal stations. All station types are to be displayed and to be managed from a single map display allowing the complete project to be viewed and managed from a single display. In addition, background images can be loaded to provide project aware context relative to the field operation.

- 3.2.7** Facility for self-diagnostic and fault detection for Central Recording Unit and field units along with instrument test data analysis.

- 3.2.8** GUI based system management facility with easy to use graphical user Interface. Capability of providing graphical & numeric display of the acquisition spread configuration. Provide on the fly QC (Quality) status and fault detection of various field units. Minimum Four numbers (4 Nos.) of color LED monitors [size 20 inch or higher flat screen] should be provided to the observer for spread management, source operation control, monitoring of tape / storage utilities, quality control, analysis of test data etc.

- 3.2.9** The system & application software should be capable of providing real time source positions when used with GPS based shooting systems.

- 3.2.10** The system should be complete with hardware & application software, required for operations, maintenance and management of acquisition spread deployed in the field. The system should have extensive line management facility with features (including Looking back and looking forward facilities) of monitoring the complete spread for both line telemetry as well as the cable-less part (for status of Nodes). The system shall have features of project configuration and database management.

**3.2.11 System test for part should include-**

- leakage, continuity,
- impulse response,
- sensor resistance,
- battery voltage status,
- noise and distortion,
- cross feed isolation(If applicable)
- GPS status (if applicable)
- Hardware diagnostic tests etc.

**3.2.12 The system should support playback facility for the following:**

- Tape Media write bypass facility for system tests.
- Obtaining field monitors with and without AGC and with various setting of filter and gains data routing/re-routing facility for detouring / obstruction management in the field.

**3.2.13 DVD Writer** - DVD R/W or DVD R drive should be interfaced with the system to load application software as and when required.

**3.2.14 User Interface** - Graphical Users Interface with keyboard, mouse and LED Color monitor [size 20 inch or higher] and all other associated accessories. (Refer item no. 3.2.8)

**3.2.15 Shot to Shot time** - Shot to Shot time for 6000 channels at 2ms, with minimum 6 sec Record Length should not be more than 30 seconds.

**3.2.16 Blaster support** - The system should support GPS based multiple radio blasters and the GPS based shooting systems should enable precision Positioning of shot co-ordinates with a positional accuracy of less than 2 meters.

**3.2.17 Power Requirement** - SMPS should be provided for operating the system on 220 V AC + 10% & 50 Hz  $\pm$  1 Hz.  
- Additionally the power system should also provide 12VDC required for operating equipments mounted in the cabin viz. shooting system, communication radio etc.

**3.2.18 Operating Environment-** The central controlling / recording unit should be able to withstand operating temperature from -20°C to 60°C and 5 to 90% relative humidity (non-condensing)

**3.2.19 Online QC**

1. An Online QC system with requisite hardware and software should be provided for carrying out real-time quality control of the seismic data acquired in the cable part of the field.
2. The QC system should be hooked with the CRU with all the required accessories & interfaces.
3. The offered QC system (Hardware, Software) should have the following capabilities (if Applicable).

4. Multi window environment with an interactive & continuous QC analysis of seismic data.
5. Display of high-resolution seismic records.
6. Display of seismic traces with AGC, Filtering etc., Computation and Display of attributes viz. signal to noise ratio, detailed trace QC, ambient noise level etc.,
7. Qualitative & Quantitative analysis of various attributes, which aid in determining or ascertaining acquired data quality.

### **3.2.20 Vibrator support-**

- The CRU should have all the hardware & software for recording Vibroseis data. It should have the capability to generate source-correlated data that will be recorded as Shot records in the disk or in the recording media during data acquisition in field. The system should have all the hardware and necessary software for carrying out quality control of the acquired vibroseis dataset.
- The hardware of the CRU should have all the necessary interface facility for supporting and connecting Vibrator Control electronics so that if required by the user in future, it is possible to connect vibrator control electronics to the CRU by additional hardware or software if any.

### **3.2.21 Support for Integration of data from Cable-less channels with data of Cabled channels:**

The CRU may also have the facility (software & hardware) to integrate recorded data of Cable-less channels (i.e. autonomous spread) with the data of line telemetry (cable part) channels to produce complete seismic record (i.e. shot-gathers etc.) for each and every shot.

Note 1: Irrespective of the specification/detail requirement given herewith vendor should ensure that the system is fully operational with the deployment of 5000 cable channels and 1000 cable less nodes (channels).

If any additional items required for the purpose, vendor need to provide / quote the same.



**SECTION-IB****4.0 Cable-less part of equipment(Nodes):****4.1 Data Harvesting, Data Integration and Transcription unit (combination of hardware & software):**

- 4.1.1** Bidder shall provide data harvesting facility/ equipments for minimum one hundred 100 nos. of cable-less station units in a **single batch**. Bidder shall provide adequate nos. of data harvesting Racks/Frames or WIFI Tabs needed as per their offered technical solution.

For the Harvesting and transcription facility bidder shall choose any of the following option(s).

<b>Option A</b>	<b>Option B</b>
<p>The system/arrangements for which:</p> <ol style="list-style-type: none"> <li>1. Data harvesting is by WIFI tab</li> <li>2. Data merging (Cabled &amp; cable less data) &amp; Transcription facility in Central Recording Unit (CRU)</li> </ol>	<p>The system/arrangements for which:</p> <ol style="list-style-type: none"> <li>1. Data harvesting is by using data harvesting racks</li> <li>2. Data merging (Cabled &amp; cable less data) &amp; Transcription facility in separate server with requisite application softwares</li> </ol>
<p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1). Bidder shall provide <b>Wi-Fi Based Data Harvesting Tools: 05 Nos.</b></li> <li>2). Bidder shall provide Suitable Workstation (server) for data copying in the tape media (LTO) with required interface.</li> <li>3). Bidder shall provide suitable air-conditioned cabin (specified in clause 4.4) for Battery charging frames/racks for 150 nos. of batteries at a time as mentioned in item 4.2.</li> <li>4). Data Integration facility for cable and cable-less data is to be with Central Recording Unit(CRU)</li> </ol>	<p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1). Bidder shall provide suitable Workstation and accessories for Data Harvesting, Data Integration, data Transcription and data copying/writing on the tape media.</li> <li>2). Bidder shall provide suitable air-conditioned cabin (specified in clause 4.4) for Battery charging frames/racks for 150 nos. of nodes and data harvesting/downloading racks/frames for 100 nos. of nodes as mentioned in item 4.2.</li> </ol>

## 4.2 BATTERY & BATTERY CHARGERS

**4.2.1** The cable-less station unit (node) may have internal / external batteries. Bidder shall provide battery charging racks/frames having facility of charging minimum 150 nos. of battery at a time (i.e. 15%).

**4.2.2** The bidder has to supply suitable Li-Ion batteries required for deployment of 1000 channels in the field with power consumption of proposed ground station units considering minimum 30 days of continuous field operation with 24 hours of operation time per day or minimum of 700 Working hours.

**4.2.3** The bidder need to provide adequate number of compatible rack mounted battery chargers considering at least 15 % of batteries (i.e. 150 nos.) deployed in the field for recording 1000 channels, simultaneously need to be charged on daily basis.

The following criterion has to be followed for the battery chargers.

1. Input Power : ( 220 VAC, 50 Hz) or suitable for power requirement of battery chargers & data harvesting devices.
2. Separate Current and Voltage meters to be provided along with the battery charger.

## 4.3 Ground electronics for Cable-less Units(Nodes):

- |    |  |   |
|----|--|---|
| a) | Acquisition units (Nodes)  | : 1000 Nos of Channels (Nodes)  |
| b) | Number of channels per ground station  | : 1(One) analog channel (high fidelity)   |
| c) | Sources Compatibility  | : Impulsive (Dynamite) & non Impulsive (Vibrator)   |
| d) | No. of bit digitization  | : 24 bit  |
| e) | Operation Mode   | : Autonomous  |
| f) | Recording Mode   | : Continuous  |
| g) | Sensor Compatibility   | : Analog  |
| h) | Clock Synchronization  | : GPS   |
| i) | Timing Accuracy  | : Within $\pm 25\mu s$  |
| j) | Communication type   | : Nodes/Wi-Fi*  |
|    | Communicating QC status between ground station and central recording system) |   |
| k) | Internal Memory size   | : Not less than 4GB /Minimum 1300 Hrs of Recording at 2ms sampling interval.                        |
| l) | Battery  | : Suitable Li-Ion Batteries(Internal/External for powering of proposed cable-less units (node).     |
| m) | Battery Autonomy (Autonomous mode)   | : Min 700 Working hours / 30 days of continuous field operation with 24 hours of operation time/day |
| n) | Quantity of battery chargers   | : 150 nos. of batteries at a time   |
| o) | Battery charger specifications   | : Smart battery chargers as required.   |
| p) | Operating temperature range  | : -20°C to +60°C  |

- q) Field QC tools : At least 10 numbers of Field QC tools compatible with ground station units proposed for cable less unit(node) status collection need to be provided wherever applicable(Communicate Field QC Status to Central Recording System or available at ground station level).
- r) The proposed equipment need to have minimum following features to be communicated to doghouse or available through human intervention at ground station level:
- i. GPS /Battery/Position/ available memory/station unit identification log status
  - ii. Noise/harmonic distortion/channel response
  - iii. Common Mode Rejection
  - iv. Sensor resistance, leakage, harmonic distortion, natural frequency, damping, distortion, power line pick up.

#### 4.4 Harvesting Cabin:

Both the data harvesting device and the battery chargers (as per specifications provided under Section–IB, item 4.1) should be housed in a suitable size of cabin with maximum outside dimension of Length: 6.1m, Width: 3.05m, Height: 2.7m. The cabin may be of either Indian make or imported. At least two numbers of high quality, rugged wall-mounted air-conditioners should be fitted in the cabin and should be capable of maintaining cabin temperature below 20°C. Ambient temperature is from 10 to 45 degree C with humidity upto 80%, non-condensing. The AC's are to be mounted on the walls of the cabin at the suitable places. Safety of all the electronic equipment installed in the cabin should be ensured by taking adequate precautions in the cabin design, AC fitting etc. so as to prevent moisture, water etc. from entering into the cabin either from AC trays or from rains. The cabin should have necessary waterproof fittings, good thermal insulation on all sides especially rooftop should be well insulated, sufficient lighting arrangements, safety fixtures, work furniture, main breakers board and sufficient blocks of 220 VAC plugs, 12 VDC plugs, ground post, proper wiring inside the cabin and earthing wires. The door of the cabin should be provided with suitable gaskets / seals to prevent water seepage during rains. The door will be placed at the rear end of the recording cabin and approx. size will be 250mm less from either sides & top of the cabin for proper strengthening of the cabin. The vendor has to ensure all the provisions to lift and transport as when required by trailer vehicle. The power requirement input for this cabin shall be provided by truck mounted (Item no 17.0, section -IF) genset in order smooth functioning of data harvesting and battery charging etc.

**Note 3:** Irrespective of the specification/detail requirement given herewith vendor should ensure that the data harvesting system is fully operational for data harvesting for at least 100 channels at a time. If any additions items required for this bidder should quote/provide the same

**SECTION-IC****5.0 PERIPHERALS**

- 5.1 Uninterrupted Power Supply (UPS) (2 Nos.)** - Suitable online UPS of sufficient capacity & rating with at least **10** minutes back up time should be offered. The UPS should be able to cater to the safety requirement of all the Electronic Hardware installed in the recorder Cabin as well as provide ample time to the observer for taking essential backups etc. and proper shutdown of the seismic data acquisition system and all the associated peripherals. One UPS will be installed in the recording cabin for above requirement and the other will be kept as ready standby (kept at the base camp) with all the accessories so that it is ready to be interfaced with the recording cabin as and when required.
- 5.2 Thermal Plotter (01 Nos.)** - Thermal plotter with the following specifications or higher should be offered.
- Input Format : Digital Demux.
  - Plotter Width : 12" carriage
  - Plot by : Trace/Time
  - Plot length : Window select.
  - Display Mode : Wiggle/variable area/Wiggle & variable area.
  - Data Display : Selectable playback filters.  
: Selectable Horizontal & Vertical scale.
  - Resolution : 200 dots per inch (dpi) or above.
  - Paper roll size : 12"x 300 feet.
  - Environment : Operating 0<sup>0</sup> C to +60<sup>0</sup> C

Note2: This thermal plotter is to be interfaced with the CRU for taking plots of the raw seismic data.

- 5.3 LTO tape drives (04 Nos.)**- Out of four (04) nos. of tape drives two (02) nos. of the Dual tape drives in LTO-07 and the other Two (02) nos. are higher than LTO-7 tape drives in Dual tape mode.

These should be complete with all the requisite accessories and peripherals viz. inter- connecting cables, power leads etc. These Tape Drives are required for copying seismic data recorded on External Storage devices / Internal Storage Devices and also required to cater to the requirement of processing & archival section of OIL. Two (02) nos. of LTO-7 drives will be specifically installed at the base camp for copying the recorded data and another two (02) nos. of drives (which are higher than LTO-7 tape drives) will stand alone that can be hook to other systems. All the necessary hardware, software, drivers or licenses required to interface these drives with the desktop PC / server should be provided so that they are ready to use for data recording/data copying off-line. (Cleaning Cartridges of 10 nos. should also provide along with Tape drives and 30 Nos. of empty LTO-7 tapes as specified under item no. 19.0, Section-IG shall be provided).

**5.4 External Storage Devices / - Required for recording seismic data in the CRU.  
Internal Storage Devices**

**Bidders have to quote for one out of the two options as given below:**

**Option (A)**

i) NAS Storage Devices or equivalent with RAID 1 or higher configuration having a data storage capacity of a minimum of 4 TB or more. These should be hooked up with the CRU for seismic data recording: **2 Nos.**

ii) NAS Storage Devices or equivalent with RAID 1 or higher configuration having a data storage capacity of a minimum of 4 TB or more. The device is to be hooked up with the CRU and will be used for data transfer from CRU to the base camp: **1 No.**

**Or**

**Option (B)**

i) Internal Storage Devices with RAID 5 or higher configuration having a data storage capacity of a minimum of 4 TB or more should be offered. These should be hooked up with the CRU for seismic data recording: **2 Nos.**

ii) External portable hard disks of minimum of 5 TB or more capacity each or higher should be offered. The man-machine interface with the internal storage devices should have the facility and compatible USB port to enable data transfer from them to external portable disks. These are required for data transfer from CRU to the base camp: **2 Nos.**

In case of either of the option (as mentioned above) offered by the bidders it should be ensured that all the necessary hardware, software, accessories & peripherals viz. Inter-connecting cable, power lead, carrying bag etc. as may be required to interface these devices with the CRU for seismic data recording should be provided. Moreover, it should be ensured that the format and integrity of the recorded seismic data is ensured while the data is recorded on these external storage devices / internal storage devices, and, while the data is transferred from the external storage devices/external portable hard disks to tapes on Tape drives at the base camp.

