



TENDER DOCUMENT FOR PURCHASE OF

1. *Magnetotelluric System*
2. *Digital Fluxgate Magnetometer*
3. *ULF Induction Coil Magnetometer System*
4. *Global Positioning System*
5. *Radon monitoring system*
6. *Resistivity/IP system*
7. *Accelerograph*
8. *Overhauser Magnetometer System*
9. *Broadband Seismometer*

Tender No. 1/ 2015 – 2016.

**Stores & Purchase Officer
CSIR – North–East Institute of Science and Technology,
(Council of Scientific & Industrial Research)
Jorhat – 785 006
Assam: India**

BRIEF SUMMARY OF QUOTATION & CHECKLIST
(Not To Be Used For Evaluation/Comparison Purpose)

FOR ₹. QUOTE FILL RELEVANT INFORMATION IN ₹.

(Please Fill It Up. DON'T Write 'AS PER QUOTATION' / 'PLEASE REFER TO OUR OFFER')

| Quotation Ref. No. | | Date |
|--------------------|--|------|
| 01 | Main Items & / Model Nos. | |
| 02 | Unit Price with Item-wise Break-up and Total Cost including Taxes / Duties etc, as applicable (CSIR – NEIST is exempted from Customs / Excise Duties), as applicable on F O R basis. | |
| 03 | Insurance & freight Charges, if any. | |
| 04 | Payment Terms (Conditional Payment Terms Will NOT Be Accepted) | |
| 05 | Delivery Time (Weeks/Months) | |
| 06 | Warranty (Months/Years) | |
| 07 | Validity of Quotation (Days/Months) | |
| CHECKLIST | | |
| 01 | Following Things Are Mentioned On The Main (Outer) Envelope Item Name /Reference No. /Last Date For Submission of Tender/Date of Opening of Tender /Firm's Name & Address | |
| 02 | EMD is Enclosed (With The Technical Bid Envelope). | |
| 03 | Demand Drafft(s) Is/Are In Favour Of Director, CSIR – NEIST Jorhat – 785 006 (Assam) And Payable At Jorhat (Assam). Firm's Name/Ref. No. Etc., mentioned On The Back Side of DDs. | |
| 04 | The Bid Papers Have Been PUNCHED With A Hole  On The Top Left Hand Corner Side And Properly Tagged . | |
| 05 | Only Relevant Documents (Technical Brochures/Leaflets Etc.) Required In Support Of The Quoted Item Have Been Enclosed. No Irrelevant Papers like ITCC, User Recommendations etc. Have Been Enclosed Unless Specifically Asked For. | |
| 06 | Quotation Have Been Duly Signed And Stamped By The Authorized& Competent Person. All Cuttings/Over Writings Have Been Duly Checked, Initialed And Stamped. (If Applicable) | |
| 07 | Single Combined Offer Has Not Been Submitted OR 'Price Bid' Has Not Been Enclosed In The Envelope Marked 'Technical Bid' | |
| 08 | This Page Will Be Enclosed With The Price Bid. | |

We have read and understood the tender terms and conditions. The undersigned is competent to sign the tender document including this page on behalf of the quoting

Date:

(Signature with Seal)

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सीएसआईआर- उत्तर पूर्व विज्ञान एवं प्रौद्योगिकी संस्थान
CSIR – NORTH-EAST INSTITUTE OF SCIENCE AND TECHNOLOGY
 (Council of Scientific & Industrial Research)
 जोरहाट: JORHAT: असम: ASSAM



Tele: 0376 – 2372710.Fax: 2372921
 E-mail: spopur@rrljorhat.res.in / spopur@gmail.com.

NOTICE INVITING TENDER No. 1: 2015 – 16.

Director CSIR – NEIST invites sealed Tenders under **Two Bid System** for supply and installation of the following equipments from Original Equipment Manufacturers, Foreign Principals and Indian Agents.

| Sl. No. | Enquiry Number | DESCRIPTION OF ITEM | BID SYSTEM | Earnest Money Deposit Payable by Demand Draft / Bank Guarantee / Banker's Cheque |
|---------|-----------------------|--|------------|--|
| 1 | 1(PEQ)/01/15 – 16/PUR | Magnetotelluric System | TWO-BID | 72,000.00 |
| 2 | 1(PEQ)/02/15 – 16/PUR | Digital Fluxgate Magnetometer | TWO-BID | 60,000.00 |
| 3 | 1(PEQ)/03/15 – 16/PUR | ULF Induction Coil Magnetometer System | TWO-BID | 72,000.00 |
| 4 | 1(PEQ)/04/15 – 16/PUR | Global Positioning System | TWO-BID | 36,000.00 |
| 5 | 1(PEQ)/05/15 – 16/PUR | Radon monitoring system | TWO-BID | 42,000.00 |
| 6 | 1(PEQ)/06/15 – 16/PUR | Resistivity/IP system | TWO-BID | 86,000.00 |
| 7 | 1(PEQ)/07/15 – 16/PUR | Accelerograph | TWO-BID | 12,000.00 |
| 8 | 1(PEQ)/08/15 – 16/PUR | Overhauser Magnetometer System | TWO-BID | 32,800.00 |
| 9 | 1(PEQ)/09/15 – 16/PUR | Broadband Seismometer | TWO-BID | 30,000.00 |

Tender documents can be downloaded free of cost from <http://www.neist.res.in> as per schedule given below. If the vendor desires to have a hard copy the vendor must send a demand draft / banker's cheque for ₹. 300/- in favor of Director, CSIR – NEIST payable at JORHAT. Tender documents will be sent by post. CSIR – NEIST, JORHAT will not be responsible for postal delay / loss in transit.

The requisite amount of EMD / bid security should be submitted along with technical bid otherwise it will be summarily rejected.

Last date and time for Submission of bids: 18.09.2015 at 02.30 P.M.
Date and Time of Opening of Technical Bids: 18.09.2015 at 03.00 P.M.

Director, CSIR – NEIST reserves the right to accept or reject any offer without assigning any reasons.

Stores & Purchase Officer

CHAPTER 1

INSTRUCTIONS TO BIDDER (ITB)

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A. Introduction

1.1 Eligible Bidders

- 1.1.1 This Invitation for Bids is open to all suppliers.
- 1.1.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids.

1.2 Cost of Bidding

- 1.2.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

1.3 Fraud and corruption:

- 1.3.1 The purchaser requires that the *bidders*, suppliers and contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the following are defined:

"Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;

"Fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;

"Collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the purchaser, designed to establish bid prices at artificial, non-competitive levels; and

"Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

- 1.3.2 The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;

B. The Bidding Documents

1.4 Cost of Bidding Documents

1.4.1 Interested eligible bidders may purchase the bidding documents on payment of the cost of bidding documents as indicated in the invitation for bids/NIT or alternatively, the bidding documents can be downloaded from our web site as indicated in the invitation for bids / NIT free of cost.

1.5 Content of Bidding Documents

1.5.1 The goods required, bidding procedures and contract terms are prescribed in the bidding documents which should be read in conjunction. The bidding documents, apart from the invitation for bids have been divided into 9 chapters as under:

| | | |
|-----------|---|--|
| Chapter 1 | : | Instructions to Bidder (ITB) |
| Chapter 2 | : | General Conditions of Contract (GCC) and Special Conditions of Contract (SCC) |
| Chapter 3 | : | Schedule of Requirements |
| Chapter 4 | : | Price Schedule Forms |
| Chapter 5 | : | Qualification requirements |
| Chapter 6 | : | Contract Form |
| Chapter 7 | : | Other Standard Forms comprising: (a) Bidder Information Form (b) Manufacturer's Authorization Form (MAF) ; (c) Bid Security Form (d) Performance Statement Form (e) Deviation Statement Form; (f) Service Support details; (g) Bid form (h) Performance Security Form; (i) Acceptance Certificate Form. (j) Bank Guarantee For Advance Payment (k) Technical Compliance Statement Form |
| Chapter 8 | : | Specifications and Allied Technical Details |
| Chapter 9 | : | Evaluation of tender. |

1.5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

1.6 Clarification of bidding documents

1.6.1 A prospective bidder requiring any clarification of the bidding documents shall contact the Purchaser in writing at the Purchaser's address specified in the Special Conditions of Contract (SCC). The Purchaser will respond in writing to any request for clarification, provided that such request is received not later than ten (10) days prior to the dead line for submission of bids. The Purchaser shall forward copies of its response to all those who have acquired the Bidding Documents directly from it, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under clause relating to amendment of Bidding Documents and clause relating to dead line for submission of bids. The clarifications and amendment issued would also be hosted on the web site of the Purchaser for the benefit of the other prospective bidders.

1.7 Amendment of Bidding Documents

1.7.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

1.7.2 All prospective bidders who have received the bidding documents will be notified of the amendment in writing or by cable or by fax, or by e mail and will be binding on them. The same would also be hosted on the website of the Purchaser and all prospective bidders are expected to surf the website before submitting their bids to take cognizance of the amendments.

1.7.3 In order to allow prospective bidders reasonable time to take the amendment into account, vial in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids and host the changes on the website of the purchaser.

C. Preparation of Bids

1.8 Language of Bid

1.8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language only especially when the details are technical. However if GOI makes it mandatory under Raj Bhasha Adhinyam in that case use of Raj Bhasha unit of CSIR may be sought.

1.8.2 The Supplier shall bear all costs of translation, if any, to the English language and all risks of the accuracy of such translation, for documents provided by the Supplier.

1.9. Documents Comprising the Bid

1.9.1 The bid prepared by the Bidder shall include:

- a) Bidder Information Form
- b) Bid security as specified in the Invitation to Bids.
- c) Service support details form;
- d) Deviation Statement Form;
- e) Performance Statement Form;
- f) Manufacturer's Authorization Form.
- g) Documentary evidence establishing that the bidder is eligible to bid and is qualified to perform the contract if its bid is accepted.
- h) Bid form.
- i) Documents establishing goods eligibility and conformity to bidding documents.
- j) Applicable Price Schedule Form.
- k) DGS&D Registration certificate in case the items under procurement falls under the restricted category of the current export-import policy of the Govt. of India.

1.10. Bid form and price schedule

1.10.1 The bidder shall complete the Bid Form and the appropriate price schedule form furnished in the bidding documents. These forms must be completed without any alterations to its format and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

1.11 Bid Prices

1.11.1 The Bidder shall indicate on the appropriate price schedule form, the unit prices and total bid prices of the goods it proposes to supply under the contract.

1.11.2 Prices indicated on the price-schedule form shall be entered separately in the following manner:

(a) For Goods manufactured within India

(i) The price of the goods quoted ex works including taxes already paid.

(ii) VAT and other taxes like excise duty etc. which will be payable on the goods if the contract is awarded.

(a) The charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination as specified in the price schedule form.

(b) The installation, commissioning and training charges including any incidental services, if any.

(b) For Goods manufactured abroad

- (i) The price of the goods, quoted on FCA (named place of delivery abroad) or FOB (named port of shipment), as specified in the price schedule form.
- (ii) The charges for insurance and transportation of the goods to the port/place of destination.
- (iii) The agency commission charges, if any.
- (iv) The installation, commissioning and training charges including any incidental services, if any.

1.11.3 The terms FOB, FCA, CIF, CIP etc shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chambers of Commerce, Paris.

Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc. such offer shall be rejected as incomplete

The price quoted shall remain fixed during the contract period and shall not vary on any account.

1.11.5 All lots and items must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. Lots or items not listed in the Price Schedule shall be assumed to be not included in the bid.

The purchases made by the Purchaser for scientific purpose are exempt from Excise duty and Customs Duty at a concessional rate is Levy-able.

1.12 Bid Currencies

1.12.1 Prices shall be quoted in Indian Rupees for offers received for supply within India and in freely convertible foreign currency in case of offers received for supply from foreign countries.

1.13 Documents Establishing Bidder's Eligibility and qualifications

1.13.1 The bidder shall furnish, as part of its bid, documents establishing the bidders' eligibility to bid and its qualification to perform the contract if its bid is accepted.

1.13.2 The documentary evidence of the bidders qualification to perform the contract if the bid is accepted shall establish to the purchasers satisfaction that;

- a) The bidder meets the qualification criteria listed in bidding documents, if

any.

- b) Bidder that doesn't manufacture the goods it offers to supply shall submit Manufacturers' Authorization Form (MAF) using the form specified in the bidding document to demonstrate that it has been duly authorized by the manufacturer of the goods to quote and/or supply the goods.
- c) In case a bidder not doing business within India, it shall furnish the certificate to the effect that the bidder is or will be represented by an agent in India equipped and able to carry out the supply, maintenance, repair/obligations etc during the warranty and post warranty period or ensure a mechanism at place for carrying out supply, maintenance, repair/obligations etc during the warranty and post warranty period.

1.13.3 Conditional tenders shall not be accepted

1.14. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

1.14.1 To establish the goods' eligibility, the documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.

1.14.2 To establish the conformity of the goods and services to the specifications and schedule of requirements of the bidding document, the documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of:

- a) A detailed description of the essential technical and performance characteristics of the goods;
- b) A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods during the warranty period following commencement of the use of the goods by the Purchaser in the Priced- bid; and
- c) An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

1.14.3 For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute these in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the

Technical Specifications.

1.15 Bid Security

- 1.15.1 The Bidder shall furnish, as part of its bid, a bid security **(BS)** for an amount as specified in the Invitation for Bids. In the case of foreign bidders, the BS shall be submitted either by the principal or by the Indian agent and in the case of Indigenous bidders, the BS shall be submitted by the manufacturer or their specifically authorized dealer/bidder.
- 1.15.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the security's forfeiture.
- 1.15.3 The bid security shall be in Indian Rupees for offers received for supply within India and denominated in the currency of the bid or in another freely convertible currency in the case of offers received for supplies from foreign countries in equivalent Indian Rupees. The bid security shall be in one of the following forms at the bidders' option:
- (a) A bank guarantee issued by a Nationalized/Scheduled bank/Foreign Bank in the form provided in the bidding documents and valid for 45 days beyond the validity of the bid. In case a bidder desires to submit a BG issued from a foreign bank, then the same should be confirmed by a nationalized / scheduled Indian bank; or
 - (b) Fixed Deposit receipt pledged in favour of the Lab/Institute **(Director, CSIR – NEIST, Jorhat)**
 - (c) A Banker's cheque or demand draft in favour of the purchaser issued by any nationalized/scheduled Indian bank.
- 1.15.4 The bid security shall be payable promptly upon written demand by the purchaser the in case the conditions listed in the ITB clause 1.15.11 are invoked.
- 1.15.5 The bid security should be submitted in its original form. Copies shall not be accepted.
- 1.15.6 While bid security (EMD) is a requirement, the Director of the lab/institute may grant exemption of bid security to some specific parties having sound credentials and are of national/international repute.
- 1.15.7 The bid security of unsuccessful bidder will be discharged /returned as promptly as possible positively within a period of 15 days after the expiration of the period of bid validity or placement of order whichever is later without any interest
- 1.15.8 The successful Bidder's bid security will be discharged upon the Bidder furnishing the performance security, without any interest. Alternatively, the BS could also be adjusted against PS, if it is paid through DD or BC.