**5.5 The necessary interface, hardware, software, drivers, licenses or dongle as may be required to copy the data recorded (SEG Y and / or SEG D (Rev 3.0)) on these storage devices (External Storage Devices / Internal Storage Devices, item 5.4) to Tapes (LTO media) on one of the desktop PC as mentioned in item 5.3, in the harvesting cabin (Item no. 4.4) should be provided.**

- 5.6** GPS based Radio blasting system - The radio blasting system should be interfaced with the system. It will include following parameters:
- Firing accuracy- better than 20  $\mu$ s
  - Decoder Operating – at 12 Volt standard battery
  - Firing voltage 400 V
  - Sample rate 0.5 millisecond
  - Firing current > 200A (0.5 Ohm load)
  - Charging Time < 1 second
  - CAP and Geophone test
  - Operating temp. -40° to +60°C
- 5.7** The GPS based radio blasting systems should provide positional accuracy under 2 meters and the operational range will be for 10-15 Km. The GPS based radio blasting system should have the facility for co-ordinate transformation from WGS-84 to local projection system i.e. LCC (Lambert Conformal Conic) as per Survey of India map and offer the facility for uploading location (position) information in industry standard format.
- 5.8** The necessary hardware and software interfaces are required to synchronize and control the shot sequence.
- 5.9** These should be complete with all the accessories and peripherals viz. battery, battery charger, mounting bracket, antenna, GPS device, firing line & uphole line cable, Uphole Geophone, radio power cable, etc. ready to be used for deployment in the field. The encoder should operate on 12VDC power supply voltage and the decoders should operate on 12VDC portable batteries.
- 5.10** Operating coordinate systems are to be for both WGS\_84 and Lambert Conformal Conic (LCC) for North-East India. The required conversion parameters from WGS\_84 to Local projection system (LCC) will be provided to the bidder after placing of purchase order.
- 5.11** The Radio controlled blasting systems should operate with industry standard safety features. It should have VHF radio communication link (both voice & data) between the 'recorder end' and 'shot end' electronics.
- 5.12** For safety and security at least Seven (07) security codes should be provided on the encoder & decoder.
- 5.13** The integrated blasting system should have necessary voltage and current capacity to detonate industry standard detonating devices.
- 5.14** The 'Record end' system must take the command from **CRU** (Central Controlling / Recording Unit) and return back the 'Time Break' and 'Uphole' signals to be recorded by the seismic data acquisition system. Moreover, the encoder and decoders should display all the relevant information viz. Uphole, privacy setting etc.

**5.15** The radio blasting system should be interfaced with the system including encoders and decoders. The bidder has to **provide two (2) nos. of encoder and seven (7) nos of decoders**

**5.16** **Two way Professional Radios (10 Nos.)** - Suitable two-way professional radios should be attached to the blasters and recording equipment for to and fro communication. The power of the VHF Radios should be **25 watts** or more and should be able to operate in the range of 136 to 174 MHZ. The exact spot frequency within this range shall be communicated to the successful bidder at the time of placement of firm order. The radios should be complete with all the accessories and peripherals viz. microphone, antenna, cables & connectors etc.

**5.17** DC Power Supply (2 Nos.) - 12 Volts DC power supply for powering up peripheral equipment in the recording cabin should be provided. One no. of DC power supply to be interfaced with the CRU / peripheral equipment and other will be kept as ready standby with all the accessories.

## **6.0 COMMUNICATION**

**6.1 Walkie-talkie sets (multi-channel VHF sets, Motorola 360/GP328 or equivalent/Better) - 50 Nos.**

**6.1.1** Output power - 5 watts

**6.1.2** Frequency - to be specified with firm order by OIL

**6.1.3** Each walkie-talkie set should have antenna, two (02) rechargeable battery packs and necessary chargers.

**6.1.4** The bidder has to provide necessary documents and all the assistance to OIL to get the frequency licenses from the licensing authority in India corresponding to such offered & supplied items in case frequency is not license free.

**6.2 HF Sets (Motorola/ Kenwood or equivalent) with antenna: 02 nos.**

**6.2.1** Maximum Power - 150 W

**6.2.2** Frequency - to be specified with firm order by OIL

**6.2.3** Power requirement - 12 V DC.

**6.2.4** Each set should be complete with dipole antenna, connecting co-axial wires, power cables etc.

**6.2.5** The bidder has to provide necessary documents and all the assistance to OIL to get the frequency licenses from the licensing authority in India corresponding to such offered & supplied items in case frequency is not license free.

## 7.0 BATTERY CHARGERS

These are required for charging the batteries used for powering up the seismic lines.

Adequate number of battery chargers should be offered for 100% charging of batteries required for power supply down the lines for 5000 nos. of channels including spare batteries (as mentioned under item 11.1)

**The following criterion has to be followed for the battery chargers.**

- No. of batteries to be charged - considering 2 to 8 batteries per charger
- Power - 220 VAC, 50 Hz.
- Current and Voltage meters to be provided along with the battery charger.

**8.0 Generator (4 Nos.)** - Suitable 4 stroke 3 Phase AC silent power generator (diesel) 20/230 VAC, 50HZ  $\pm$  1HZ based power system to operate all the equipment & peripherals, Air Conditioners and all the other cabin accessories. One of the genset should be mounted on a suitable vehicle (preferably Indian make) for carrying the genset with safety. The generator preferably Indian make. The generator set should be environmentally compliant. The detailed specifications are enclosed as in **Section IF**.

## 9.0 DESKTOP COMPUTERS (FOR USE AT BASE CAMP)

**9.1 Desktop Computer (2 nos)** - Should be quoted (only branded systems viz. HP, IBM & DELL)

Processor:	Intel® Xeon® 3.60 GHz, 10MB cache, 4 Core or higher Chipset Intel(R) Chipset or higher.
RAM:	Minimum 16GB (2x8GB) expandable up to 64 GB.
Graphic Card:	Min 2GB NVIDIA QUADRO
Slots:	Minimum 3 nos. of PCIe Series Slots
Ports:	(1) USB 3.0 (two on front panel, four on I/O back panel), (1) PS/2, (1) ESATA port on back panel (Other ports to be provided by vendor as per compatibility with system, if any.)
Optical Drives:	Minimum 16X DVD + /-RW with Dual Layer Drive Write Capabilities (Preferably same make & color as CPU box) Complete with driver software on CD/DVD media, standard accessories and cables.
HDD:	Minimum 2 x 1TB (7200RPM) SATA Drive, RAID 0 Configuration
Display:	OEM 24 inch (diagonal) Flat Panel LCD/LED Monitor with standard accessories and cables



Keyboard /Mouse:	4 keys keyboard & 3 button USB Optical Mouse with mouse pads.
Network:	Integrated 10/100/1000 Mbps Ethernet Controller and IPV6 compliant.
Operating System:	System has to be preloaded with the latest version of operating system (Windows 10 professional 64 bit or Higher  Note3: A copy of Latest version of operating system preloaded in the workstation (mentioned above) including latest service packs/patches/drivers along with licenses is to be provided in CD/DVD media & documentation.
Drivers:	All the Drivers for the latest operating software as mentioned have to supply on DVD media.
Antivirus:	Norton Internet Security 2018 or higher antivirus software on DVD Media with minimum 12 months subscription shall be provided.
Chassis:	Vertical Tower or Inbuilt in system
Others Peripheral:	<ul style="list-style-type: none"> <li>a) Power Cables</li> <li>b) Power Extension spike guard with 6 Nos. of 5 or 15 Amps output or both as per the system requirement</li> <li>c) Patch Cord, Min 3m length with branded factory made</li> <li>d) All drivers on CD/DVD media</li> <li>e) Energy star 5.0 certified</li> </ul>

## 10.0 LAPTOP (FOR LVL & UP-HOLE)

<b>10.1</b> Laptop (02 Nos)	:	should be quoted (only branded systems viz. HP, Lenovo and DELL to be quoted) with the following specifications or higher:
Processor	:	Min 8th Generation Intel Core i7 Processor (Max 3.60 GHz Turbo frequency, 8MB smart cache, 6 Core,) equivalent or higher.
OS	:	Windows 10 Pro 64 bit or Higher
Memory	:	up to 32 GB DDR3 DRAM at 1600 MHz
Storage	:	Minimum 2TB (7200 rpm), 1TB SSD SATA 3
Graphics	:	NVIDIA Quadro P1000 4GB GDDR4 or Higher video memory
Display:		Minimum 15.6" diagonal FHD (1920x1080)
Optical D	:	Minimum DVD/CD RW combo drive
Keyboard	:	Standard keyboard with touchpad & backlight

Mouse	:	External Optical USB Mouse
Connectivity:		2 USB 3.0 ports, 2 USB 2.0 ports, eSATA/USB 2.0 combo port, RJ 45 Ethernet, security lock slot
Audio	:	Stereo sound with internal speakers, Integrated Microphone
Battery	:	Minimum 8 cell Li-Ion Battery,
Adapter	:	External AC adapter with Power cord
Others	:	All Drivers on CD/DVD media, carrying case, users' Manual in English Only. Power and all other Interconnecting cables to be provided, Power extension spike guard with six nos. of 5 or 15 amps output or both as per the system requirement.

**SECTION -ID****11.0 GROUND ELECTRONICS FOR LINE TELEMETRY EQUIPMENT****11.1 DATA ACQUISITION STATION UNIT / LINKS (Line Telemetry Mode)**-Minimum nos. required to layout a total of 5000 nos of channels for seismic data acquisition.

- No. of channels per Data Acquisition Station Unit or Link\* : 4 channels / 4 Take-outs
- Frequency response : 3 Hz (or less) to 0.75 Fn (or more) at 2ms SI.
- Sample Interval : 0.5, 1, 2 and 4 milliseconds.
- Preamp Gain Constant : at least three (03) out of 0/12/24/30/36 dB remote Selectable with 12 dB as essential.
- Equivalent Input Noise : 0.70  $\mu$ VRMS (or less) at 12 dB preamp gain
- Anti Alias Filter : 0.75 Fn or more at 2ms sample rate.
- Dynamic Range : Not less than 120dB at 12 dB preamp gain, Total Dynamic Range 135 dB or more at 2ms
- Input Impedance : 20 K ohm or more in differential mode.
- A/D converter : 24 bit with delta-sigma technology.
- Harmonic Distortion : 0.0004 % or better.
- Cross feed isolation, if any : greater than 120 dB.
- Operating Environment : Operating temperature between -40°C to + 70°C
- Humidity Range : 0 to 90%

- For Power Supply down the lines (i.e. the acquisition spread) additional hardware units (say Power Supply Units etc. for example), if necessary and the required batteries with all the accessories should be provided in adequate numbers. In addition, 20% of the total batteries (as required above) should be offered as spares with all the accessories. The total quantum provided should be rounded to the next higher whole number.

However, if the system architecture is such that the Data Acquisition Station Units or Links are powered through individual batteries then adequate numbers of the same with additional 20% of batteries as spares should be provided with all the accessories (The total quantum provided should be rounded to the next higher whole number).

\* **Link**: is a combination of field data acquisition station units and cables that are handled as single unit.

Note4: The no. of channels offered per Data Acquisition Station Unit should be of four (04) channels/Take-outs.

**11.2 CROSS LINE STATION UNIT - 40 nos.**

Interface - These units should enable the multi-lines to be connected to central Controlling/recording unit and route data from lines to the central Controlling/recording unit.

Connectivity - These should provide transverse connectivity between two seismic lines.

### **11.3 TELEMETRY CABLES**

#### **11.3.1 LINE TELEMETRY CABLES** - Minimum nos. of cables required to layout a total of **5000** nos. of channels

**11.3.2** Suitable reversible cables, 160 meters long, as per specification of station units with compatible takeout to connect the sensors, at 40 meter interval with first and last takeout at 20 meter from each end. Both ends of the cable should have suitable robust water-proof connectors for connecting to station units. These should be provided with tag nos. and serial nos. as per suitability. The cables should be rugged and water proof in nature. Each takeout & connector should be provided with dust cap. When Links are offered (clause 11.1), the configuration of the offered Link should be such that the distance between each Field Units should be 40m with first and last field unit at 20 m from each end. The length of the link should be 160 meters as per the specification mentioned in clause no.11.1. Both ends of the Link should have suitable robust water-proof connectors for connecting two numbers of links to each other. The cables should be rugged and water proof in nature. These should also be provided with tag and serial nos. as per suitability. Each takeout & connector should be provided with dust cap.

**11.3.3** These cables should consist wire line to carry seismic channels and telemetry signal.

### **11.4 CABLES/PATCH CABLES**

**11.4.1** Other Cables/Patch cables required to inter connect field units, batteries /power supply units etc. as applicable should be offered in adequate numbers as per the system design. The Cables/Patch cables should be rugged and water proof in nature.

### **11.5 TRANSVERSE CABLES - 40 Nos**

**11.5.1** These are required for “interconnecting the seismic lines” and the “Controlling/Recording unit (CRU) to the seismic lines”. **The bidder has to quote as given below:**

Forty numbers (40 nos.) of rugged and water proof Fiber Optical cables, 550 meters (tolerance +5%) long with suitable connectors should be provided for “interconnecting the acquisition lines” and “Central Controlling/Recording unit (CRU) to the seismic lines”.

### **11.6 DETOUR CABLES - 10 nos.**

**11.6.1** These are required in wire line mode only for joining seismic lines/transverse lines discontinued/ broken because of no receiver zone due to obstructions (viz. residence, factory, any prohibited area etc.) The cables offered should have suitable connectors compatible with the seismic lines laid out in the field for detour obstruction management. The bidder has to quote for the following:

(A) Along Receiver Lines (For In-line Obstacles): Ten Nos. (10) Of rugged and water proof detour cables of the length minimum 240 mts each should be offered. In case any peripheral wireline equipment is required for using these cables in wireline mode the same should be offered in adequate numbers. In case any of the items mentioned above have similar capabilities the same should be quoted under this item with convincing necessary technical justification/literature/supporting documents etc.

**11.7** Adequate nos. of peripheral Wireline Equipment if required to use cables mentioned under items 11.3, 11.4, 11.5 & 11.6.

**12.0 CABLE PROTECTORS (Road Mats) - 100 nos.**

**12.1** Cable protectors, flexible and rugged, of length each road mat with 10 meters, attachable for broader roads, for road crossing should be supplied.

**13.0 GEOPHONE STRINGS (Analog) – 5000 nos.**

**13.1** High Performance & High Fidelity Low Distortion (LD) Industry standards marshy geophone strings only should be provided. The quoted Geophones should be fully compatible with seismic data acquisition system along with interface / line telemetry cables, and cable less units(nodes) should have the following technical specifications:

- Geophone Type : Low Distortion
- Geophones / string : 10 Hz analog
- Configuration of strings : (6X2 for 10Hz analog)
- Length of String : 20 meters (Max)
- Geophone Interval : 1.0 meter
- Natural frequency : 10Hz, Tolerance  $\pm 2.5\%$ , with Tilt from  $0^\circ$  -  $10^\circ$ ,
- Typical Spurious frequency: > 240Hz
- Coil Resistance : Any specific value between 350 – 400 $\Omega$ , tolerance  $\pm 5.0\%$ . (Bidders to mention the specific value of the coil resistance)
- Damping : 0.60 – 0.70 of critical with  $\pm 5\%$  Tolerance
- Sensitivity : With open circuit damping within 20.5 – 29.5 V/m/s or more, Tolerance  $\pm 2.5\%$  on The specific value of sensitivity.
- Harmonic Distortion : less than equal to 0.1 % with a drive velocity of 1.7 to 1.8 cm/sec (peak to peak) at 12Hz with a tilt of  $10^\circ$  from the vertical
- Coil Excursion : 1.52 – 2.0 mm peak to peak.
- Polarity : Standard SEG
- Conductor : Brass/Tinned Copper weld conductors
- Insulation : Polypropylene with suitable filler and Polyurethane sheathing, plastic “ D” loop Installed at 1m interval. Spikes should be made of steel only with length.
- Geophone Casing : Marsh type, with suitable Oil seals, rings, cable entry seals for making it water proof.
- Carry Hasp : Each string mounted on one sensor carry hasp.
- Connectors : Both ends of the geophone string to be Terminated to suitable connectors compatible with data acquisition station units/Links/Line Telemetry cables/cable less unit takeouts.

**Note5:** 1) As the geophones strings are used in difficult field conditions, the bidder should quote rugged field proven industry standard products. In case, the bidders of main seismic data acquisition system (or their subsidiary) are manufacturing and selling their own geophones, the same should be offered. However, these should meet the technical specification as given above.