The firms registered with DGS&D & NSIC, Govt. public undertaking's, central autonomous bodies and with the CSIR labs or institutes, if any, are exempted, from payment of BS provided such registration includes the item they are offering which are manufactured by them and not for selling products manufactured by other companies.

1.15.10 In case a bidder intimates at the time of tender opening in writing that the bid security is kept inside the financial bid, then in such cases, the technical bid of the party would be accepted provisionally till opening of the financial bids with which the party has attached the bid security.

1.15.11 The bid security may be forfeited:

(a) If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or

(b) In case of a successful Bidder, if the Bidder fails to furnish order acceptance within 15 days of the order and / or fails to sign the contract and/or fails to furnish Performance Security within 21 days from the date of contract / order.

1.16 Period of Validity of Bids

1.16.1 Bids shall remain valid for minimum of **90 days** after the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

1.16.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by cable, telex, fax or e-mail). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid.

1.16.3 Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

1.17 Format and Signing of Bid

1.17.1 The bids may be submitted in single envelope or in two parts as specified in the Invitation for Bids.

1.17.2 **In case the bids are invited on single envelope basis, then the bidder shall prepare two copies of the bid, clearly marking each "Original bid" and "Copy bid" as appropriate. In the event of any discrepancy between them, the original shall govern.**

In case the bids are invited on two bid system, the bidder shall submit the

bids in two separate parts. One part shall contain technical bid comprising all documents listed under clause relating to Documents Comprising the bid excepting bid form and price schedule. The other part shall contain the price bid comprising bid form and price schedules. The bidder shall prepare two copies of the bid, clearly marking each "Original bid" and "Copy bid" as appropriate.

- 1.17.4 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by the bidder or a person or person's duly authorized to bind the bidder to the contract. All pages of the bid, except for un-amended printed literature, shall be initialled by the person or person's signing the bid.
- 1.17.5 Any interlineations erasures or over writing shall be valid only if their initialled by the person or person's signing the bid.

D. Submission and sealing and marking of Bids

1.18 Submission, Sealing and Marking of Bids

- 1.18.1 The bidders may submit their bids generally by post or by hand.
- 1.18.2 In the case of bids invited on single envelop basis, the Bidders shall seal the original and each copy of the bid in separate inner envelopes, duly marking the envelopes as "original" and "copy". The envelopes shall then be sealed in an outer envelope.
- 1.18.3 In the case of bids invited on two part basis, the Bidder shall seal the un priced commercial and technical bid comprising the documents as listed in ITB 1.9.1 excepting for h & j and the and the priced bid in two separate envelopes duly marked as "Technical bid" and "priced bid". Both the envelopes shall then be sealed in one outer envelope.
- 1.18.4 (a)The inner and outer envelopes shall be addressed to the Purchaser indicated in the **SCC**.
- (b)Bear the name and address of the bidder, Tender No., due date and a warning "**Do not open before** _____ "to be completed with the time and date as specified in the invitation for bids.
- 1.18.5 If the outer envelope is not sealed and marked as required above, the purchaser will assume no responsibility for the bid's misplacement or premature opening. In such cases, bids received in open condition within the due date and time will be accepted at the risk of the bidder if the same is presented to the Stores & Purchase Officer before expiry of the due date and time of opening of the bids.
- 1.18.6 Firms submitting bids in a single envelope against the requirement of two bid system would be considered for further evaluation at the risk & responsibility of the bidder.

1.19. Deadline for Submission of Bids

- 1.19.1 Bids must be received by the Purchaser at the address specified in Invitation for bids no later than the time and date specified therein. In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received up to the appointed time on the next working day.
- 1.19.2 The Purchaser may, at its discretion, extend the deadline for submission of bids by amending the bid documents in accordance with Clause relating to Amendment of Bidding Documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

1.20 Late Bids

- 1.20.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser will be rejected.
- 1.20.2 Such tenders shall be marked as late and not considered for further evaluation. They shall not be opened at all and be returned to the bidders in their original envelope without opening.

1.21. Withdrawal, substitution and Modification of Bids

- 1.21.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice in accordance with ITB Clause 18 duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB Sub-Clause 17.4 (except that no copies of the withdrawal notice are required). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) Submitted in accordance with ITB Clauses 17 and 18 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," or "MODIFICATION;" and
 - (b) Received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB Clause 19.
- 1.21.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 21.1 shall be returned unopened to the Bidders. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form or any extension thereof.

E. Opening and Evaluation of Bids

1.22 Opening of Bids by the Purchaser

- 1.22.1 The Purchaser will open all bids one at a time in the presence of Bidders' authorized representatives who choose to attend, as per the schedule given in invitation for bids. The Bidders' representatives who are present shall sign the quotation opening sheet evidencing their attendance. In the event of the specified date of Bid opening being declared a holiday for the Purchaser, the Bids shall be opened at the appointed time and location on the next working day. In two part bidding, the financial bid shall be opened only after the technical evaluation.
- 1.22.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only envelopes that are opened and read out at Bid opening shall be considered further.
- 1.22.3 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bid(s). The contents of the bid forms and price schedules would however be announced only at the time of opening of Priced-bids in the case of two-bid system
- 1.22.4 Bids that are received late shall not be considered further for evaluation, irrespective of the circumstances.

Bidders interested in participating in the bid opening process, should depute their representatives along with an authority letter which shall be submitted to the purchaser at the time of bid opening.

1.23 Confidentiality

- 1.23.1 Information relating to the examination, evaluation, comparison, and post qualification of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such

process until publication of the Contract Award.

- 1.23.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post qualification of the bids or contract award decisions may result in the rejection of its Bid.

1.24 Clarification of Bids

- 1.24.1 To assist in the examination, evaluation, comparison and post qualification of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted. However, no negotiation shall be held except with the lowest bidder, at the discretion of the purchaser. Any clarification submitted by a bidder in respect to its bid which is not in response to a request by the purchaser shall not be considered.

1.25 Preliminary Examination

- 1.25.1 The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in ITB Clause 1.9 have been provided, and to determine the completeness of each document submitted.

- 1.25.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.

(i) Bid Form and Price Schedule, in accordance with ITB Sub-Clause 1.10

(ii) All the tenders received will first be scrutinized to see whether the tenders meet the basic requirements as incorporated in the tender enquiry document. The tenders, who do not meet the basic requirements, are to be treated as unresponsive and ignored. Following are some of the important points for which a tender may be declared as un responsive and to be ignored, during the initial scrutiny;

(iii) The bid is unsigned

(iv)The bidder is not eligible

(v) The bid validity is shorter than the required period

(vi)The bidder has quoted for goods manufactured by a different firm without the required authority letter from the proposed manufacturer.

(vii) Bidder has not agreed to give the required Performance Security

(viii) The goods quoted are sub-standard, not meeting the required specification etc.

(ix) Against the schedule of requirement (incorporated in the tender enquiry), the tenderer has not quoted for the entire requirement as specified in that schedule.

(x) The tenderer has not agreed to some essential condition(s) incorporated in the tender enquiry

1.26 Responsiveness of Bids

1.26.1 Prior to the detailed evaluation, the purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

a) Affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or

b) Limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or

c) If rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

1.26.2 The purchasers' determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

1.26.3 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

1.27 Non-Conformity, Error and Omission

1.27.1 Provided that a Bid is substantially responsive, the Purchaser may waive any non - conformities or omissions in the Bid that do not constitute a material deviation.

1.27.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

1.27.2 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- a) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

1.27.4 Provided that a bid is substantially responsive, the purchaser may request that a bidder may confirm the correctness of arithmetic errors as done by the purchasers within a target date. In case, no reply is received then the bid submitted shall be ignored and its bid security may be forfeited.