2) In case, the geophones are not manufactured by the bidders of the main seismic data acquisition system, the bidder should offer fully compatible, rugged and field proven industry standard products only i.e. SG-10/HG-24/SM-24/equivalent from the manufacturers like M/s Sensor/HGS India or M/s Geospace or M/s Sercel which have been used by exploration and / or geophysical service company(ies) successfully in last three years. The geophones offered should comply with the technical specifications as given above. The bidder to submit certificate from the user(s) in this regard. The responsibility of such products will rest with the main bidder.

**13.2 Geophone Elements: - 1000 Nos**

**13.3** Bidder should provide brand new geophone elements. These geophone elements should fully compatible to offered geophone strings as per clause 13.0.

**13.4** These geophone elements will be used for repair/replacement of the faulty geophone elements in the geophone strings (as per specified in clause 13.0)

**14.0 LVL & Up-hole Recorder - Two (02) nos.**

Should be a new generation compact portable 24-channel seismograph system for shallow refraction and reflection studies including weathering analysis of M/s Geometrics make or equivalent/Better with following specifications or higher:

- Weatherproof instrument with High Resolution sun visible, screen, Light weight, low power and portable.
- Compatible with energy source dynamite/Detonator, Hammer/Plate
- Record Length Minimum 24000 samples
- Real time digital acquisition and display filters.
- A/D Conversion 24bit delta-sigma results
- Dynamic range  $\geq 120$  db
- Filter & noise reduction Technology
- Pretrigger Delay: allow viewing of data before trigger for monitoring 0 to 9999 ms in 1ms increment.
- Pretrigger memory: allows viewing of data before trigger.
- Sample Interval selectable among 1/48, 1/32, 1/16, 1/8, 1/4, 1/2, 1, 2, 4, 8 ms
- Data Display wiggle trace, shaded or variable area, trace clipping, AGC, fixed gain & post acquisition filtering.
- Data storage sufficient for several days recording including USB/External Hard disk
- Interfaces: RS232 hi-speed serial port/Ethernet, video, keyboard and printer.
- Should run on 12 V external battery
- Infield Processing:
  - Facility for First arrival (first breaks) automatically on the seismograph screen.
  - On screen Travel Time Plots, Facility for generation of velocity cross-section on seismograph, Automatic calculation of depths below shots & geophones.
  - Automated facility for preliminary layer assignment (through seismograph), and should be user editable.
  - Print tables of all data, depth calculation and quality control plots.

**14.1** A complete suite of PC/Laptop-based comprehensive refraction modeling & interpretation software with facility for modeling, ray tracing, automatic & manual first break picking, quality control and analysis & interpretation of the acquired data. The application Software pre-loaded on a branded PC (IBM, HP & DELL), of suitable hardware configuration for using the application software & carrying out various analysis should be offered. The application software should also be provided on CD/DVD media or downloadable with necessary license key/dongle etc to operate the software should be provided. Two (02) sets of detailed hardcopy technical manuals should be provided in English language and additionally, two (2) set should be provided on CD/DVD media.

**14.2** Following accessories should also be supplied along with the LVL & Uphole recorder:

- 4 nos. of HV blaster for dynamite energy source.
- 6 nos. of cables with 12 takeouts each for connecting geophones, at 15 meters interval. Length of each cable should be 180 meters with suitable connectors to connect with LVL recorder.
- 100 nos. of single unit 4.5 Hz natural frequency geophones in land cases with 3" steel spike and suitable connectors for up-hole and refraction surveys.
- Two(02) sets of Hammer plate ,Hammer, Water proof carrying box & extra accessories
- Two (02) sets of Trigger input for direct USB 2.0 or higher version

## **15.0 TEST & MEASURING EQUIPMENTS**

**15.1** A one (01) no complete PC/workstation based Test and Maintenance equipment specific to the offered ground electronics (clause 11.0) should be provided for testing, calibration and troubleshooting of field ground electronics including cable-less equipment(Nodes), complete workshop facilities (toolkits, oscilloscopes, soldering etc.) The Test & Maintenance Equipment should be able to test, calibrate and diagnose the ground electronics without the help of Central Controlling /Recording Unit (CRU).

**15.2** Line Testers/Field Tester Four Nos. (04 nos) for laying out and checking of the acquisition spread (offered ground electronics) in advance for ensuring error-free acquisition spread and smooth seismic survey operation with all the necessary accessories and peripherals. The Line Tester should be able to check the acquisition spread and capable of performing all the standard tests independently of the Central Controlling /Recording Unit (CRU).

**15.3** Two (2) nos. of rugged geophone testers with all accessories and peripherals. The geophone tester should be capable of testing the industry standard geophone element & geophone strings in the seismic workshop. The tester should have library for retaining the fed parameters of the geophones. The geophone tester should have sufficient memory so as to store the system software and results of various analysis in memory/Hard Desktop/PC of the system. A suitable printer should also be provided to print out the test results on paper if the printer is not a part and parcel of the system.

The geophone tester should be a portable system having the capability for measurement of the following parameters:

- Sensitivity, Natural Frequency, Damping Coefficient
- Distortion, AC Impedance
- Polarity Test, DC Resistance, Leakage etc.

**15.4** Cable Tester with all the accessories to test the cable, one (1) each, should be provided for each variety (Telemetry & Fibre Optic) of the offered cables. The cable testers are to be used for checking the functionality of the cables, detecting the break positions & also for full testing after repairing /splicing. In case where only Normal wire line cables are provided for the Line Cables & Cross lines Cables then two numbers of Cable testers should be offered one for the Line Cable & one for the Normal wire Transverse Cables.

**Note:** Irrespective of the specification/detail requirement given under item no. 15.0, vendor need to provide /quote the same, if any additional software & hardware items are required for the purpose.



**SECTION IE****16.0 Recorder Cabin and Truck:****Supply of Brand New Truck mounted Seismic Survey Mobile Recorder Van as per specifications, fitment and accessories etc. detailed hereunder:**

- 16.1** The bidder shall take special care in selecting, designing, fabricating the Truck mounted Mobile Recorder cabin to be used for seismic survey operations considering the unit's application in typical oilfield roads. The offered items shall be latest and conforming to quality standard norms, having all fittings, accessories, safety features etc. and shall be built completely in all respects without requiring any further fitment/modification in the Recorder cabin on delivery to Oil India Limited by the supplier.

**16.2 Overall dimensions & weight of complete unit:**

a.	Overall Length	Within 8000 mm (Approx.)
b.	Overall Width	Within 2300 mm (Approx.)
c.	Overall Height from ground level	Within 3400 mm (Approx.).
d.	Overall weight i.e. Total Mass	The total weight (mass) of the complete unit must be within the permissible GVWR of the offered vehicle.

Overall dimensions & weight of the complete unit must comply with Indian Motor Vehicle Act/Rules.

**16.3 Truck for Recorder cabin:****The truck should accommodate the recorder cabin (Section – IE, item 16.4)**

The Truck shall meet the following specifications:

a.	Month & Year of manufacture; Make	Unused, brand new Truck chassis with Driver's Cab procured after the date of issuance of Purchase Order (PO) /Letter of Intent (LOI)/ Letter of Award (LOA). Make: Truck shall be preferably Indian make. The Vehicle should be compliant to the Indian motor vehicle Act.
b.	GVW	In the range of 7490 Kg to 12000 Kg.
c.	Wheelbase	In the range of 3800 mm to 4300 mm.
d.	Engine	Water-cooled diesel engine of minimum 4 -cylinder. <b>Air-cooled engine is not acceptable.</b>
e.	Emission Norms	The present applicable emission norm in the state of Assam (India) is BS (Bharat Stage) -IV. However, as per notification issued by the Ministry of Road Transport and Highways (MORTH), Government of India, the applicable emission norm shall be BS (Bharat Stage) –VI with effect from 1 <sup>st</sup> April, 2020. Accordingly, emission norm shall be as applicable in the state of Assam (India) at the time of delivery of the vehicle.
e.1	Type approval	In case of vehicles with country of manufacturer other than India, then Type Approval Certificate from chassis manufacturer duly certified by inspecting authority of the country of origin are to be submitted along with the unit

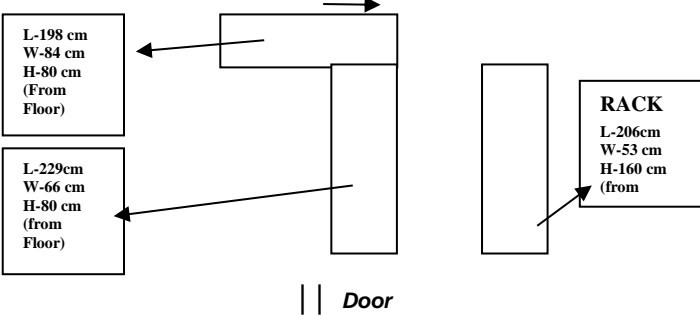
f.	Steering	Hydraulic power assisted. Right Hand Steering (i.e Steering wheel shall be on the right hand side inside the Driver's cabin when viewed from the rear of the vehicle). <b>Unit with left hand steering is not acceptable.</b>
g.	Gearbox	Minimum 5 forward speed & 1 reverse speed.
h.	Brake	Full air or Hydraulic power assisted foot operated Brake with ABS (if required as per India Motor Vehicle Act & Rules) and suitable hand operated Parking Brake.
i.	Drive	4 x 2 Drive, Rear Axle Drive.
j.	Axles	Front – 1 No., Rear – 1 No. (Drive axle).
k.	Suspension (Front and Rear)	Leaf spring suspension system as per vehicle manufacturer design. <b>Air/Hydraulic suspension system is not acceptable.</b>
l.	Wheels & Tyres	Front- Total 02 Nos. Rear – Total 04 Nos. [Dual (i.e. 02 Nos.) wheels in each side of rear axle, <b>Single wheel on each side of rear axle is not acceptable</b> ] Spare – To be supplied. It shall be bidder's endeavour to offer front and rear wheels of same size & type. If not possible for design constraint, two spare wheels - one for each type shall be supplied. Suitable lifting & mounting arrangement facility for spare wheel(s) shall be provided. Super Single tyre is not acceptable.
m.	Driver's cabin	Originally built & supplied along with the vehicle by the vehicle manufacturer of the offered vehicle, complete with all standard fittings and accessories without requiring any subsequent fabrication job in it.  Seating capacity minimum 02 (two) Nos. including Driver and containing Driver's seat, Co-passenger/Co-driver's seat, steering wheel, all controls, instruments and other devices necessary for driving the vehicle.
n.	Fuel Tank	As per vehicle manufacturer.
o.	Speed Limiting Device (SLD)	To be provided with valid certification as per Indian Motor Vehicle Act/Rules as applicable in the state of Assam (India).
p.	Vehicle Location Tracking Device/GPS and Emergency Button	To be provided with valid certification as per Indian Motor Vehicle Act/Rules as applicable in the state of Assam (India).

q.	Fitments & accessories:	<p>Following fitments &amp; accessories shall be fitted in each vehicle:</p> <p>a. All standard fittings, accessories, standard gauges and meters as per Indian Motor Vehicle Act/Rules shall be fitted. The Speedometer &amp; the Odometer shall be with Metric KM calibration system only.</p> <p>b. Rear view mirrors at both sides, horn, reversing alarm, room lamps, head lamps, tail lamps, direction indicator lamps, marker lights (side, top, repeater), fog lamps, windscreen wipers, first aid box, floor mats, footsteps, grab rails, mud flaps &amp; guards, fire extinguisher etc. shall be fitted in the unit (s).</p> <p>c. Suitable towing provision with attachment at Front and Rear.</p> <p>d. One (01) set of Jack with Handle and Wheel Wrench with Lever shall be supplied along with each unit. In case the wheel nuts at front and rear are of different size, then separate Wheel Wrench &amp; Handle for both front &amp; rear shall be supplied along with each unit.</p> <p>e. Suitable electrical Master Switch to disengage all electrical circuits from battery, Well-covered Battery Box shall be fitted in each unit.</p> <p>f. Bumpers, side under run protection device (SUPD)s, rear under run protection device (RUPD), front under run protection device (FUPD) to be fitted in each unit.</p> <p>g. To fix retro reflective tape (3m make or equivalent make, 50 mm width) on the front, rear and both side of the vehicle/cabin as per the color code- Front: White, Rear: Red and Sides: Yellow in the unit(s).</p> <p>h. Spark arrester (having tag of CCOE/PESO approved manufacturer) etc. to fitted in the vehicle.</p>
r.	Note	<p>a. In case any of spares, fittings/accessories etc. as mentioned in the tender does not come along with the vehicle as standard spares, fittings/accessories from the vehicle manufacturer, the supplier shall procure the same and fit the same prior to delivery of the vehicle without any extra cost to OIL.</p> <p>b. The bidder shall clearly mention the Make &amp; Model of the offered Truck chassis with Driver's Cab in the technical bid and submit the technical leaflet/brochure with technical details of the offered Truck along with the technical bid.</p>

**16.4 Recorder Cabin:**

The whole system i.e. Central Recording Unit and peripherals should be installed in a suitable, sturdy and field worthy air conditioned cabin to be powered by external generating set(As per clause 18 of section 1F ) to operate all the equipment. The recording cabin may be either Indian make or imported. The cabin should be fitted with all fittings, accessories, safety features etc. in all respects without requiring any further fitment/modification on delivery to Oil India Limited by the supplier (i.e successful bidder). All fittings, accessories and materials used for fabrication and mounting of the Recorder cabin shall be brand new, unused and of recent manufacture equipment/items and free from manufacturing defect. The Recorder cabin shall meet the following specifications.

a.	Dimensions	Length (Inside): 3.25 meter ( $\pm 2\%$ ) Width (Inside): 2.10 meter ( $\pm 2\%$ ) Internal Height: 2.30 meter ( $\pm 2\%$ )
b.	Longitudinal Runners (Chassis sub-frame)	All steel structure.
c.	Cross members	All steel structure.
d.	Body Frame Structure	All welded galvanized steel/iron structure. Structure to be painted with high rich Zinc primer.
e.	Exterior Panelling	Galvanised steel/iron panel of adequate thickness.
f.	Colour- Exterior	All steel components used in the fabrication should be pre-treated and applied with metal primer. Final colour should be "White" desirably Polyurethane (PU) paint.
g.	Interior (Sides, Roof) Panelling	Galvanised iron PVC coated panel of adequate thickness, desired colour White/Ottis grey.
h.	Flooring	Minimum 5mm MS Chequered plate. The entire flooring should be covered completely with anti-skid aluminium chequered plate.
i.	Insulation (Roof & Body)	Thermocole, Fire Retardant (FR) grade and Water/Moisture Resistant.

j.	Table	<p>Wall mounted table “L- shaped” along the length &amp; width of the Recorder cabin shall be provided. The frames of the table shall be attached with the structure of the recorder cabin.</p>  <p style="text-align: center;">   Door</p> <p>All values are <math>\pm 2\%</math>. Tolerance</p>
k.	Lockers	Wall mounted locker - 02 Nos. shall be provided inside Recorder Cabin.
l.	Door	<p>01(one) number of lockable metallic “Single-Swing Door” to be placed at rear end of the Recorder cabin at a distance of not less than 250 mm (approx.) from both sides &amp; top for proper strengthening of the door/cabin.</p> <p>Door opening width: 76 cm (<math>\pm 2\%</math>.)</p> <p>Door opening height: 198 cm (<math>\pm 2\%</math>)</p> <p>One number of circular peeping toughened glass fixed window of diameter 120 mm shall be provided towards top of the door to view from inside of the Recorder cabin to outside.</p> <p>Grab handle, suitable sealing arrangement to avoid entering dust, rain water, wind etc. to be provided.</p>
m.	Lamp	<p>Minimum 04 Nos. side wall mounted LED Lamps shall be provided inside Recorder cabin to be powered by external generating set.</p> <p>Minimum 01 No. roof mounted LED Lamp shall be provided inside Recorder cabin to be powered by external generating set.</p>
n.	Deck Area	Full platform width deck area of length not less than 1m is to be provided at the rearmost i.e. in front of the Recorder cabin door. Rust proof metallic railings with handrail and vertical/horizontal baluster desirably of rust proof Aluminium/Steel are to be provided along the side of the deck area.
o.	Input Cables from Line	The cabin should have seismic input panels, with good thermal insulation, on one side for connecting seismic cables and earthing wires..