1.28. Examination of Terms & Conditions, Technical Evaluation

1.28.1 The Purchaser shall examine the Bid to confirm that all terms and conditions specified in the **GCC** and the **SCC** have been accepted by the Bidder without any material deviation or reservation.

1.28.2 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with ITB Clause 14, to confirm that all requirements specified in Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.

1.28.3 If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with ITB Clause 26, it shall reject the Bid.

1.29. Conversion to Single Currency

1.29.1 To facilitate evaluation and comparison, the Purchaser will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to Indian Rupees at the selling exchange rate established by any bank in India as notified in the Newspapers on the date of bid opening in the case of single part bidding and the rates prevalent on the date of opening of the priced bids in the case of two part bidding. For this purpose, exchange rate notified in www.Xe.com or www.rbi.org or any other website could also be used by the purchaser.

1.30. Evaluation and comparison of bids

1.30.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.

- 1.30.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined below. No other criteria or methodology shall be permitted.
- 1.30.3 The bids shall be evaluated on the basis of final landing cost, which shall be arrived as under:

For goods manufactured in India.

- (i) The price of the goods quoted ex-works including all taxes already paid.
- (ii) VAT and other taxes like excise duty etc. which will be payable on the goods if the contract is awarded.
- (iii) Charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination.
- (iv) The installation, commissioning and training charges, if any.

For goods manufactured abroad

The price of the goods, quoted on FCA (named place of delivery abroad) or FOB (named port of shipment), as specified in the bidding document. The charges for insurance and transportation of goods to the port/place of destination, the agency commission etc., if any, the installation, commissioning and training charges including incidental services if any,

- 1.30.4 **The comparison between the indigenous and the foreign offers shall be made on FOB destination basis and CIF/CIP basis respectively.** However, the CIF /CIP prices quoted by any foreign bidder shall be loaded further as under.
- (a) Towards customs duty and other statutory levies- as per applicable rates
 - (a) Towards customs clearance, inland transportation etc - 2% of the CIF / CIP value.

Note: Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc such offer may be rejected as incomplete.

- 1.30.5 In the case of purchase of many items against one tender, which are not inter-dependent or, where compatibility is not a problem normally the comparison would be made on ex works, (in case of indigenous items) and on FOB/FCA (in the case of imports) prices quoted by the firms for identifying the lowest quoting firm for each item.
- 1.30.6 Orders for imported stores need not necessarily be on FOB/FCA basis rather it can be on the basis of any of the incoterm specified in ICC incoterms 2000 as may be amended from time to time by the ICC or any other designated authority and favorable to CSIR labs /institutes or

head quarters.

1.30.7 Where ever the price quoted on FOB/FCA and CIF/CIP basis are the same, the contract would be made on CIF/CIP basis only.

1.30.8 The GCC and the SCC shall specify the mode of transport i.e. whether by air/ocean/road/rail.

1.31.1 The purchase shall compare all substantially responsive bids to determine the lowest evaluated bid, in accordance with ITB clause 1.30

1.32. Contacting the Purchaser

1.32.1 Subject to Clause 1.24, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.

1.32.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.

1.33. Post qualification

1.33.1 In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.

1.33.2 The determination will take into account the eligibility criteria listed in the bidding documents and will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

1.33.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid.

F- Award of Contract

1.34. Negotiations

1.34.1 There shall not be any negotiation normally. Negotiations, if at all, shall be an exception and only in the case of items with limited source of supply. Negotiations shall be held with the lowest evaluated responsive bidder. Counter offers tantamount to negotiations and shall be treated at par with negotiations in the case of one time purchases

1.35. Award Criteria

1.35.1 Subject to ITB Clause 37 the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

1.36. Purchaser's right to vary Quantities at Time of Award

1.36.1 The Purchaser reserves the right at the time of Contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions. Further, at the discretion of the purchaser, the quantities in the contract may be enhanced by 30% within the delivery period.

1.37. Purchaser's right to accept Any Bid and to reject any or All Bids

1.37.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders.

1.38. Notification of Award

1.38.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful bidder in writing by registered letter or by cable or telex or fax or e mail that the bid has been accepted by way of a purchase order.

1.38.2 Until a formal contract is prepared and executed, the notification of award should constitute a binding contract.

1.38.3 Upon the successful Bidder's furnishing of the signed Contract Form and performance security pursuant to ITB Clause 41, the Purchaser will promptly notify each unsuccessful Bidder and will discharge its bid security.

1.39. Signing of Contract

1.39.1 Promptly after notification, the Purchaser shall send the successful Bidder the Agreement/PO.

1.39.2 Within twenty-one (21) days of date of the Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

1.40. Order Acceptance

1.40.1 The successful bidder should submit Order acceptance within 15 days from the date of issue, failing which it shall be presumed that the vendor is

not interested and his bid security is liable to be forfeited pursuant to clause 15.9 of ITB.

1.40.2 The order confirmation must be received within 15 days. However, the Purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order confirmation /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value shall be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable, provided there is no change in specifications. In such cases the defaulting firm shall not be considered again for re-tendering in the particular case.

1.41. Performance Security

1.41.1 Within 21 days of receipt of notification of award/PO, the supplier shall furnish performance security in the amount specified in **SCC**, valid till 60 days after the warranty period, alternatively the PS may also be submitted at the time of release of final payment in cases where part payment is made against delivery and part on installation. The PS where applicable shall be submitted in advance for orders where full payment is to be made on Letter of Credit (LC) or on delivery. In this case, submission of PS at the time of negotiation of documents through bank would be stipulated as a condition in the LC and the BS should be kept valid till such time the PS is submitted.

1.41.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

1.41.3 The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated either in equivalent Indian Rupee or in the currency of the contract in the case of offers received for supply from foreign countries.

1.41.4 In the case of imports, the PS may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources the PS may be submitted by either the manufacturer or their authorized dealer/bidder.

1.41.6 The Performance security shall be in one of the following forms:

- a) A Bank guarantee or stand-by Letter of Credit issued by a Nationalized/Scheduled bank located in India or a foreign bank with preferably its operating branch in India in the form provided in the bidding documents **Or**
- b) A Banker's cheque or Account Payee demand draft in favour of the purchaser. **Or,**
- c) A Fixed Deposit Receipt pledged in favour of the Purchaser.

- 1.41.6 The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in **SCC** without levy of any interest.
- 1.41.7 In the event of any contract amendment, the supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the performance security, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.
- 1.41.8 The order confirmation should be received within 15 days from the date of notification of award. However, the purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order confirmation /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value would be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable provided there is no change in specifications. In such cases the defaulting firm would not be considered again for re-tendering in the particular case.

CHAPTER 2

A. GENERAL CONDITIONS OF CONTRACT

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1. Definitions

1.1 In this Contract, the following terms shall be interpreted as indicated: The following words and expressions shall have the meanings hereby assigned to them

“Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.

“Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.

“Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.

“Day” means calendar day.

“Completion” means the fulfilment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.

“GCC” means the General Conditions of Contract.

“Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.

“Related Services” means the services incidental to the supply of the goods, such as transportation, insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.

“SCC” means the Special Conditions of Contract.

“Subcontractor” means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.

“Supplier” means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.

The “Council” means the Council of Scientific & Industrial Research (CSIR), registered under the Societies Registration Act, 1860 of the Govt. of India having its registered office at 2, Rafi Marg, New Delhi-110001, India and the “Purchaser” means any of the constituent Laboratory/Institute of the Council situated at any designated place in India as specified in **SCC**.

“The final destination,” where applicable, means the place named in the **SCC**.

2. Contract Documents

- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

3. Fraud and Corruption

- 3.1 The purchaser requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,
- (a) The terms set forth below are defined as follows:
- (i) "Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
 - (ii) "Fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
 - (iii) "Collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designed to establish bid prices at artificial, non-competitive levels; and
 - (iv) "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
- (b) The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;

4. Joint Venture, Consortium or Association

- 4.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

5. Scope of Supply

- 5.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.