p.	Power socket panel	Power socket panel provision in the Recorder Cabin to power the Recorder cabin electrical items from external 15 KVA Generating set.
q.	Air conditioner	Two (02) nos. of high quality, rugged wall mounted window air-conditioner of minimum of 1.5 Ton capacity each shall be supplied and fitted in the Recorder cabin along with power socket (inside Recorder cabin) and shall be capable of maintaining cabin temperature below 20°C. Ambient temperature is from 10°C to 45 °C with humidity up to 80%, non-condensing. The Air Conditioners are to be mounted with metallic frame fixed with the body structure of the Recorder cabin at convenient locations towards external wall of recorder cabin, at the upper half and between vehicle driver's cabin and the Recorder cabin. The air conditioners should not be located above the Driver's cabin under any circumstances. Suitable tray with water drain line shall be fitted. The air conditioners shall be Indian make only. The air conditioners are to be powered by the external generating set.
r.	Power Socket provision	Power Socket provision, 220VAC: 02 Nos. (To be powered by external generating set)  Additional switch board with socket : 04 nos  Additions power extensions boards from UPS to computers/printers/NAS etc : 05 nos
s.		Two 02 nos of dipole antenna for field communication to be fitted.
t.		Fire extinguisher mounting inside Recorder cabin at convenient locations to be fitted.
u.		Complete electric wirings, fittings, accessories etc. to power the Recorder cabin electrical items from external Generating set to be fitted.
v.		Complete electric wirings, fittings, accessories etc. to power the lamps inside Recorder cabin and Flood light from external Generating set to be fitted.
w.		Foldable ladder with antiskid surface at Rear to be fitted.
x.		Suitable damper/shock absorbers, if required to arrest vibration of cabin as per design to be fitted.
y.		All steel components used in the fabrication should be pre-treated and applied desirably with zinc rich primer.
z.		Side, Top, Repeater marker lights to be powered by vehicle battery.
aa.		Retro reflective tape as per Motor Vehicle Act/Rules of India to be fitted.

ab.		Minimum one number Flood Light near the Door of Recorder to be powered by external generating set to be fitted.
ac.		The inscription "OIL INDIA LIMITED, A GOVERNMENT OF INDIA ENTERPRISE, DULIAJAN, ASSAM-786602" with "OIL LOGO" & "PURCHASE ORDER NUMBER" shall be painted prominently on the body of Recorder cabin. (Logo / specification shall be provided by Oil India Limited after placement of order)
ad.		The Recorder Cabin, its fittings/accessories and deck area must be within the original chassis of the vehicle supplied by the vehicle manufacturer. Extension of the original chassis by welding/bolting or by any other means to accommodate the Recorder Cabin, its fittings/accessories and deck area is not acceptable.
ae.		Door, window and latches etc. shall not allow to ingress of rain water/dust inside the Recorder cabin when in the closed position. Recorder cabin is to be shower tested and necessary test report is to be submitted.
af.	Antenna Mast	Two Nos (02) of minimum 50 feet VHF antenna (Telescopic) mast should be fitted for communication in the field operations.
ag.	Credential of body builder	The entire design, fabrication and mounting etc. shall be done by any of reputed body builder approved by Automotive Research Association of India (ARAI)/ Central Institute of Road Transport (CIRT), India for building Bus/Coach etc.  Details of body builder with valid certification from Automotive Research Association of India (ARAI)/ Central Institute of Road Transport (CIRT), India for building Bus/Coach etc. is to be submitted with technical bid by the bidder.
ah.	Drawing	Detailed dimensional drawing of the complete unit along with detailed mounting & material construction of the Recorder Cabin structure, exterior panelling, interior panelling, flooring etc. from the body builder should be submitted along with the technical bid by the bidder(s).  Also, the prospective supplier shall have to submit final detailed dimensional drawings along with detailed mounting and material construction of Recorder Cabin from the body builder within 30(thirty) days from the date of OIL's purchase order before manufacturing the Recorder Cabin. The same should be prepared based on order specification & OIL's requirement.

**17.0 Supply of Truck with Dual Crew Cab & load body mounted with 15KVA Generating Set:**

- 17.1** Supply of brand new diesel engine driven Truck with dual Crew cab & load body, permanently mounted with 15 KVA Generating Set on the Truck for use in seismic operations as per specifications, fitment and accessories etc. detailed hereunder. The offered items shall be latest and conforming to quality standard norms, having all fittings, accessories; safety features etc. and shall be built completely in all respects without requiring any further fitment/modification on delivery to Oil India Limited by the supplier (i.e. successful bidder).

**17.2 Overall dimensions & weight of complete unit:**

a.	Overall Length	Within 8000 mm (approx.)
b.	Overall Width	Within 2300 mm (approx.)
c.	Overall Height from ground level	Within 2300 mm (approx.) excluding the silencer height of Generator.
d.	Overall weight i.e. Total Mass	The total weight (mass) of the complete unit must be within the permissible GVWR of the offered vehicle.

Overall dimensions & weight of the complete unit must comply with Indian Motor Vehicle Act/Rules.

- 17.3** The Truck with Dual Crew cab & load body preferably Indian make and shall meet the following specifications:

a.	Month & Year of manufacture; Make	Unused, brand new Truck with Dual Crew cab & load body procured after the date of issuance of Purchase Order (PO) /Letter of Intent (LOI)/ Letter of Award (LOA). Make: SML Isuzu Limited or equivalent.
b.	GVW	In the range of 6000 Kg to 9000 Kg.
c.	Wheelbase	In the range of 3330 mm to 4300 mm.
d.	Engine	Water cooled diesel engine of minimum 4 -cylinder. <b>Air cooled engine is not acceptable.</b>
e.	Emission Norms	The present applicable emission norm in the state of Assam (India) is BS (Bharat Stage) -IV. However, as per notification issued by the Ministry of Road Transport and Highways (MORTH), Government of India, the applicable emission norm shall be BS (Bharat Stage) –VI with effect from 1 <sup>st</sup> April, 2020. Accordingly, emission norm shall be as applicable in the state of Assam (India) at the time of delivery of the vehicle.
e.1	Type approval	In case of vehicles with country of manufacturer other than India, then Type Approval Certificate from chassis manufacturer duly certified by inspecting authority of the country of origin are to be submitted along with the unit



f.	Steering	Hydraulic power assisted. Right Hand Steering (i.e. Steering wheel shall be on the right hand side inside the Driver's cabin when viewed from the rear of the vehicle). <b>Unit with left hand steering is not acceptable.</b>
g.	Gearbox	Minimum 5 forward speed & 1 reverse speed.
h.	Brake	Full air or Hydraulic power assisted foot operated Brake with ABS (if required as per India Motor Vehicle Act & Rules) and suitable hand operated Parking Brake.
i.	Drive	4 x 2 Drive, Rear Axle Drive.
j.	Axles	Front – 1 No., Rear – 1 No. (Drive axle).
k.	Suspension (Front and Rear)	Leaf spring suspension system as per vehicle manufacturer design. <b>Air/Hydraulic suspension system is not acceptable.</b>
l.	Wheels & Tyres	Front- Total 02 Nos. Rear – Total 04 Nos. [Dual (i.e. 02 Nos.) wheels in each side of rear axle, Single wheel on each side of rear axle is not acceptable]  Spare – Spare – To be supplied. It shall be bidder's endeavour to offer front and rear wheels of same size & type. If not possible for design constraint, two spare wheels - one for each type shall be supplied. Suitable lifting & mounting arrangement facility for spare wheel(s) shall be provided. Super Single tyre is not acceptable.
m.	Fuel Tank	As per vehicle manufacturer.
n.	Speed Limiting Device (SLD)	To be provided with valid certification as per Indian Motor Vehicle Rules as applicable in the state of Assam (India).
o.	Vehicle Location Tracking Device/GPS and Emergency Button	To be provided with valid certification as per Indian Motor Vehicle Act/Rules as applicable in the state of Assam (India).
p.	Fitments & accessories:	Following fitments & accessories shall be fitted in each vehicle:  a. All standard fittings, accessories, standard gauges and meters as per Indian Motor Vehicle Act/Rules shall be fitted. The Speedometer & the Odometer shall be with Metric KM calibration system only.  b. Rear view mirrors at both sides, horn, reversing alarm,

		<p>room lamps, head lamps, tail lamps, direction indicator lamps, fog lamps, windscreen wipers, first aid box, floor mats, footsteps, grab rail, mud flaps/guards, fire extinguisher etc. shall be fitted in unit (s).</p> <p>c. Suitable towing provision with attachment at Front and Rear.</p> <p>d. 01 set of Jack with Handle and Wheel Wrench with Lever shall be supplied along with each unit. In case the wheel nuts at front and rear are of different size, then separate Wheel Wrench &amp; Handle for both front &amp; rear shall be supplied along with each unit.</p> <p>e. Suitable electrical Master Switch to disengage all electrical circuits from battery, Well-covered Battery Box shall be fitted in each unit.</p> <p>f. Bumpers, side under run protection device (SUPD)s, rear under run protection device (RUPD), front under run protection device (FUPD) to be fitted.</p> <p>g. To fix retro reflective tape (3m make or equivalent make, 50 mm width) on the front, rear and both side of the vehicle as per the color code- Front: White, Rear: Red and Sides: Yellow in the unit(s).</p> <p>h. Spark arrester (having tag of CCOE/PESO approved manufacturer) etc. to fitted in the vehicle.</p>
q.	Driver's cabin (Dual Crew Cab)	<p>Originally built &amp; supplied along with the vehicle by the vehicle manufacturer of the offered vehicle, complete with all standard fittings and accessories without requiring any subsequent fabrication job in it.</p> <p>Seating capacity minimum 07 (seven) Nos. including Driver and containing Driver's seat, Co-passenger's seat, steering wheel, all controls, instruments and other devices necessary for driving or operating the vehicle.</p>
r.	Load body and platform	<p>Half side deck load body with steel platform, originally built &amp; supplied along with the vehicle by the vehicle manufacturer of the offered vehicle.</p> <p><b>High side deck is not acceptable. Hood in the load body is not required.</b></p> <p>Note: While selecting the vehicle, bidder to note that the load body accommodates the generating set offered by the bidder as specified elsewhere in the tender.</p>
s	Credential of fabricator	<p>The mounting of the Generating Set etc. on the Truck shall be done by the bidder in any reputed workshop/body builder etc.</p>

t.	Drawing	<p>In addition to submission of technical brochure/leaflet of the offered Truck with Dual Crew Cab &amp; load body, the bidder shall also submit the following along with the technical bid:</p> <p>(i) Mounting details of the generating set from the reputed workshop/fabricator etc.</p> <p>(ii) Dimensions (length, width &amp; height) &amp; weight of the generating set.</p> <p>Also, the prospective supplier shall have to submit final detailed dimensional drawings along with detailed mounting and material construction from the fabricator within 30 (thirty) days from the date of OIL's purchase order before mounting the generating set etc. on factory built (i.e originally built &amp; supplied along with the vehicle by the vehicle manufacturer of the offered vehicle) load body. The same should be prepared based on order specification &amp; OIL's requirement.</p>
u.	Notes:	<p>a. In case any of spares, fittings/accessories etc. as mentioned in the tender does not come along with the vehicle as standard spares, fittings/accessories from the vehicle manufacturer, the supplier shall procure the same and fit the same prior to delivery of the vehicle without any extra cost to Oil India Limited.</p> <p>b. Extension of the original chassis/load body by welding/bolting or by any other means to accommodate the Generating Set on the Truck is not acceptable.</p> <p>c. The bidder shall clearly mention the Make &amp; Model of the offered Truck in the technical bid and submit the technical leaflet/brochure with technical details of the offered Truck along with the technical bid.</p> <p>d. The inscription "OIL INDIA LIMITED, A GOVERNMENT OF INDIA ENTERPRISE, DULIAJAN, ASSAM-786602" with "OIL LOGO" &amp; "PURCHASE ORDER NUMBER" shall be painted prominently on the body of vehicle. (Logo / specification shall be provided by Oil India Limited after placement of order)</p>

**17.4** The 15 KVA Generating Set shall be subsequently permanently mounted on the Truck with skid(s). The skid(s) shall desirably be mounted on the Truck platform with the underneath sub-frame by heavy duty U-bolts and welding with the platform. The Generating Set shall be mounted on the skid(s) through heavy duty nut & bolts and with suitable dampeners as per design. Welding of the generating set items directly to the Truck platform (floor sheet) is not acceptable.

**17.5** Applicable for both "Truck mounted Seismic Mobile Recorder Van" & "Truck with Dual Cab Crew Cab & load body mounted with 15KVA Generating Set":

**17.6 Special Note:**

Bidder(s) shall be solely responsible for selecting the suitable make & Model of vehicles for **brand new Truck mounted Seismic Survey Mobile Recorder van** and the **Generator carrying Dual Cabin Truck** and designing, fabrication etc. as per the requirements mentioned in the tender. Oil India Limited (OIL) shall no way be responsible in case any of the selected Make & Model vehicle does not found suitable latter on. Moreover, in such instances, no compensation etc. shall be payable by OIL. Accordingly, the bidder should decide & plan precisely for successful execution of the entire project. The bidder may also physically look into the existing similar equipment of OIL in Duliajan (Assam, India) at their cost, if felt necessary.

**17.7 Workmanship:**

The workmanship and fabrication/mounting, finishing etc. should be of highest standard. The materials, fittings, accessories, tools etc. supplied/fitted shall be new, of recent make, best quality.

**17.8 Inspection:**

The prospective supplier will facilitate inspection to OIL's Engineers/ representative as under:

**Stage -1:**

**Truck mounted Seismic Survey Mobile Recorder Van**

During fabrication of Recorder Cabin.

**Truck with Dual Cab Crew Cab & load body mounted with 15KVA Generating Set**

Mounting details of Generating Set.

**Stage -2:** Pre-dispatch inspection.

At least 45 days advance intimation should be provided to plan the visit of OIL's inspections.

The inspection process will include at least the following steps/tasks:

- a) Physical verification of all items, fittings, accessories, tools etc. as per purchase order & documentations.
- b) Operational testing of the vehicles. Driver(s), all consumables & any other requirements for the purpose of testing during the inspection shall have to be arranged & provided by the supplier at their cost.
- c) Suggestion of any minor modification for operational requirement, as required, the supplier shall have to comply with the same without any extra charge to Oil India Limited.
- d) The inspection report would be prepared jointly and signed by OIL's Engineers/ representative and the supplier at the end of the inspection process.
- e) Supplier shall confirm in writing compliance of all the points raised in the inspection report as well as any other subsequent addition/deletion following deliberation with the inspection team after arrival in Duliajan, Assam.
- f) To & fro fares and boarding/lodging expenses etc. of OIL's inspection team will be borne by OIL. However, supplier's expenses etc., if any, in this regard, shall be borne by the supplier.

**17.9 Delivery:**

**OIL may opt for placement of order on FOR Destination basis for the indigenous items. In such case, the fully built brand new Truck Mounted Seismic Exploratory Mobile Recorder Van and the Truck with Dual Crew Cab mounted with the Generating Set along with all automobile tools, fittings & accessories, documents etc. are to be delivered in Oil India Limited's premises at Duliajan, Assam-786602 (India) without any defect by the supplier at their risk and cost. Anyway, bidder must provide the **price breakup** of the **freight & insurance** charges as provisioned in the price bid format.**

**In case the recorder cabin is imported, then the bidder shall mount the recording cabin on the truck at Duliajan, Assam-786602(India).**

OIL reserves the right to inspect, test and if necessary, reject any part/parts after arrival of the vehicles at Duliajan, Assam-786602 (India), if the said rejection is attributed to be the responsibility of the supplier. It shall, in no way be limited or waived by the reason that the units have been inspected, tested and passed by OIL prior to dispatch.