6. Suppliers' Responsibilities

- 6.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with Scope of Supply Clause of the GCC, and the Delivery and Completion Schedule, as per GCC Clause relating to delivery and document.

7. Contract price

- 7.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.

8. Copy Right

- 8.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

9. Application

- 9.1 These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

10. Standards

- 10.1 The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications and Schedule of Requirements, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.

11. Use of Contract Documents and Information

- 11.1 The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far, as may be necessary for purposes of such performance.
- 11.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated above except for

purposes of performing the Contract.

- 11.3 Any document, other than the Contract itself, enumerated above shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

12. Patent Indemnity

12.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 12.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) The installation of the Goods by the Supplier or the use of the Goods in India; and
- (b) The sale in any country of the products produced by the Goods.

12.2 If any proceedings are brought or any claim is made against the Purchaser, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

13. Performance Security

13.1 The Supplier shall furnish performance security in the amount specified in **SCC**, at the time of release of final payment after installation and acceptance.

13.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

13.3 The Performance Security shall be denominated in the currency of the contract.

13.4 PS may be submitted either by the principal or by the Indian agent

13.5 The Performance security shall be in one of the following forms:

- (a) A Bank guarantee or stand-by Letter of Credit issued by a Nationalized/Scheduled bank located in India or a bank located abroad in the form provided in the bidding documents. Or

- (b) A Banker's cheque or Account Payee demand draft in favour of the purchaser. Or,
 - (c) A Fixed Deposit Receipt pledged in favour of the Purchaser.
- 13.6 The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in **SCC**.
- 13.7 In the event of any contract amendment, the supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the performance security, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.
- 13.8 The order confirmation should be received within 15 days from the date of notification of award. However, the Purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order confirmation /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value would be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable provided there is no change in specifications. In such cases the defaulting firm would not be considered again for re-tendering in the particular case.

14. Inspections and Tests

- 14.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as specified in the **SCC**
- 14.2 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. The Technical Specifications and SCC shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes.
- 14.3 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at the point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data - shall be furnished to the inspectors at no charge to the Purchaser.

- 14.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 14.5 Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.
- 14.6 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at final destination shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.
- 14.7 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 14.8 With a view to ensure that claims on insurance companies, if any, are lodged in time, the bidders and /or the Indian agent shall be responsible for follow up with their principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the bidder/ Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the purchaser on the event of the delay.

15. Packing

- 15.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
- 15.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any, specified in **SCC** and in any subsequent instructions ordered by the Purchaser.

16. Delivery and Documents

- 16.1 Delivery of the Goods and completion and related services shall be made by the Supplier in accordance with the terms specified by the Purchaser in **SCC**.
The details of shipping and/or other documents to be furnished by the supplier are specified in **SCC**.
- 16.2 The terms FOB, FCA, CIF, CIP etc shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chambers of Commerce, Paris.
- 16.3 The mode of transportation shall be as specified in **SCC**.

17. Insurance

Should the purchaser elect to buy on CIF/CIP basis, the Goods supplied under the Contract shall be fully insured in Indian Rupees against any loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in **SCC**.

- 17.2 Where delivery of the goods is required by the purchaser on CIF or CIP basis the supplier shall arrange and pay for Cargo Insurance, naming the purchaser as beneficiary and initiate & pursue claims till settlement, on the event of any loss or damage.
- 17.3 Where delivery is on FOB or FCA basis, insurance would be the responsibility of the purchaser.
- 17.4 With a view to ensure that claims on insurance companies, if any, are lodged in time, the bidders and /or the Indian agent shall be responsible for follow up with their principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the bidder/Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the purchaser on the event of the delay.

18. Transportation

- 18.1 Where the Supplier is required under the Contract to deliver the Goods FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be

arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract price. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract price.

18.2 Where the Supplier is required under the Contract to deliver the Goods CIF or CIP, transport of the Goods to the port of destination or such other named place of destination in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.

18.3 In the case of supplies from within India, where the Supplier is required under the Contract to transport the Goods to a specified destination in India, defined as the Final Destination, transport to such destination, including insurance and storage, as specified in the Contract, shall be arranged by the Supplier, and the related costs shall be included in the Contract Price.

19. Incidental Services

The supplier may be required to provide any or all of the services, if any, specified in **SCC**.

20. Spare Parts

20.1 The Supplier shall be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

(a) Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and

(b) In the event of termination of production of the spare parts:

(i) Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and

(ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

21. Warranty

21.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

- 21.2 The Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.
- 21.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for **sixty (60) days** after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**.
- 21.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 21.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 21.6 **If having been notified, the Supplier fails to remedy the** defect within the period specified in the **SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

22. Terms of Payment

- 22.1 The method and conditions of payment to be made to the Supplier under this Contract shall be as specified in the **SCC**.
- 22.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to Delivery and document Clause of the GCC and upon fulfilment of other obligations stipulated in the contract.
- 22.3 Payments shall be made promptly by the Purchaser but in no case later than thirty (30) days after submission of the invoice or claim by the Supplier.
- 22.4 Payment shall be made in currency as indicated in the contract.

23. Change Orders and Contract Amendments.

- 23.1 The Purchaser may at any time, by written order given to the Supplier pursuant to Clause on Notices of the **GCC** make changes within the general scope of the Contract in any one or more of the following:
- (a) Drawings, designs, or specifications, where Goods to be furnished under

the Contract are to be specifically manufactured for the Purchaser;

- (b) The method of shipping or packing;
- (c) The place of delivery; and/or
- (d) The Services to be provided by the Supplier.
- (e) The delivery schedule.

23.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within fifteen (15) days from the date of the Supplier's receipt of the Purchaser's change order.

23.3 No variation or modification in the terms of the contract shall be made except by written amendment signed by the parties.

24. Assignment

24.1 The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

25. Subcontracts

25.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or duties or obligation under the Contract.

26. Extension of time.

26.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser.

26.2 If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract.

26.3 Except as provided under the Force Majeure clause of the **GCC**, a

delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause of the **GCC** unless an extension of time is agreed upon pursuant to above clause without the application of penalty clause.

27. Penalty clause

Subject to **GCC** Clause on Force Majeure, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to the percentage specified in **SCC** of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the Percentage specified in **SCC**. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to **GCC** Clause on Termination for Default.

28. Termination for Default

The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

- a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause on Extension of Time; or
- b) If the Supplier fails to perform any other obligation(s) under the Contract.
- c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent or collusive or coercive practices as defined in GCC Clause on Fraud or Corruption in competing for or in executing the Contract.

28.2 In the event the purchaser terminates the contract in whole or in part, he may take recourse to any one or more of the following action:

- a) The Performance Security is to be forfeited;
- b) The purchaser may procure, upon such terms and in such manner as it deems appropriate, stores similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract.
- c) However, the supplier shall continue to perform the contract to the extent not terminated.

29. Force Majeure

29.1 Notwithstanding the provisions of GCC Clauses relating to extension of time, penalty and Termination for Default the Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in

performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

- 29.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 29.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within 21 days of its occurrence. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 29.4 If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of force majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.

30. Termination for Insolvency

- 30.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

31. Termination for Convenience

- 31.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 31.2 The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
- (a) To have any portion completed and delivered at the Contract terms and prices; and/or
 - (b) To cancel the remainder and pay to the Supplier an agreed amount for

partially completed Goods and for materials and parts previously procured by the Supplier.