**Time is of the essence and materials must be supplied within Six (6) months in the event of an order. Therefore, Bids submitted by Bidders quoting delivery schedule more than Six (6) months shall not be accepted. Overseas Bidders must quote shipment (FOB/CIF) within Six (6) months from the date of opening of Letter of Credit by OIL and indigenous Bidders must quote delivery/despatch within Six (6) months from the date of placement of order by OIL. In case of offers of composite nature having supply of both indigenous and foreign items, it will be the sole responsibility of the bidder to co-ordinate for effecting delivery/despatch of goods within Six(6) months from placement of order for the purpose of ensuring delivery of all the ordered items simultaneously at OIL Duliajan.**

**17.10 Documents/literatures:**

The following documents/literatures must be submitted along with each vehicle and cost in this regard, if any, shall be borne by the supplier:

a) Invoice, Temporary Registration, Insurance, Sale Certificate, Emission Certificate, Initial Road Worthiness Certificate etc. in Form 21, 22 & 22(A) in the name of "Oil India Limited, Duliajan, Assam-786602"; valid certification against SLD, valid certification against GPS and any other documents required as per Indian Motor Vehicle Act, 1988 and Central Motor Vehicle Rules, 1989 as applicable in the state of Assam shall be submitted in original along with the supply for onward registration of the vehicles in the name of M/s. Oil India Limited, Duliajan, Assam-786602 (India) with local government District Transport Office in the state of Assam (India).

b) Any other documents required for registration of the vehicles with government District Transport Office in the state of Assam (India) during the period of delivery of the vehicles.

c) Any manuals/documents etc. supplied by the vehicle manufacturer.

**17.11 Annexure-01****Technical Data List: Brand New Truck mounted Seismic Survey Mobile Recorder Van****(Bidder to fill up this technical data sheet and should submit the same along with their technical bid)**

Description (Annexure-01)	Bidder's statement
<b>Overall dimensions &amp; weight of complete unit</b>	
Overall Length	
Overall Width	
Overall Height from ground level	
Overall weight i.e Total Mass	
<b>Truck</b>	
Make	
Model	
GVW	
Wheelbase	
Emission norm shall be as applicable in the state of Assam (India) at the time of delivery of the vehicle- (Yes/No.)	
Cab or driver's compartment (Originally built & supplied with the vehicle by the vehicle manufacturer – (Yes/No.)	
Seating capacity in Driver's cab including Driver	
Technical leaflet/brochure with technical details of the offered Truck submitted along with the technical bid – (Yes/No.)	
<b>Recorder Cabin</b>	
Name & details of Body Builder	
Details of body builder with valid certification from Automotive Research Association of India (ARAI)/ Central Institute of Road Transport (CIRT), India for building Bus/Coach etc. is to be submitted with technical bid by the bidder. (Submitted/Not submitted)	
Length (Inside)	
Width (Inside)	
Internal cabin height	
Longitudinal Runners (Chassis sub-frame) material specification	
Cross members material specification	
Body Frame Structure material specification	
Exterior Panelling material specification	
Interior Panelling material specification	
Roof Panelling material specification	
Insulation (Roof & Body) material specification	
Detailed dimensional drawing of the complete unit along with detailed mounting & material construction of the Recorder cabin structure, exterior panelling, interior panelling, flooring etc. from the body builder should be submitted along with the technical bid by the bidder(s). (Submitted/Not submitted)	

**17.12 Annexure-02:****Technical Data List: Brand New Truck with Dual Crew Cab & load body mounted with 15KVA Generating Set****(Bidder to fill up this technical data sheet and should submit the same along with their technical bid)**

Description (Annexure-02)	Bidder's statement
<b>Overall dimensions &amp; weight of complete unit:</b>	
Overall Length	
Overall Width	
Overall Height from ground level (excluding the silencer height of Generator).	
Overall weight i.e. Total Mass	
<b>Truck</b>	
Make & Model of the offered Truck with Dual crew Cab & Load body	
Model	
GVW	
Wheelbase	
Emission norm shall be as applicable in the state of Assam (India) at the time of delivery of the vehicle- (Yes/No.)	
Name & details of reputed workshop/fabricator etc. mounting of the Generating Set etc. on Truck	
Cab or driver's compartment (Originally built & supplied with the vehicle by the vehicle manufacturer – (Yes/No.)	
Seating capacity in Dual Crew cab including Driver	
Technical leaflet/brochure with technical details of the offered Truck submitted along with the technical bid – (Yes/No.)	
Drawings (Submitted/Not submitted)	
<b>Load body dimension &amp; Payload capacity of offered Truck</b>	
Truck Load body length	
Truck Load body width	
Truck Load body side deck height from Truck platform	
Payload capacity	
<b>Dimension &amp; Weight of offered Generating Set</b>	
Overall length	
Overall width	
Overall height (excluding silencer height)	
Overall height (including silencer height)	
Total weight (mass)	

**17.13 SAMPLE COPY OF FORM 21, 22, 22-A OF INDIAN MOTOR VEHICLE ACT:**

**A. SAMPLE COPY OF FORM 21:**

Following is a sample copy of **FORM 21 of Indian Motor Vehicle Act** only. The certificate shall contain following minimum information -

**FORM 21**  
[See Rules 47 (a) and (d)]  
**SALE CERTIFICATE**

(To be issued by manufacturer/ dealer or officer of Defence Department (in case of military auctioned vehicles) for presentation along with the application for registration of a motor vehicle).

Certified that ..... (Brand name of the vehicle)  
has been delivered by us to **OIL INDIA LIMITED** on .....(date).....  
Name of the buyer **OIL INDIA LIMITED**  
Son /wife / daughter .....  
Address (Permanent) .....  
(Temporary) .....

The vehicle is held under agreement of hire-purchase/lease/hypothecation with .....

The details of the vehicle are given below:

1. Class of Vehicle .....
2. Maker's name .....
3. Chassis No. ....
4. (Engine No. Or motor number in  
the case of Battery Operated Vehicles \*) .....
5. Horse power and cubic capacity .....
6. Fuel used .....
7. Number of cylinders .....
8. Month and year of manufacture .....
9. Seating capacity (including driver) .....
10. Unladen Weight .....
11. Maximum axle weight & number &  
description of tyres (in case of transport vehicle)
  - (a) Front axle .....
  - (b) Rear axle .....
  - (c) Any other axle .....
  - (d) Tandem axle .....
12. Colour .....
13. Gross vehicle weight .....
14. Type of body .....
15. Wheel Base .....
16. Type of vehicle .....

Signature of the Manufacturer /  
Dealer or Officer of defence Department

\*Strike out whichever is not applicable.



**B. SAMPLE COPY OF FORM 22:**

Following is a sample copy of Indian Motor Vehicle Act only. The certificate shall contain the following minimum information. –

**FORM 22**

[See Rules 47 (g), 115, 124(2), 126-A and 127(1), 127(2)]

**INITIAL CERTIFICATE OF COMPLIANCE WITH POLLUTION  
STANDARDS, SAFETY STANDARDS OF COMPONENTS AND ROAD-WORTHINESS  
(TO BE ISSUED BY THE MANUFACTURER)**

Certified that the following vehicle complies with the provisions of the Motor Vehicles Act, 1988 and the rules made thereunder, including the following mass emission norms:

Brand name of the vehicle :  
Chassis number :  
Engine number/Motor number :  
(In case of battery operated vehicles)  
Sub-rule No.....of rule 115 :  
Emission norms :  
[(Bharat Stage-IV / EURO-IV)]

Signature of Manufacturer

[Form 22, shall be issued with the signature of the manufacturer duly printed in the Form itself by affixing facsimile signature in ink under the hand and seal of the manufacturer. ]

**C. SAMPLE COPY OF FORM 22(A)**

Following is a sample copy of **FORM 22(A) of Indian Motor Vehicle Act** only. The certificate shall contain following minimum information. –

**FORM 22-A**

[See Rules 47 (g), 115, 124(2), 126-A and 127(1), 127(2)]

**INITIAL CERTIFICATE OF COMPLIANCE WITH POLLUTION  
STANDARDS, SAFETY STANDARDS OF COMPONENTS AND ROAD  
WORTHINESS (FOR VEHICLES WHERE BODY IS FABRICATED SEPARATELY)  
PART – I**

**(TO BE ISSUED BY THE MANUFACTURER)**

Certified that the following vehicle complies with the provisions of the Motor Vehicles Act, 1988 and the rules made thereunder, including the following mass emission norms:

Brand name of the vehicle : .....  
Chassis number : .....  
Engine number/Motor number : .....  
(In case of battery operated vehicles)  
Sub-rule No...of rule 115 : .....  
Emission norms : .....  
[(Bharat Stage-IV / EURO IV) : .....]

Signature of Chassis Manufacturer

Form 22-A, Part I shall be issued with the signature of the manufacturer duly printed in the Form itself by affixing facsimile signature in ink under the hand and seal of the manufacturer.

**PART – II**

**(TO BE ISSUED BY THE BODY BUILDER)**

Certified that body of the vehicle .....(brand name of the vehicle) bearing Chassis number ..... and Engine Number ..... has been fabricated by us and the same complies with the provisions of Motor Vehicles Act, 1988 and Rules made thereunder.

Signature of body builder

Form 22-A, Part II shall be issued with the signature of the body builder duly printed in the Form itself by affixing facsimile signature in ink under the hand and seal of the body builder.

## **SECTION IF**

### **18.0 Generator:**

#### **DETAILED TECHNICAL SPECIFICATION, SPECIAL NOTES AND OTHER TERMS AND CONDITIONS FOR PROCUREMENT OF 15 KVA ACCOUSTIC DIESEL ENGINE DRIVEN SINGLE GENERATING SET**

### **18.1 SCOPE OF SUPPLY:**

15 KVA, 3 Phase, 415 Volts, 50 Hz, 0.8 Power Factor, 1500 R.P.M. Electric Start Diesel Generating Set (Single) under N.T.P. conditions having Engine and Alternator directly coupled to each other through a tyre flex or equivalent make flexible coupling suitably Guarded. Each 15KVA DG set should comprise in Acoustic Enclosure (ARAI, Pune approved) mounted on to common base frame. The Genset should be CPEB compliant latest norms. **The Genset shall be preferably Indian make.**

### **18.2 PRIME MOVER (DIESEL ENGINE):**

The prime mover should be a four Cylinder, four Stroke cycle naturally aspirated Air- Cooled, vertical, in-line Diesel Engine, developing minimum 21.5 H.P. for continuous running (24 Hrs.) with an overload capacity of 10% for a period not exceeding One Hour in any 12 hours running when running at 1500 R.P.M. as per site conditions given below and shall conform to specifications IS: 10000/BS: 5514. The Governing is to be in accordance with Class A-2 specifications to IS: 10000/BS: 5514.

Maximum Temperature : 40 Deg C

Minimum Temperature : 5 Deg C

Maximum Relative Humidity at 35 Deg C: 95%

Maximum Altitude above mean Sea Level : 150M

HSD conforming to IS: 1593:1982 and having the following specifications:

Cetane number : 42.5

Gross calorific Value : 19480 BTU/CFT (10000 CAL/GM)

The Engine shall comprise of the following system:

A) Cooling System: The Cooling System of the air cooled engine should comprise of Belt/ Pulley Driven Blower Fan Assembly.

B) Air Intake System: The Air Intake System should comprise of: Heavy duty Oil Bath type Air Cleaner and Air intake manifold.

C) Starting System: The Starting System should be a 12 volt electric starting system comprising of a maintenance free lead acid type battery ( housed in a hard rubber or polypropylene case with venting provision) of reputed make, battery leads having minimum diameter of 70 sq. mm, Engine mounted Battery charging Alternator (Make: LUCAS TVS/ DELCO REMY or equivalent). 12 Volt Starter (Make: LUCAS TVS/ DELCO REMY or equivalent) and Starting ring fitted to the Engine Flywheel.

D) Exhaust System: The Exhaust System should comprise of: Exhaust Manifold, Stainless steel Exhaust Flexible connection, Exhaust Silencer, Spark Arrestor and associated Piping connections with proper clamping arrangement.

E) Fuel System: The Fuel System should comprise of suitable Governor, MF alternators, Fuel Injectors, Fuel Pump, Fuel Filter Assembly, Fuel lines and Fuel Tank having storage capacity to meet the Fuel requirements of 12 hours of full load operations.

F) Lubricating System: The Lubricating System should comprise of Gear driven lubricating Oil Pump. Lubricating Oil Filter with a replaceable Filter Element. Lubricating Oil Cooler, Lubricating Oil Pan, Oil level dipstick and Crankcase breather.

G) Instrument Panel: The instrument Panel should include the following:

- i) Lubricating oil pressure gauge
- ii) Lubricating oil temperature gauge
- iii) Starting Switch
- iv) Ignition Switch
- v) Digital/Mechanical Tachometer and Hour Meter
- vi) Ammeter
- vii) Engine "Low Lube Oil Pressure" indication display red lamp

H) Engine Safety Controls: Safety shut off/trip system for tripping the Engine in the event of:

- i) Low Lubricating oil pressure
- ii) Engine over speed

I) Other Features will be as under

- i) Flywheel
- ii) Flexible Coupling
- iii) Lifting eyes
- iv) Standard Guards over Belt Drives (Blower Fan Drive, charging Alternator drives pulley and flexible coupling).
- v) Standard Painting
- vi) SAE standard rotation

### **18.3 GENERAL NOTES:**

a) The bidder should submit the following information along with relevant performance rating curves and engine product catalogues.

- i) Gross HP developed at rated RPM
- ii) Deduction of blower fan, charging alternator and other ancillary equipment
- iii) Net HP developed at rated RPM
- iv) Fuel consumption at rated power as 110%, 75%, and 50% of rated load.

- b) A suitably selected flexible coupling should be incorporated to transfer power from the engine to the alternator.
- c) The set should be ready for operation after carrying out initial servicing and making provision for fuel.
- d) The engine and alternator should be mounted on suitably selected and sized Anti vibration Mounting onto a common skid and coupled to each other through a flexible coupling to make the DG set vibration free.

#### **18.4 DETAIL OF ELECTRICAL PART OF THE UNIT**

##### **KVA ALTERNATORS WITH CONTROL PANEL**

Alternator shall be of industrial type for continuous duty, self excited, self regulated, brush less type with automatic voltage regulator (AVR) and suitable for parallel operation.

#### **18.5 ALTERNATOR DETAILS**

- |     |   |   |
|-----|---|---|
| 1.  | Make/model  | : Kirloskar / Stamford/ Crompton Greaves  |
| 2.  | Rated voltage   | : 415v, 3 phase   |
| 3.  | Rated output / pf   | : 15 KVA/ 0.8(leg) (continuous duty)  |
| 4.  | Rated current   | : 20.9 amps   |
| 5.  | Type  | : Brush less with bearing at DE & NDE.  |
| 6.  | Speed   | : 1500 rpm  |
| 7.  | Frequency   | : 50 hz.  |
| 8.  | Class of insulation   | : Class f   |
| 9.  | Phase sequence  | : UVW   |
| 10. | Conform to  | : IS: 4722 /92, VDE 0530 and BS 5000  |
| 11. | Rating  | : Continuous  |
| 12. | Connection  | : y (star) connected stator winding with brought Out Terminals (three for phases & one for neutral) with Suitable insulation inside the terminal box. |
| 13. | Ambient temperature   | : 40 degree c   |
| 14. | Alternator internal protection                              | : IP 23 (enclosure)   |
| 15. | Alternator terminal box protection                          | : IP 54, terminal box should have suitable cable entry glands.  |
| 16. | Amplitude of vibration at no load                           | : 100 micron (max), (horizontal).   |
| 17. | Excitation system   | : Brush less self excited and self regulated  |
| 18. | Mounting  | : horizontal foot mounted   |
| 19. | Permissible voltage variation at rated KVA , speed and pf   | : +/- 2 %   |
| 20. | Permissible frequency variation at rated KVA , speed and pf | : + /- 2 %  |
| 21. | Voltage swing (transient response)                          | : when rated load is suddenly switched-on voltage dip – 5 to 10% and corrected within 0.2 to 0.7 sec.   |

22. The response ratio of excitation system shall not be less than 0.5 (time).
23. The alternator should be capable of operation over a range of 110% of rated voltage.
24. The excitation system should be so designed and/or protected that harmful over voltage cannot occur at the main exciter due to combined effect of max. Exciter field current and machine over speed.
25. The alternator should be provided with two grounding terminals with threaded bolts for connection to grounding grid.
26. The alternator should be provided with two numbers of eye hooks for lifting.
27. Wave form : sinusoidal(total harmonic distortion-less than 3% at no load)
28. Conductor material.: copper (electrolytic grade 99.9% pure)
29. Phase and neutral terminal box : 01 (one)
30. Voltage regulation : + / - 1%

#### **18.6 TESTING OF ALTERNATOR AT MANUFACTURERS WORKS:**

All the routine tests and load tests shall be carried out at manufacturers works site and all the test certificate from OEM shall be furnished with supply. The routine test will include the following tests/measurements:

- i) Measurement of winding resistances for generator armature, field, exciter armature and exciter field.
- ii) Measurement of insulation resistance tests (before and after hv tests) for generator armature and field, exciter armature and field.
- iii) High voltage (hv) tests
- iv) Phase sequence test.
- v) Voltage regulation tests
- vi) Vibration measurement.
- vii) Measurement of noise level.
- viii) Overload test.

#### **18.7 Automatic voltage regulator**

- |                            |   |           |
|----------------------------|---|-----------|
| i) Accuracy (steady state) | : | + - 1%    |
| ii) Response time          | : | 300 m sec |
| iii) Adjustment range      | : | + - 10%   |
| iv) Voltage monitor        | : | okay      |
| v) Excitation minotor      | : | okay      |

#### **18.8 Earthing system:**

Earthing system for the alternators both body and neutral should be as per the IS: 3043.

#### **18.9 NAME PLATE (RATING PLATE)**

Name plate shall be fixed on the alternator frame containing the following minimum information in English language. Manufacturers name, applicable standards, serial no. Type and frame reference, rated output in KVA and KW, rated power factor, duty, rated frequency, rated voltage, no. of phases and type of connection, rated stator current, rated speed in rpm, class of insulation, excitation current and voltage at rated output, phase rotation, temperature rise, year of manufacture.

### 18.10 STANDARDS:

The alternator shall conform to the following standards

IS:12065----- noiselimt  
IS: 12075 ----- vibration  
IS: 4722 ----- governing standards  
IS:4691 -----enclosure  
IS: 6362 ----- cooling  
IS: 2253 ----- mounting

### 18.11 CONTROL PANEL:

The control panel should be fabricated with 14SWG CRCA sheet steel. Enclosure should be dust and vermin proof, self supporting, indoor mounting industrial type 9. Enclosure as per IP-54. The frame should be fabricated from suitable size of rigid M.S. angle iron/M.S. Channel frame work to have sufficient strength. Panel door should be in double leaf with heavy duty hinges and lockable. A neoprene gasket is to be provided around the periphery of panel door to make it dust and vermin proof. Panel should be suitable for floor mounting with necessary vibration dampers. An earth bar of 50mm x 6mm of G.I. strap to be provided on the backside of the control panel for earth connection. Danger plates are to be provided on front and rear side of control panels. Detachable gland plate is to be provided for glanding of incoming and outgoing cables. The panel should be mounted on a frame of height 60 cm from ground level for easy cable termination. The total height of the control panel should be less than 1.8 meters. It should be stand alone self supporting type. Sufficient space should be provided in the bottom cable base for proper cable termination.

### 18.12 PANEL PAINTING:

Panels should be thoroughly cleaned before applying two coats of rust preventive paints. This shall be followed by three coats of paint light grey shade No. 631 as per IS: 5, thickness - 50 Microns.

### 18.13 PANEL DESIGN: Panels shall be designed complying with following points.

- a) For operating each alternator independently.
- b) All control wiring is to be done with single core **2.5 sq.mm** flexible copper PVC insulated and PVC sheathed wires of 1100 V grade .Wire to be approved by ISI.
- c) Control wires will not have any joint. Terminal blocks should be used whatever required for jointing purpose.
- d) All wires are to be numbered (using ferrule) for ease of identification.
- e) Suitable sizes of cable gland are to be provided at cable entry points of the panels.
- f) The indicating meters are to be mounted on the front side of the panels and shall be of flush type.
- g) There should be sufficient space inside the panel for maintenance.
- h) The power wiring should be done with single core, multistrand, PVC insulated and PVC sheathed circular **10.0 sq.mm** copper cable. All connections should be terminated with suitably rated tinned copper lugs and nuts & bolts.
- i) The layout of the component should be systematic and arranged in such a way that the components can be easily approached for maintenance.

#### 18.14 SPECIFICATION OF CONTROL PANEL FOR 15 KVA GENERATOR :

1. 32 Amp, 415 V, TPN, Fuse switch unit with 32 Amp HRC fuses and rupturing capacity of 80 KA, Qty - 1 No.
2. 32 Amp, 415V MCCB, four poles breaking capacity - 15KA, with adjustable overload along with 230V shunt trip coil. Qty - 1 No. Door inter lock should be provided for MCCB to ensure that door can be opened only when MCCB is in OFF position. MCCB should trip in case of earth leakage.
3. Core balance current transformer with earth leakage relay, relay range 0.3 amp to 3.0 amp with indication circuit, Test and Reset push button. The earth leakage relay should be connected to MCCB for tripping in case of earth leakage. Make: MEI / MDS legrand/Prayag - 1 no.
4. M.I. A.C. Voltmeter, Range (0-500V), Size : 96 mm x 96 mm 1 No. Make : Automatic Electric Industries Ltd or equivalent reputed make .
5. Voltmeter selector switch with 4 position. (OFF, RY, YB -BR) - 1 No., Make : Kaycee /L & T /Siemens
6. Current Transformer, resin cast **C.T. Ratio-30/5 A, Burden 15VA**, Accuracy Class 1 for ammeter - 3 Nos., Make : A.E. Ltd/Kappa/Schneider
7. Control Fuses for protection of voltmeter which require 1 set of fuse carrier and base Fuses-type NS4, Rating - 4 Amp. Make – GE/bussman .
8. Busbar - A suitable length of 4 Nos. electrolytic grade high conductivity aluminum busbar of **100 Amp** rating, material -E 91 E- W.P. as per IS-5082-1969 for incoming and outgoing feeders. Busbar support should be of non-hygroscopic materials and should have superior electrical resistance and fire resistance properties. Busbar should be capable of withstand short circuit fault level **of 50KA**. Busbar support should be made of solid moulded compound (SMC) and busbar temperature should not exceed 85 degree centigrade. Bus bar should be insulated with heat shrinkable PVC sleeves. Make: Kappa/A.E. Ltd.
9. M.I. AC ammeter, CT operated, Range (0-30) A, Size : 96mm x 96mm - 1 No. CT ratio:30/5 A, Make :A.E. Ltd.
10. Ammeter selector switch with 4 position (OFF-R-Y-B) Make: Kaycee - 1 No.
11. LED indication of incoming power - 3 nos.
12. Automatic voltage regulator suitable for offered alternator.

13. 2 Nos. of separate earthing points are to be provided on the panel.
14. Cable gland suitable for 31/2 core x 10 Sq.mm PVC insulated armoured aluminum cable fitted in bottom detachable gland plate. Quantity: 2 nos.
15. 2 Nos. Eye Hooks for lifting of panel.
16. AVR type and mounting should be as per Genset specification. In case, control panel is mounting type, then AVR should be provided inside the panel in an approachable location. In case of Generator is mounting type, wiring facility should be incorporated in the panel.

**NOTE:**

- a) Alternator being a specialized item , only the makes detailed below will be acceptable:
  - i **Kirloskar**
  - ii **Crompton Greaves**
  - iii **Stamford**
- b) The bidder should provide following information regarding alternator along with the offer failing which offer may be rejected.
  - i **Frame size**
  - ii **Dimensional drawing**
  - iii **Technical datasheet**
  - iv **Catalogue**
- c) The bidder should provide following information regarding alternator control panel along with the offer failing which offer may be rejected.
  - i. **Dimensional drawing**
  - ii **General arrangement drawing**
  - iii **Power and control circuit drawing**
  - iv **Component details of control panel**
- d) Offered alternator should be of proven design / model.
- e) Spare parts list along with the price should be provided with the quotation.
- f) Alternator and control panel are to be guaranteed for a period of 12 months against any manufacturing defects.
- g) Guaranty certificate should be submitted at the time of delivery of alternator and control panel.



- h) The Alternator should be procured from the original manufacturer of alternator or from the authorized dealer/assembler of alternator manufacturer (for generating set application). Bidders should confirm the same in their offer.
- i) Test certificate of alternator should be furnished at the time of delivery of alternator.
- j) Bidder should get the drawing of control panel approved from OIL on placement of order but before manufacturing the control panel.
- k) Packing should be adequate to avoid ingress of moisture and transit damage.
- l) Ten sets of control circuit diagram of control panel and commissioning cum maintenance manual for alternator should be provided along with the material.

### **18.15 ACOUSTIC ENCLOSURE:**

**The salient features of the acoustic enclosure shall be as follows:**

- i. The acoustic enclosure packages should be portable and should house the engine, alternator and control panel.
- ii. The acoustic enclosure should be designed and manufactured to suit the most stringent noise specifications offering attenuation to a minimum of 70dBA at 7 meters.
- iii. There should be carefully designed inlet and outlet baffles / attenuators with corresponding weather louvers and bird mesh allowing sufficient air flow, for the set to operate even under the harshest ambient conditions whilst maintaining specified noise levels.
- iv. The canopies should be base frame mounted, made from corrosion resistant sheet steel duly surface treated and lined with sound absorbing materials retained by powder coated perforated zinc sheet.
- v. Each canopy should have a pitched roof, guttering and a panel viewing window. Readings of indicating meters must be visible from outside. Side opening access doors should be provided on either side with lockable recessed handles to facilitate maintenance operations. Cable glands should be provided to avoid necessity of cutting into the canopy. The enclosure should have sufficient space around the generating set, so that operating personnel can carry out inspection of the same. There should also be provisions for taking out the generating set or the panel for maintenance / overhauling jobs.
- vi. The residential type silencer and spark arrestor should be roof mounted with all internal pipe work including flexible bellows already connected. The silencer should be designed to give minimum back pressure and high sound attenuation.

- vii. The canopy should be finished in synthetic enamel paint incorporating rust inhibitors and aluminum sprayed silencers and spark arrestors to guarantee a superior and long lasting finish. A separate thermostatically controlled blower must be provided for eliminating excessive heat dissipated by the engine within the acoustic enclosure.
- viii. There must be two numbers of earthing points on both sides for connecting the enclosure to the ground.
- ix. The alternator and control panel should be interconnected with 4 core 10 sq. mm PVC insulated, PVC sheathed armoured copper cable and cable should be terminated with proper size of tinned copper sweating socket and cable glands at alternator and panel end.

**N.B.:** Bidders should submit layout drawing of the acoustic enclosure indicating positions of engine, alternator, control panel, etc. along with the wiring diagram of the package. The enclosure should be provided with internal wiring for illumination. There should be one number 15 amps MCB , one number switchboard with 5 amps/ 15 amps combined switch / socket, 1 numbers 20 watt tube light fitting with lamp for lighting circuit. Wiring of lighting circuit should through the PVC conduit. Main switch, changeover switch, control panel and alternator should be interconnected with 25 mm X 6 mm G-I strip.

#### **18.16 SPARE PARTS LIST, INSTRUCTION MANUAL & DRAWINGS:**

- i. The supplier should provide two sets each of parts list, operators instruction manual and workshop maintenance manual covering all the items along with each generating set.
- ii. One set of drawing showing installation details of the generating set, oilfield type skid, wiring diagram for the control panel and wiring drawing between the alternator and control panel should be provided with each generating set. All control panel diagram and schematic diagram are to be sent to OIL and duly approved prior to placement of order.
- iii. The supplier have to provide installation diagram of the set, performance and SCAN data sheet along with the quotation.
- iv. The supplier should provide one additional set of AVR and rotating diode.
- v. The supplier should provide along with the set:
  - a. Dynamic load
  - b. Static load
  - c. Any unbalanced load
- vi. List of spares along with their part numbers that shall be required for normal operation and maintenance of the generating sets and accessories for a period of two years should be submitted along with the offer. Item- wise breakdown price of spares should also be provided. However cost of these spares will not be considered for evaluation of the offer.

## **18.17 INSPECTION AND TESTS**

- 18.17.1** The generating sets including the control panels shall be inspected and tested at manufacture's works by OIL's engineer prior to dispatch. Such inspection shall however not relieve the supplier of his responsibility to ensure that the equipment supplied is free from all manufacturing and other defects and conforms to correct specifications. Intimation must be sent to OIL in advance, for deputing personnel to carry out the inspection of equipment at manufacturer's works.
- 18.17.2** Pre-dispatch inspection of the sets shall be carried out by OIL through its designated representative at the works of manufacturer. Full load testing of the generator sets for output and performance shall be carried out in presence of the purchaser or his representative appointed for the purpose and to his satisfaction.
- 18.17.3** The generating set shall be acceptable to the purchaser only after satisfactory full load test.

## **18.18 TEST CERTIFICATES:**

The supplier shall submit detailed records and certificates of the foregoing tests as well as all relevant test certificates, to the purchaser, along with the delivery of the generating etc. The certificates/records shall be supplied in quadruplicate and those for electrical equipment shall be endorsed "suitable for use in the climatic conditions specified".

## **SECTION IG**

### **19.0 CONSUMABLES**

**19.1** List of consumables items to be offered are as follows:

- Thermal Paper Roll – 150 nos. (to be used with item 5.2)
- Cleaning Cartridges – 10 nos. (to be used with item 5.3)
- Thermal Paper Roll for LVL plotter – 100 nos. (to be used with item 10.0)
- Brand new Empty LTO-7 Tapes (un-compressed 6 TB capacity) - 30 Nos

### **20.0 SPARES AND REPAIR KIT**

#### **20.1 SPARE KIT FOR CENTRAL RECORDING UNIT AND PERIPHERALS**

**20.1.1** Spare kit for onsite repair for the CRU including the man-machine interface should include one complete set of spare boards / PCB's used in the data acquisition module of the CRU, man-machine interface, (or the complete module in lieu thereof).

**20.1.2** One complete set of interconnecting cables used for interconnecting various modules in the CRU, viz. CRU to workstation/PC/Operator console to various peripherals (like Printer, Plotter, Cartridge Drive, External Storage System etc.) to QC systems and power cables.

**20.1.3** Complete list of spares to be supplied, Section–IF, clause 18.16, along with individual price should be attached separately.