32. Settlement of Disputes

32.1 The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

32.2 If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

32.3 The dispute settlement mechanism/arbitration proceedings shall be concluded as under:

In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director General, Council of Scientific & Industrial Research and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration In accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

32.4 The venue of the arbitration shall be the place from where the order is issued.

32.5 Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and the Purchaser shall pay the Supplier any monies due the Supplier.

33. Governing Language

33.1 The contract shall be written in English language, which shall govern its interpretation. All correspondence and other documents pertaining to the

Contract, which are exchanged by the parties, shall be written in the English language only.

34. Applicable Law

34.1 The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction as specified in **SCC**.

35. Notices

35.1 Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing or by cable, telex, FAX or e mail and confirmed in writing to the other party's address specified in the **SCC**.

35.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

36. Taxes and Duties

36.1 For goods manufactured outside India, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside India.

36.2 For goods Manufactured within India, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred till its final manufacture/production.

36.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in India, the Purchaser shall make its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

37. Right to use Defective Goods

37.1 If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

38. Protection against Damage

38.1 The system shall not be prone to damage during power failures and trip outs.

39. Site preparation and installation

The Purchaser is solely responsible for the construction of the equipment sites in Compliance with the technical and environmental specifications

defined by the Supplier. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the Equipment, if required. The supplier shall inform the purchaser about the site preparation, if any, needed for installation, of the goods at the purchaser's site immediately after notification of award.

40. Acceptance test:

Acceptance test to be carried out as per following criteria.

- Necessitates complete shipment of all items as per purchase order & their successful installation and meeting their technical specifications.
- The performance of all the manufactured items and all outsourced items, if any (such as UPS, computers, pneumatic items) have to match with those offered /given in the technical manuals and projected specifications.
- A satisfactory demonstration at our site to meet these requirements is a must. The supplied items should be of latest version available in the market at the time of shipment.

B. SPECIAL CONDITIONS OF CONTRACT

Table of Contents

| Sl. No. | GCC Clause | Topic |
|----------------|-------------------|---|
| | GCC 1.1 (1) | The Purchaser |
| | GCC 1.1 (m) | The final destination |
| | GCC 13.1 | The amount of Performance security |
| | GCC 14.1 | The inspection and test shall be conducted at |
| | GCC 15.2 | The packing marking and documentation |
| | GCC 16.1 | Delivery period |
| | GCC 16.3 | Incase of supply from within India |
| | GCC 17.1 | The insurance |
| | GCC 19.1 | The incidental services |
| | GCC 21.3 | The period of validity of the warranty |
| | GCC 21.5 | The period of repair or Replacement |
| | GCC 22.1 | Payment |
| | GCC 27.1 | Penalty |
| | GCC 27.1 | Liquidated Damages |
| | GCC 34.1 | The place of Jurisdiction |
| | GCC 35.1 | Notices |

Special conditions of contract (SCC)

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

[The Purchaser shall select insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]

| | |
|--------------------|---|
| GCC 1.1(l) | The Purchaser is: Director, CSIR-North-East Institute of Science and Technology (NEIST) Jorhat-785006, Assam, India |
| GCC 1.1 (m) | The Final Destination is: Central Stores, CSIR - North-East Institute of Science and Technology (NEIST) Jorhat-785006, Assam, India |
| GCC13.1 | <i>The amount of the Performance Security shall be: 10 (Ten) % of of contract value</i> |
| GCC14.1 | The inspections and tests shall be as per acceptance test clause Sl.No.40 |
| GCC14.1 | The Inspections and tests shall be conducted at: CSIR – North-East Institute of Science and Technology (NEIST) Jorhat – 785006, Assam, India |
| GCC15.2 | The packing, marking and documentation within and outside the packages shall be: <u>ALL PACKAGES SHOULD BEAR THE FOLLOWING MARKS:</u> PACKAGE NUMBER..... ORDER REF. NO..... SIZE..... NET WEIGHT GROSS WEIGHT HANDLE WITH UTMOST CARE-DELICATE SCIENTIFIC MATERIAL FOR RESEARCH ACTUAL USER (NON-Industrial) IEC No. - 0588137685 CONSIGNEE: The Director. CSIR – NORTH EAST INSTITUTE OF SCIENCE AND TECHNOLOGY (Council of Scientific & Industrial Research), JORHAT – 785 006, ASSAM, INDIA. Document: Packing List |

| | |
|-----------------|---|
| GCC 16.1 | Delivery period: Within 6 – 8 weeks from the date of Contract Details of Shipping and other Documents to be furnished by the Supplier are: Within 24 hours of dispatch, the supplier shall notify the purchaser the following complete details of dispatch and also supply |
|-----------------|---|

| | |
|---|---|
| | <p>following documents by Registered Post / Courier and copies thereof by FAX.</p> <p>a) Two copies of supplier's Invoice giving full details of the goods including quantity, values, etc.;</p> <p>b) Packing list;</p> <p>c) Certificate of country of origin;</p> <p>d) Manufacturer's guarantee and Inspection certificate;</p> <p>e) Inspection certificate issued by the Purchaser's Inspector, if any;</p> <p>f) Insurance Certificate, if required under the contract;</p> <p>g) Name of the Vessel/Carrier;</p> <p>h) Bill of Lading/Airway Bill/</p> <p>i) Port of Loading;</p> <p>j) Date of Shipment;</p> <p>k) Port of Discharge & expected date of arrival of goods and</p> <p>l) Any other document(s) as and when required in terms of the contract.</p> <p>Note:</p> <p>1.The nomenclature used for the item description in the invoices(s), packing list(s) and the delivery note(s) etc. should be identical to that used in contract. The dispatch particulars including the name of the transporter should also be mentioned in the invoice(s).</p> <p>2. The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p> |
| <p>GCC 16.3</p> | <p>In case of supplies from within India, the mode of transportation shall be by Road.</p> <p>In case of supplies from abroad, the mode of transportation shall be by Air</p> |
| <p>GCC 17.1</p> | <p>The Insurance shall be for an amount equal to 110% of the CIF or CIP value of the contract from within "warehouse to warehouse (final destination)"on "all risk basis" including strikes, riots and civil commotion.</p> |
| <p>GCC 19.1 GCC 21.3</p> | <p>The incidental services to be provided are as under: NIL</p> <p>The period of validity of the Warranty shall be: 60 (sixty) Months. For purposes of the Warranty, the place(s) of final destination(s) shall be:</p> <p>CSIR – North-East Institute of Science and Technology (CSIR-NEIST)</p> |
| <p>GCC 21.5</p> | <p>The period for repair or replacement shall be: 30 days.</p> |

| | |
|----------------------------|--|
| <p>GCC 22.1</p> | <p>The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>Payment for Goods supplied from abroad: Payment of foreign currency portion shall be made in the following manner:</p> <p>On Shipment: 80 percent of the Contract Price of the Goods shipped shall be paid upon submission of documents specified in GCC Clause 16.1.</p> <p>On Acceptance: 20 percent of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods and successful installation & commissioning and upon submission of claim supported by the acceptance certificate issued by the Purchaser along with the Performance security for 10%, if required, of contract Price of goods from a National/International Bank, confirmed in India by a nationalised bank, valid for 2 months beyond the warranty period from the date of acceptance of goods</p> <p>Bank charges within India will be borne by Purchaser and bank charges outside India to be borne by supplier.</p> <p>The L/C will be confirmed at the suppliers cost, if requested specifically by the supplier. If L/C is requested to be extended/amended/reinstated for reasons not attributable to the purchaser, the charges thereof would be to the suppliers' account.</p> <p>Payment for Goods and Services supplied from India:</p> <p>Payment for Goods and Services supplied from within India shall be made in Indian Rupees, as follows:</p> <ol style="list-style-type: none"> i. On shipment: Nil percent of the Contract Price shall be paid on receipt of the Goods and upon submission of the documents specified in GCC Clause 16.1 ii. On Acceptance: 100% percent of the Contract value shall be paid to the Supplier within thirty (30) days after the date of the acceptance/Installation certificate subject to submission of performance security, if required, of 10% of the ordered value valid for 2 (two) months beyond the warranty period from the date of acceptance of goods |
| <p>GCC 27.1</p> | <p>The penalty shall be: 0.5% per week or part of a week towards late delivery and towards delay in installation and commissioning. The maximum amount of liquidated damages shall be: [5]%</p> |
| <p>GCC 34.1</p> | <p>The place of jurisdiction is Jorhat, ASSAM, INDIA</p> |

GCC 35.1

For **notices**, the Purchaser's address is:

Stores & Purchase Officer,

CSIR – North-East Institute of Science and Technology,

Jorhat – 785 006, Assam, India.