**20.1.4** Fiber Optical Maintenance and Tool Kit with associated consumables for splice – 20 Nos. Of splices.

**20.1.5** Suitable repair kit for repairing Normal Wire Line cables(Telemetry) – 300 nos. cuts/splices

**20.1.6** Complete Tool Kit with carrying case, meters etc. for field units- One set.

**20.1.7** All types of connectors (viz. end connectors, sockets, takeout connectors/geophone takeouts, adapters, patch cables, etc.) used in the spread which includes all the field units/links and cables -1 set each (i.e.: 1set each means at least 15% of connectors used in spread for each category, rounded to the next higher whole number).

### **21.0 PRODUCT SUPPORT (HARDWARE)**

**21.1** Future support for service, supply of spare & consumable parts of the vendors items should be **for minimum 7 (seven) years** from the date of commissioning with regard to service, spares and consumables. However, for bought out items other than those covered under AMC, the bidder has to provide minimum one (1) year support from date of commissioning. Certificate to these effects should be enclosed with the bid document.

**21.2** Any hardware/software modification required for removal of bugs, if any, should be provided during the warranty period and beyond till the full life cycle of the seismic data acquisition system at no additional cost to OIL.

## **22.0 PRODUCT SUPPORT (SOFTWARE)**

- 22.1** The Operating software and the application software need to be supplied with perpetual license (full life time license minimum of 20 years). Third party software, if any, should also be supplied with perpetual license. In this regard, for the said span of 20 years, bidder shall support the license with free of cost, and during this 20 years period if the software needs to be installed on new hardware in event of any hardware failure, the bidder shall install the software on the supplied new hardware with free of cost at Duliajan. However, the necessary new hardware will be provided by OIL.
- 22.2** Any software upgrades if released within the warranty period would be provided at no Additional cost to OIL.
- 22.3** Software patches for general improvement in the function of the system and also for the removal of the bugs if any, during the warranty period and beyond till the full life cycle (full usage time) of the system shall be supplied by the supplier at no additional cost to OIL.
- 22.4** Information about revision/up-gradation should be provided by the bidder from time to time at no cost to OIL.
- 22.5** password / license operating keys corresponding to Host IDs of various intelligent devices, workstations, PCB's, plotters, printers, devices etc. requiring licenses or authorization or password integrated/ to be integrated into the system should be provided for smooth utilization/maintenance during the life cycle of the equipment. This will include the supplied/ to be supplied spares also.

## **SECTION IH**

### **23.0 PRE-DISPATCH INSPECTION, DELIVERY, INSTALLATION AND COMMISSIONING & TRAINING**

#### **23.1 INSPECTION**

**23.2** Three (03) OIL personnel will visit the vendor's site for duration of two (2) weeks for carrying out item wise physical inspection of imported items as per specification of the system, channel capacity of the equipment, checking of spares, consumables, manuals, catalogues, software and other documents before the dispatch of the consignment. For the Indian make items the inspection will be done in India.

**23.3** The bidder/supplier should intimate the date of inspection to OIL at least forty-five (45) days advance to complete the necessary internal formalities for OIL's personnel to visit the vendor site. Cost of traveling, boarding and lodging of OIL's personnel will be borne by OIL.

#### **24.0 DELIVERY**

**24.1** The delivery of the system should be as per respective delivery clause of Bid Rejection Criteria.

**24.1.1** For all the items of the equipment, which are Indian make or procured from Indian market, bidder shall submit their quote on FOR Duliajan basis indicating freight and insurances as applibale. OIL may opt for placement of order on FOR Duliajan basis for such items.

**24.1.2** All the items of the equipment /spares, accessories and [peripherals of the foreign origin or imported from overseas countries shall be shipped by suitable mode (air, sea as may be applicable) to Kolkata port, India.

**24.1.3** The bidder shall specify in the price schedule which items are the imported and which items are indigenous separately.

#### **25.0 INSTALLATION & COMMISSIONING**

**25.1** The bidder should undertake to completely assemble the system including shock proof and mounting of the same in cabin on the truck along with integration of different peripherals/items such as tape drives, external storage systems, power supplies generator etc. so that the system becomes ready for deployment in the field after commissioning.

**25.2** The bidder should undertake to completely assemble the Data harvesting, transcription, copying (as applicable) and charging device etc. in the shock proof cabin with integration of different peripherals/items such as, LTO drives, external storage systems, power supplies generator etc. so that the system becomes ready for deployment in the field after commissioning.

- 25.3** The system will be installed and commissioned by the supplier at Oil India Ltd. specified location in Duliajan/OIL operational Areas, Assam only. Charges if any should be quoted in the enclosed price schedule.
- 25.4** The commissioning engineers should be available at site within 30 days of the intimation given by the company for commissioning the equipment and the commissioning should be completed within four weeks.
- 25.5** The following points are to be verified at the consignee's premises jointly by the representative of the bidder & OIL's representative(s):
- Quantity & Physical condition of each of the modules/items supplied.
  - Cabin & Generator including condition of fittings
  - Manuals, Catalogues
  - Software media and manuals
  - Necessary Test /Warranty/ Guarantee Certificates
  - Any other details as per complete system specifications.
- 25.6** The commissioning of the equipment other than (item 25.5) includes physical, testing/checking of all the equipment & delivered spares.
- 25.7** Comprehensive Acceptance tests as per the acceptance protocol are to be carried out during the commissioning of each item of the system including all accessories & peripherals by the representative(s) of the supplier in fully working condition after duly interfacing all the supplied items in the presence of OIL's representatives. An installation and commissioning certificate duly signed by the authorized representatives of the OIL shall be issued certifying that the fully integrated system is functioning satisfactorily as per the Supply order.
- 25.8** At least one of the engineers is required at commissioning site for additional two weeks after the system is commissioned successfully, to ensure smooth deployment and functioning in the field.
- 26.0 TRAINING**
- 26.1** In order to ensure optimal utilization of new technology and efficient in-house maintenance of the sophisticated system training has to be imparted to OIL's personnel. The charges for training, if any should be quoted in the enclosed price schedule.
- 26.2** Training on Operation, Hardware maintenance, online QC tools, standard instrument tests, troubleshooting, advanced capabilities for data re-routing etc. for the seismic data acquisition system. Hardware maintenance training should include central controlling /recording unit, ground electronics and peripherals such as Radio blasting system, plotter, LVL recorder, work station, fiber optical cable, Test & Maintenance Equipment etc. The training should also be imparted on operation, maintenance and software applications for the LVL recorder. The complete training has to be imparted to **six (06)** numbers of Geophysicists/Engineers and should be of minimum three (3) weeks duration. The bidder has to quote for conducting this training at vendor's site.
- 26.3** The travel and living expenses of OIL personnel for the training organized at suppliers work site/ factory will be borne by OIL.
- 26.4** The details of the training should be enclosed along with the offer.

## **SECTION II**

### **27.0 WARRANTY & AMC:**

- 27.1** All the equipment including third party items shall have to be covered by a warranty for twelve (12) months after successful commissioning at site.
- 27.2** Warranty should also include supply of all the software upgrades with necessary additional; hardware, if any, free of cost.
- 27.3** In case of any defect (as per the General terms & conditions under Warranty clause), during warranty, the supplier shall arrange to replace/repair the defective part at his own cost at users' site.
- 27.4** In case of problem in central controlling /recording unit and its peripherals etc, the supplier shall send his engineer along with relevant spares to rectify the problem at site. The necessary travel and boarding, lodging expenses of the service engineer will be borne by the supplier. The system shall have to be repaired within a period of ten (10) days from the time it is reported.
- 27.5** In case of supplier's failure to repair as per clause-27.4 a penalty on pro-data basis shall be levied @ 0.5 % per week upto the maximum of 7.5% cost of the equipment which will be paid by the supplier within 30 days. If the supplier fails to pay the penalty, the same shall be recovered from Bank Guarantee.
- 27.6** In case of problem in the supplied items including ground electronics, HF sets, VHF sets, battery charger, portable hand held testers, recorder cabin and truck etc. The supplier has to replace/repair all the defective part within one month from date of reporting, failing which the penalty on pro-data basis shall be levied @ 0.5 % per week upto maximum of 7.5% cost of the equipment which will be paid by the supplier within 30 days. If the supplier fails to pay the penalty, the same shall be recovered from Bank Guarantee
- 27.7** For warranty services, OIL will liaise only with a single point of contact of the bidder.

### **28.0 ANNUAL MAINTENANCE AND SUPPORT CONTRACT**

- 28.1** AMC will start after successful completion of warranty period.
- 28.2** The bidder has to quote for Four years of comprehensive AMC for items supplied against this tender as given in Annexure-03. Unless explicitly mentioned all the Items required to be covered under the AMC are those as listed in Annexure-03.
- 28.3** The bidder has to quote the total AMC charges per year separately for four years after expiry of one (1) year warranty period.
- 28.4** The AMC will include Preventive as well as corrective maintenance.
- 28.5** The charges quoted against AMC for four (04) years will be considered for commercial evaluation.



- 28.6** The supplier has to identify the critical spares required for stocking and the same has to be mentioned in their quote. The successful bidder has to stock critical spares as identified to minimize downtime of all the equipments supplied.
- 28.7** The supplier will depute one of their trained / OEM certified maintenance engineers on as and when required basis to Duliajan during four (4) years AMC period. The engineer should be qualified and should have minimum two (2) years experience with similar systems.
- 28.8** The supplier at his own cost shall arrange the clearance of the spare parts, equipment etc. from customs and port authorities in India and shall pay all requisite duties including customs duty, demurrages, if any, clearance fee/ charges, inland transport charges etc.
- 28.9** The supplier shall arrange accommodation and local transportation for their maintenance engineers during stay at Duliajan, Assam, India 786602.
- 28.10** Clause deleted
- 28.11** No cannibalization of any system will be permitted for carrying out maintenance Services.
- 28.12** The supplier will have to follow the preventive maintenance schedule of each equipment supplied, during the AMC period
- 28.13** Any tools and equipments needed for carrying out the jobs under AMC has to be provided by the supplier. However, OIL will provide help with tools available with them.
- 28.14** In case the contractor fails to repair any equipment supplied by them during the AMC period, within 120 hours from the time of reporting the breakdown, a penalty of 0.5% of AMC charges for each day of delay will be levied subject to a maximum amount of 7.5 % of AMC charges with in a calendar year. If for any reason, the bidder fails to repair the equipment within eleven successive days from the date of reporting, the period of AMC will be extended by the said period at no extra cost in addition to the above penalty. If the supplier fails to pay the penalty, the same shall be recovered from Bank Guarantee deposited for AMC.
- 28.15** For AMC services, OIL will liaise only with a single point of contact of the bidder. The bidder has to mention the contact address, phone number of the contact person who will be responsible for AMC support.
- 28.16** The AMC should include supply and installation of all the software upgrades with necessary additional hardware, if any, free of cost at the earliest.
- 28.17** Bidder must have at least one (1) authorized support center in India to provide immediate maintenance and repairing services.

**Annexure-03**

<b>SL. NO.</b>	<b>NIT ITEM NO.</b>	<b>ITEM DESCRIPTION (TO BE COVERED UNDER COMPREHENSIVE AMC)</b>	<b>Quantity</b>
<b>1</b>	<b>3.1</b>	<b>Central Controlling / Recording Unit (CRU) (Complete Hardware &amp; Software) as per NIT clause 3.1</b>	<b>02</b>
<b>2</b>	<b>4.0</b>	Cable less station units (nodes)	1000
<b>3</b>	<b>4.2</b>	<b>Data Harvesting Equipment Unit (Complete Hardware &amp; software )</b>	<b>01</b>
<b>4</b>	<b>4.2</b>	Field deployment tools for cable less nodes	10
<b>5</b>	<b>5.2</b>	Thermal Plotter	01
<b>6</b>	<b>5.3</b>	LTO Drives	04
<b>7</b>	<b>5.6</b>	Encoders	02
<b>8</b>	<b>5.6</b>	Decoders	07
<b>9</b>	<b>7.1</b>	Power Supply Units	Adequate
<b>10</b>	<b>7.2</b>	Cross Line Station Units	40
<b>11</b>	<b>10.0</b>	LVL/Up-hole Recorder Complete set	02
<b>12</b>	<b>11.0</b>	Test & Measuring equipment	01
<b>13</b>	<b>11.1</b>	Line tester	04
<b>14</b>	<b>11.2</b>	Geophone Tester	02
<b>15</b>	<b>11.3</b>	Cable tester	02

**Note:** All the items covered under Annual Maintenance Contract (AMC) should be maintained in such a way that all the items are ready for deployment and use in the field as per the Clause 28.0 of this tender document.

## **SECTION-II**

### **COMMERCIAL 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.

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	<b>Whether ORIGINAL Bid Bond (not copy of Bid Bond) as per Revised Format(Annexure VII Revised) Sent separately? If YES, provide details</b>	Yes / No
	<b>(a) Amount :</b>	
	<b>(b) Name of issuing Bank :</b>	
	<b>(c) Validity of Bid Bond :</b>	
4.0	Whether offered firm prices ?	Yes / No
4.1	Whether quoted offer <b>validity of 120 days from</b> 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 NIT Payment Terms	Yes / No
5.0	<b>Whether confirmed to submit PBG as asked for in NIT?</b>	<b>Yes / No</b>
5.1	<b>Whether agreed to submit PBG within 30 days of placement of order?</b>	<b>Yes / No</b>
6.0	Whether Price submitted as per Price Schedule ?	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

**TO BE FILLED UP IN DETAIL:**

Sl No	Requirement	Bidder's Reply
01	Name of Manufacturer	
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: Liquidated Damage Warranty/Guarantee Arbitration/Resolution of Dispute Force Majeure Applicable laws	
12	Confirm submission of the balance sheet/Financial Statements for the financial year 2018-19. If not, whether declaration as per BRC submitted.	
13	Exception/Deviations quoted, if any, to be given in details or refer to respective page of the bid documents	

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

.....

## **SECTION-III**

**TECHNICAL CHECK LIST:** Important: Please tick relevant box and specify remarks, if any. Use additional sheets for remarks if required. Any deviation in terms with \* will make the bid liable for rejection.

<b>NIT item No</b>	<b>Agree</b>	<b>Not Agree</b>	<b>Remarks</b>	<b>Technical Literature / Brochure, (Reference Page No.)</b>
1.0*				
2.1*				
2.2*				
2.3*				
2.4*				
2.5*				
2.6*				
2.7*				
2.8*				
2.9*				
2.10*				
2.11*				
2.12*				
2.13*				
2.14*				
2.15*				
2.16*				
2.17*				
3.1*				
3.2*				
3.2.1*				
3.2.2*				
3.2.3*				
3.2.4*				
3.2.5*				
3.2.6*				
3.2.7*				
3.2.8*				
3.2.9*				
3.2.10*				
3.2.11*				
3.2.12*				
3.2.13*				
3.2.14*				
3.2.15*				
3.2.16*				

## **TECHNICAL CHECK LIST**

<b>NIT item No</b>	<b>Agree</b>	<b>Not Agree</b>	<b>Remarks</b>	<b>Technical Literature / Brochure (Reference Page No.)</b>
3.2.17*				
3.2.18*				
3.2.19*				
3.2.20*				
3.2.21*				
4.1*				
4.1.1*				
4.2.1*				
4.2.2*				
4.2.3*				
4.3*				
4.4*				
5.1*				
5.2*				
5.3*				
5.4*				
5.5*				
5.6*				
5.7*				
5.8*				
5.9*				
5.10*				
5.11*				
5.12*				
5.13*				
5.14*				
5.15*				
5.16*				
5.17*				
6.1*				
6.1.1*				
6.1.2*				
6.1.3*				
6.1.4*				

**TECHNICAL CHECK LIST**

NIT item No	Agree	Not Agree	Remarks	Technical Literature / Brochure (Reference Page No.)
6.2*				
6.2.1*				
6.2.2*				
6.2.3*				
6.2.4*				
6.2.5*				
7.0*				
8.0*				
9.1*				
10.1*				
11.1*				
11.2*				
11.3.1*				
11.3.2*				
11.3.3*				
11.4.1*				
11.5.1*				
11.6.1*				
12.1*				
13.1*				
13.2*				
13.3*				
14.0*				
14.1*				
14.2*				
15.1*				
15.2*				
15.3*				
15.4*				
16.1*				
16.2*				
16.3*				
16.4*				
17.1*				

## **TECHNICAL CHECK LIST**

<b>NIT item No</b>	<b>Agree</b>	<b>Not Agree</b>	<b>Remarks</b>	<b>Technical Literature / Brochure (Reference Page No.)</b>
17.2*				
17.3*				
17.4*				
17.5**				
17.6*				
17.7*				
17.8*				
17.9*				
17.10*				
17.11*				
17.12*				
17.13*				
18.0*				
18.1*				
18.2*				
18.3*				
18.4*				
18.5*				
18.6*				
18.7*				
18.8*				
18.9*				
18.10*				
18.11*				
18.12*				
18.13*				
18.14*				
18.15*				
18.16*				
18.17.1*				
18.17.2*				
18.17.3*				



## TECHNICAL CHECK LIST

NIT item No	Agree	Not Agree	Remarks	Technical Literature / Brochure (Reference Page No.)
18.18*				
19.1*				
20.1.1*				
20.1.2*				
20.1.3*				
20.1.4*				
20.1.5*				
20.1.6*				
20.1.7*				
21.1*				
21.2*				
22.1*				
22.2*				
22.3*				
22.4*				
22.5*				
23.2*				
23.3*				
24.1*				
24.2*				
25.1*				
25.2*				
25.3*				
25.4*				
25.5*				
25.6*				
25.7*				
25.8*				
26.1*				
26.2*				
26.3*				
26.4*				
27.1*				
27.2*				
27.3*				

**TECHNICAL CHECK LIST**

NIT item No	Agree	Not Agree	Remarks	Technical Literature / Brochure (Reference Page No.)
27.4*				
27.5*				
27.6*				
27.7*				
28.2*				
28.3*				
28.4*				
28.5*				
28.6*				
28.7*				
28.8*				
28.9*				
28.10*				
28.11*				
28.12*				
28.13*				
28.14*				
28.15*				
28.16*				

## **SECTION-IV**

### **PART-AA: DETAILED PRICE BREAK UP**

#### **PRICE SCHEDULE - 1:**

Sl. No	NIT Item no.	ITEM DESCRIPTION		Qty required	Qty quoted	Unit cost	Total cost	Remarks
A	CENTRAL CONTROLLING/RECORDING UNIT (CRU)							
	3.0	Central Controlling/Recording Unit (CRU) with all required hardware and accessories as mentioned under item no. 3.0		Two (02)				
	4.1	Data Harvesting, Data Integration, Transcription, data copying and battery charging facility (hardware & software).	<b>Option-A</b> (Stipulated under item no. 4.1.1 as 'Option A') <b>Option-B</b> (Stipulated under item no. 4.1.1 as 'Option B')	One(01) unit				Cost break-up of Individual items cost should be quoted in separate Annexure.
	4.3	Ground electronics for Cable-less Units(Nodes) including Li-Ion Battery (Battery may be internal or external)			1000 Nos			
	4.3(q)	Field QC tools		10 Nos				
	4.4	Cabin for entire data harvesting /data copying facility etc. (Cabin price needs not be included under item 4.1)		01 No (unit)				
B	PERIPHERALS							
	5.1	Uninterrupted Power Supply (UPS)		Two (02)				
	5.2	Thermal Plotter		One (01)				
	5.3(a)	LTO-07 Tape Drive		Two (02)				
	5.3(b)	Higher than LTO-07 Tape Drive		Two (02)				
	5.4	External / Internal Storage Devices as mentioned	Option: A	Two (2) + One (1)				

		under item no. 5.4	Option: B	Two (2) + Two (2)				
	5.5	Interface ,Hardware for Copying Acquired Data to Tapes		As required				
	5.15	GPS Based Radio Blasting System						
		(I) Encoders		Two (02)				
		(II) Decoders		Seven (07)				
	5.16	Two way Professional Radios		Ten (10)				
	5.17	DC Power Supply		Two (02)				
<b>C</b>	<b>COMMUNICATION</b>							
	6.1	Walky talkies		Fifty(50)				
	6.2	HF sets		Two (02)				
	7.0	Battery Chargers		As described in item 7.0				
<b>D</b>	<b>DESKTOP COMPUTERS</b>							
	9.1	Desktop Computer for use at base camp.		Two (02)				
	10.1	Laptop		Two (02)				
<b>E</b>	<b>GROUND ELECTRONICS</b>							
	11.1	Data Acquisition Station Units/Links (Wireline Mode)		For a total of 5000 numbers of channels				
		Power Supply Units (as the per the system design)		Adequate nos. to power 5000 channels				
		Batteries to power up 5000 channels (as per system design)		Adequate nos. + 20% spares				
	11.2	Cross Line Station Units		Forty (40) nos.				

<b>SUBTOTAL OF A to E</b>	
---------------------------	--

<b>SUBTOTAL OF A to E in words</b>	
------------------------------------	--

Signature of the bidder: \_\_\_\_\_

**PRICE SCHEDULE - 2:**

Sl. No.	NIT Item no.	ITEM DESCRIPTION	Qty required	Qty quoted	Unit cost	Total cost	Remarks
<b>F</b>	<b>CABLES</b>						
	11.3	Line Telemetry Cables	For 5000 numbers of seismic channels				
	11.4	Cables/Patch Cables	Adequate nos.				
	11.5	Transverse Cables (Fiber Optic cables)	Forty (40)				
	11.6	Detour Cables	Ten (10)				
	11.7	Peripheral Wireline Equipment if required to use the cables in either case	Adequate Nos.				
<b>G</b>	12.0	Cable protectors	One Hundred (100)				
<b>H</b>	13.0	Geophone Strings	Five Thousand (5000)				
	13.2	Geophone Elements	One thousand (1000 )				
<b>I</b>	14.0	LVL/Uphole Recorder with accessories	Two(02)				
<b>J</b>	<b>TEST &amp; MEASURING EQUIPMENTS</b>						
	15.1	PC Based Test & Maintenance Equipment	One (01)				
	15.2	Line Tester	Four (04)				
	15.3	Geophone tester	Two (02)				
	15.4	Cable Tester (I) For Fiber Optical Cable	One (01)				
		(II) For Normal telemetry (wire) cable	One (01)				
<b>K</b>	<b>RECORDER CABIN, TRUCKS &amp; GENERATOR</b>						
	16.3	Truck for Recorder cabin	One (01)				
	16.4	Recorder Cabin	One (01)				
	17.0	Supply of Truck with Dual Crew Cab & load body mounted with 15KVA Generating Set	One (01)				
	18.0	15KVA Generator	Three (03)				

<b>SUBTOTAL of F to K</b>	
---------------------------	--

<b>SUBTOTAL of F to K in words</b>	
------------------------------------	--

Signature of the bidder: \_\_\_\_\_

**PRICE SCHEDULE - 3:**

Sl. No.	NIT Item no.	ITEM DESCRIPTION	Qty required	Qty quoted	Unit cost	Total cost	Remarks
<b>L</b>	<b>MANUALS</b>						
	25.5	Manuals, Hard Copy	Two sets (2)				
		Manuals, CD/DVD Media	Two sets (2)				
<b>M</b>	<b>CONSUMABLES</b>						
	19.1	a) Thermal Roll Paper (For item 19.1)	One hundred fifty (150 ) Rolls				
		b)Cleaning Cartridges (For item 19.1)	Ten(10) nos.				
		c)Thermal Paper Roll for LVL plotter (For item 19.1)	One Hundred (100) Rolls				
		d)Brand new Empty LTO -7 Tapes	30 nos				
<b>N</b>	<b>SPARES &amp; REAPIR KIT</b>						
	20.1	Spare Kit for CRU & Peripherals	One (1) complete set				
	20.1 .4	Fiber Optical Maintenance & Tool Kit	For 20 nos. of splices				
	20.1 .5	Repair & Maintenance Kit for Normal Wire line cable	For 300 cuts/splices				
	20.1 .6	Complete Tool Kit for Field Units	One (1) set				
	20.1 .7	Complete Kit of Connectors	One (1) set				

<b>SUBTOTAL of L to N</b>	
---------------------------	--

<b>SUBTOTAL of L to N in words</b>	
------------------------------------	--

Signature of the bidder: \_\_\_\_\_

**PRICE SCHEDULE - 4:**

Sl. No.	NIT item no	Item Description	Qty required	Qty quoted	Unit cost	Total cost	Remarks
O	3.2 & 4.0	Software for CRU , Software for Data harvesting, Integration, & Transcription.	One (1) set				Price Break-up for individual software should be provided as separate Annexure.
	3.2.19	Online Quality Control Software	One (1)				
	3.2.20	Necessary software for quality control of vibroseis data as per the system design	One (1)				
	5.5	Software for Copying Data from External Devices to LTO tape drive compatible media	One (1)				
	9.1	OS for PCs	Two (2)				
		All additional softwares required for the PC mentioned in item no. 9.1	One (1) set				
	10.1	OS for Laptops	Two (02)				
	14.0	Software for LVL & Uphole Recorder	Two (02) Sets				
	14.1	Comprehensive Refraction Analysis & Modeling Software	Two (02) Sets				
	15.1	Software for PC based Test & Maintenance equipment	One (1)				

<b>SUBTOTAL of O</b>	
----------------------	--

<b>SUBTOTAL of O in words</b>	
-------------------------------	--

Signature of the bidder: \_\_\_\_\_



**PRICE SCHEDULE - 5:**

All Software components provided on separate media other than mentioned in Annexure 1C from serial no. A to O should be quoted in the space& format provided below with complete details.

Sl. No.	NIT item no	Item Description	Qty required	Qty quoted	Unit cost	Total cost	Remarks
<b>P</b>	<b>15.2</b>	Software for Line Tester	04				
	<b>15.3</b>	Software for Geophone Tester	02				
	<b>15.4</b>	Software for Cable Tester	02(1+1)				

**Note:** All Indian items in the above table should be quoted in the table provided separately with appropriate remark.

<b>SUBTOTAL of P</b>	
----------------------	--

<b>SUBTOTAL of P in words</b>	
-------------------------------	--

Signature of the bidder: \_\_\_\_\_

**PRICE SCHEDULE - 6:**

Sl. No.	NIT Item no.	ITEM DESCRIPTION	Qty required	Qty quoted	Unit cost	Total cost	Remarks
Q	23.1	Pre-dispatch/shipment inspection	Lumpsum				
R	25.0	Installation & Commissioning	One (1)				
S	<b>Training &amp; AMC</b>						
	26.0	Training on Operation, Hardware maintenance, online QC tools, other applications etc.	LOT				
T	28.0	Comprehensive Annual Maintenance Contract of items as per <b>Annexure-1A</b>					
		Charges for 1st Year					
		Charges for 2nd Year					
		Charges for 3rd Year					
		Charges for 4th Year					

<b>SUBTOTAL of Q to T</b>	
---------------------------	--

<b>SUBTOTAL of Q to T in words</b>	
------------------------------------	--

<b>SUBTOTAL OF A TO E</b>		
<b>SUBTOTAL OF F TO K</b>		
<b>SUBTOTAL OF L TO N</b>		
<b>SUBTOTAL OF O</b>		
<b>SUBTOTAL OF P</b>		
<b>SUBTOTAL OF Q TO T</b>		
<b>GRAND TOTAL A TO T</b>		

Signature of the bidder: \_\_\_\_\_

## **PART-BB of SECTION-IV: PRICE BID FORMAT**

### **(i) Price Bid Format (SUMMARY) for Foreign Bidders/Items:**

Name of Bidder:		Currency:
Sl. No	Particulars	Price quoted
A	Total Material Cost of items to be imported (Break up of prices of each individual items are to submitted separately, refer Part-AA of Section IV of Annexure-AA )	
B	Packing & FOB Charges	
C	Total FOB Port of Shipment Value, A+B	
D	Ocean Freight Charges upto Kolkata, India	
E	Insurance Charges @0.5% of C	
F	Banking Charges @1% of E in case of payment through LC (if confirmed LC at buyer's account is required, 2% of E will be loaded)	
G	Total CIF Kolkata Value, C+D+E+F	
H	IGST @5% of G	
I	Total CIF+GST Kolkata Value, G+H	
J	Pre-despatch Inspection charges, if any	
K	Taxes on Pre-despatch Inspection charges (J), if any	
L	Charges towards training at manufacturer's premises to OIL Personnel, if any	
M	Taxes on Training (L), if any	
N	Installation & Commissioning charges, if any	
O	Taxes on Installation & Commissioning charges (N), if any	
P	Total Charges towards 4 years Comprehensive AMC	
Q	Taxes on AMC, if any	
R	<b>Total Value, I+J+K+L+M+N+O+P+Q</b>	
S	Total Value in words:	
T	Tentative Gross Weight	
U	Tentative Dimensions	
V	Name of Manufacturer	
W	Port of Despatch	
X	Country of Origin	

Note:

i) Strike out whichever is not applicable.

ii) Break up of prices of each individual items mentioning quantity and unit price of each item quoted must be provided separately.

iii) Prices of items of foreign origin must be submitted as per the price bid format for Foreign bidders whereas prices of items of Indian origin (to be despatched from India) must be submitted as per the price bid format for Indigenous bidders. This is applicable when a bidder submits their offer including items of both Indian Origin and Foreign Origin. Lists showing all the indigenous & foreign items with individual price break up are to be submitted separately.

iv) Foreign bidders must indicate name, address & commission of their Indian agent, if applicable

**(ii) Price Bid Format (SUMMARY) for Indigenous Bidders/Items:**

Name of Bidder:		Currency:
Sl. No	Particulars	Price quoted
A	Total Material Cost of items to be imported (Break up of prices of each individual items are to submitted separately, refer Part-AA of Section IV of Annexure-AA )	
B	Packing & Forwarding Charges	
C	Total Ex-Works Value, A+B	
D	GST@5% of C against Essentiality Certificate (however, bidder should indicate applicable rate of GST as per the HSN code)	
E	FOR Despatching Station Value, C+D	
F	Freight charges upto Duliajan	
G	GST on Freight charges	
H	Insurance charges upto Duliajan	
I	GST on Insurance charges	
J	Total FOR Duliajan Value, E+F+G+H+I	
K	Pre-despatch Inspection charges, if any	
L	Taxes on Pre-despatch Inspection charges (J), if any	
M	Charges towards training at manufacturer's premises to OIL Personnel, if any	
N	Taxes on Training (L), if any	
O	Installation & Commissioning charges, if any	
P	Taxes on Installation & Commissioning charges (N), if any	
Q	Total Charges towards 4 years Comprehensive AMC	
R	Taxes on AMC, if any	
S	Total Value, J+K+L+M+N+O+P+Q+R	
T	Total Value in words:	
U	Import Content, if any	
V	Tentative Gross Weight	
W	Tentative Dimensions	
X	Name of Manufacturer	
Y	Place of Despatch	
Z	Country of Origin	

Note:

i) Strike out whichever is not applicable.

ii) Break up of prices of each individual items mentioning quantity and unit price of each item quoted must be provided separately.

iii) Prices of items of foreign origin must be submitted as per the price bid format for Foreign bidders whereas prices of items of Indian origin (to be despatched from India) must be submitted as per the price bid format for Indigenous bidders. This is applicable when a bidder submits their offer including items of both Indian Origin and Foreign Origin. Lists showing all the indigenous & foreign items with individual price break up are to be submitted separately.

iv) Bidder must quote for freight and insurance charges upto OIL, Duliajan against all the items of Indian origin (to be despatched from India). Elsewise, same shall be construed as inclusive in material cost and it will be a binding on the bidder.