Telephone No.: 91 0376 2372 710, Fax No.: 91 0376 2372 921

E-mail: spopur@riijorhat.res.in / spopur@gmail.com.

Chapter 3

Schedule of Requirements

General Requirements

1. The offer should be valid at least **90 days** from the date of opening.
2. Please provide the name and address of your Indian Agent along with authorisation letter.
3. Please also indicate the exact amount of Agency Commission payable to your Indian Agent in equivalent Indian currency after the receipt of the consignment in good condition at our Stores and in case of equipment after the satisfactory installation and commissioning.
4. Please indicate details of services to be rendered by your Indian Agent.
5. Indicate the names and addresses of the Indian reputed organizations where you have supplied the similar equipment recently and may attach the satisfactory performance report of the equipment from users.
6. If you have supplied identical or similar equipment to other CSIR / Labs / Instt., the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.
7. Please do confirm that service (manual) shall be supplied along with the supply of material.
8. The installation, commissioning and demonstration of the system should be completed within two weeks from the date of arrival of the items at CSIR-NEIST, Jorhat
9. It is mandatory to indicate the approximate dimensions & weight of the stores/consignment quoted for: tare Weight, Net weight and Volume (LxBxH).
10. Bidders should provide the name and detail address (including E-mail & Mobile No.) of their clearing and forwarding agent in India.
11. Details after sale service including the rate of AMC and terms and conditions of the AMC after expiry of warranty should be provided.

Item No. 1 : **Magnetotelluric System.**

Quantity : One

Delivery Period : **Within 6 – 8 weeks from placing of purchase Order**

Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**

Warranty : 5 (Five) years from the date of installation

AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 2 : **Digital Fluxgate Magnetometer.**

Quantity : One

Delivery Period : **Within 6 – 8 weeks from placing of purchase order**

Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**

Warranty : 5 (Five) year from the date of installation

AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 3 : **ULF Induction Coil Magnetometer System.**

Quantity : One

Delivery Period : **Within 6 – 8 weeks from placing of purchase order**

Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**

Warranty : 5 (Five) years from the date of installation

AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 4 : **Global Positioning System.**

Quantity : One unit.

Delivery Period : **Within 6 – 8 weeks from placing of purchase order**

Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**

Warranty : 5 (Five) years from the date of installation

AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 5 : **Radon Monitoring System**
Quantity : One unit.
Delivery Period : **Within 6 – 8 weeks from placing of purchase order**
Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**
Warranty : 5 (Five) years from the date of installation
AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 6 : **Resistivity / IP System.**
Quantity : One unit.
Delivery Period : **Within 6 – 8 weeks from placing of purchase order**
Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**
Warranty : 5 (Five) years from the date of installation
AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 7 : **Accelerograph.**
Quantity : One unit.
Delivery Period : **Within 6 – 8 weeks from placing of purchase order**
Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**
Warranty : 5 (Five) years from the date of installation
AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 8 : **Overhauser Magnetometer System.**
Quantity : One unit.
Delivery Period : **Within 6 – 8 weeks from placing of purchase order**
Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**
Warranty : 5 (Five) years from the date of installation
AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Item No. 9 : **Broadband Seismograph.**
Quantity : One unit.
Delivery Period : **Within 6 – 8 weeks from placing of purchase order**
Installation : **Within 4 weeks from the date of receipt of the equipment at CSIR – NEIST, Jorhat, (Assam)**
Warranty : 5 (Five) years from the date of installation
AMC : **Rate and terms & conditions of maintenance contract after expiry of warranty (AMC will not be considered for the price comparison).**

Chapter 4

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder: _____

TENDER No. : _____

| 1 | 2 | 3 | 4 | 5 | 6 | | 7 | | 8 | | 9 |
|-------|------------------|-------------------|------|----------|------------------------------|-------------------------------|------------------------------|-------------------------------|--|-----|-----------------------|
| Sl No | Item Description | Country of origin | Unit | Quantity | Unit price | | Total Price (5 x 6) | | Charges for Insurance & transportation to port/ place of destination | | Total price (7+8) CIF |
| | | | | | FOB (named port of shipment) | FCA (named place of delivery) | FOB (named port of shipment) | FCA (named place of delivery) | Ocean | Air | |
| | | | | | | | | | | | |

Total Bid price in foreign currency in words _____

Note:

(a) Indian agents name & address _____.

(b) Installation, commissioning & training charges, if any

(c) Coast of Spares _____

(d) The Indian agent's commission shall be paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents in accordance with clause 22.1 of GCC

(e) The cost of optional items shall be indicated separately.

Signature of Bidder

Name: _____

Business Address _____

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM INDIA:

Name of the Bidder: _____

TENDER No. : _____

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---------|-------------------|-----------------------|------|----------|---|---|--|--|---|--|
| Sl. No. | Item Description. | Count Of origin | Unit | Quantity | Ex- works Ex-warehouse Ex- show room off the shelf price (inclusive of all taxes) | Total price Ex- works Ex-warehouse Ex- show room off the shelf price (inclusive of all taxes) 5 X 6 | VAT & other taxes like excise duty payable, if contract is awarded | Packing & forwarding up to station of the dispatch, if any | Charges for inland transportation and Insurance up to Lab/Institute | Installation, Commissioning And training Charges, If any |
| | | | | | | | | | | |

Signature of Bidder

Name: _____

Business Address: _____

(a) The cost of optional items shall be indicated separately.

(b) Cost of spares _____

Chapter 5

Qualification requirements

As per ITB and Technical & Allied Specification in respect of **Magnetotelluric System / Fluxgate Magnetometer / ULF Induction Coil Magnetometer System /Global Positioning System / Radon monitoring system / Resistivity/IP system / Accelerograph /Overhauser Magnetometer System /Broadband Seismometer.**

Chapter 6

Contract form

Contract No. _____

Date: _____

THIS CONTRACT AGREEMENT is made

the [*insert: number*] day of [*insert: month*], [*insert: year*].

BETWEEN

- (1) The Council of Scientific & Industrial Research registered under the Societies Registration Act 1860 of the Government of India having its registered office at 2, Rafi Marg, New Delhi-110001, India represented by _____ [*insert complete name and address of Purchaser*] (hereinafter called "the Purchaser"), and
- (2) [*insert name of Supplier*], a corporation incorporated under the laws of [*country of Supplier*] and having its principal place of business at [*insert: address of Supplier*] (hereinafter called "the Supplier")

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., [*insert brief description of Goods and Services*] and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [*insert Contract Price in words and figures, expressed in the Contract currency(ies)*] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
 - (a) This Contract Agreement
 - (b) Special Conditions of Contract
 - (c) General Conditions of Contract
 - (d) Technical Requirements (including Schedule of Requirements and Technical Specifications)
 - (e) The Supplier's Bid and original Price Schedules
 - (f) The Purchaser's Notification of Award

(g) *[Add here any other document(s)]*

3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Union of India on the day, month and year indicated above.

For and on behalf of the Council of Scientific & Industrial Research

Signed: *[insert signature]*

in the capacity of *[insert title or other appropriate designation]* in the presence of *[insert identification of official witness]*

Signed: *[insert signature]*

in the capacity of *[insert title or other appropriate designation]* in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]* in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

Chapter 7

Other standard forms

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1. Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*

Tender No.: *[insert number from Invitation for bids]*

Page 1 of _____ pages

| |
|--|
| 1. Bidder's Legal Name <i>[insert Bidder's legal name]</i> |
| 2. In case of JV, legal name of each party: <i>[insert legal name of each party in JV]</i> |
| 3. Bidder's actual or intended Country of Registration: <i>[insert actual or intended Country of Registration]</i> |
| 4. Bidder's Year of Registration: <i>[insert Bidder's year of registration]</i> |
| 5. Bidder's Legal Address in Country of Registration: <i>[insert Bidder's legal address in country of registration]</i> |
| 6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/faxnumbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i> |
| 7. Attached are copies of original documents of: <i>[check the box(es) of the attached original documents]</i> Articles of Incorporation or Registration of firm named in 1, above. |
| Signature of Bidder..... Name..... Business Address..... |

2. MANUFACTURERS' AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]

Date: *[insert date (as day, month and year) of Bid Submission]*

Tender No.: *[insert number from Invitation For Bids]*

To: *[insert complete name and address of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 21 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

3. BID SECURITY FORM

Whereas _____ (herein after called the tenderer") has submitted their offer dated _____ for the supply of _____ (hereinafter called the tender")

Against the purchaser's tender enquiry No. _____ KNOW ALL MEN by these presents that WE _____ of _____ having our registered office at _____ are bound unto _____ (hereinafter called the "Purchaser")

In the sum of _____

For which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 20_____.

THE CONDITIONS OF THIS OBLIGATION ARE:

- (1) If the tenderer withdraws or amends, impairs or derogates from the Tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
 - a) If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
 - b) Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name & address of the Bank and address of the Branch

4. PERFORMANCE STATEMENT FORM (For a period of last 3 years)

Name of the Firm.....

| Order Placed by (full address of Purchaser) | Order No. and date | Description and quantity of ordered equipment | Value of order | Date of Completion of delivery as per contract | Date actual of completion of delivery. | Remarks indicating reasons for late delivery, if any | Has the equipment been installed satisfactorily? (Attach a certificate from the purchaser/Consignee) | Contact person along with Telephone No., FAX No. and mail address |
|---|--------------------|---|----------------|--|--|--|--|---|
| | | | | | | | | |

Signature and Seal of the manufacturer/Bidder.....

Place :

Date :

5. DEVIATION STATEMENT FORM

1) The following are the particulars of deviations from the requirements of the tender specifications:

| CLAUSE | DEVIATION | REMARKS (INCLUDING JUSTIFICATION) |
|--------|-----------|---|
| | | |

Place:

Date:

Signature and seal of the Manufacturer/Bidder

NOTE:

- 1) Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations".

6. SERVICE SUPPORT DETAIL FORM

| Sl. No. | Nature of training Imparted | List of similar type equipments serviced In the past 3 years | Address, Telephone Nos. ,Fax Nos. and e-mail address |
|---------|-----------------------------|--|--|
| | | | |

Signature and Seal of the manufacturer/Bidder.....

Place :

Date :

7. Bid Form

[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*

Tender No.: *[insert number from Invitation for Bids]*

Invitation for Bid No.: *[insert No of IFB]*

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: *[insert the number and issuing date of each Addenda]*;
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services]*;
- (c) The total price of our Bid, excluding any discounts offered in item (d) below, is:
[insert the total bid price in words and figures, indicating the various amounts and the respective currencies];
- (d) The discounts offered and the methodology for their application are:

Discounts. If our bid is accepted, the following discounts shall apply.*[Specify in detail each discount offered and the specific item of the Schedule of Requirements to which it applies.]*

- (e) Our bid shall be valid for the period of time specified in ITB Sub-Clause 20.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 24.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 41 and GCC Clause 13 for the due performance of the Contract;
- (g) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract:
[insert complete name of each Recipient, its full address, the reason for

which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]

| Name of Recipient | Address | Reason | Amount |
|-------------------|---------|--------|--------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

(If none has been paid or is to be paid, indicate "none.")

- (k) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (l) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed: *[insert signature of person whose name and capacity are shown]*
In the capacity of *[insert legal capacity of person signing the Bid Submission Form]*

Name: *[insert complete name of person signing the Bid Submission Form]*

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

8. PERFORMANCE SECURITY FORM

To

(Name of Purchaser)

WHEREAS _____

(Name and address of the supplier) (Hereinafter called "the Supplier") has undertaken, in pursuance of contract No. _____ dated _____ to supply (description of goods and services) ((hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of _____

_____ (amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the _____ day of _____, 20____.

(Signature of the authorized officer of the Bank)

Name and designation of the Officer

Seal, name & address of the Bank and address of the Branch.

9. Acceptance certificate form

No.

Dated:

M/s _____

Sub: Certificate of commissioning of equipment (Computer/Server, etc.)

1. This is to certify that the equipment as detailed below has/have been received in good condition along with all the standard and special accessories (subject to remarks in Para 2). The same has been installed and commissioned.

- (a) Contract No. _____ Date _____
- (b) Description of the equipment _____
- (c) Name of the consignee _____
- (d) Scheduled date of delivery of the consignment to the Lab./Instts. _____
- (e) Actual date of receipt of consignment by the Lab./Instts. _____
- (f) Scheduled date for completion of installation/commissioning _____
- (g) Actual date of completion of installation/commissioning _____
- (h) Penalty for late delivery (at Lab./Instts. level) Rs. _____
- (i) Penalty for late installation (at Lab./Instts. level) Rs. _____

1. Details of accessories/items not yet supplied and recoveries to be made on that account:

| Sl. No. | Description | Amount to be recovered |
|---------|-------------|------------------------|
|---------|-------------|------------------------|

2. The acceptance test has been done to our entire satisfaction. The supplier has fulfilled his contractual obligations satisfactorily

Or

The supplier has failed to fulfill his contractual obligations with regard to the following:

- (a).....
- (b)
- (c).....
- (d).....

The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated at Sr. No. 1.

For Supplier

Signature.....
Name.....
Designation.....
Name of the firm.....
Date.....

For Purchaser

Signature.....
Name.....
Designation.....
Name of the Lab./Instt.....
Date.....

10. BANK GUARANTEE FOR ADVANCE PAYMENT

To: _____ (name of Purchaser)
_____ (address of Purchaser)
_____ (name of Contract)

Gentlemen:

In accordance with the provisions of the Special Conditions of Contract which amends Clause 16 of the General Conditions of Contract (name and address of Supplier) (hereinafter called "the supplier") shall deposit with (name of Purchaser) a bank guarantee to guarantee his proper and faithful performance

Under the said Clause of the Contract in an amount of (amount of guarantee * (in words). We, the (bank or financial institution), as instructed

By the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to (name of Purchaser) on his first demand without whatsoever right of objection on our part and without his first claim to the Supplier, in the amount not exceeding (Amount of guarantee)* (In words).

We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between

_____ (Name of Purchaser) and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the contract until _____

Yours truly,
Signature and seal :

Name of bank/
Financial institution

Address :
Date

11. TECHNCAL COMPLIANCE STATEMENT FORM

An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

| ITEM NAME | | | |
|-----------|-----------------------|-------------------------|--------------------------|
| S.No. | Tender Specifications | Bidder's Specifications | Remarks/Deviation If any |
| | | | |

(Technical literature/brochures/manuals should be attached along with this format)

Please note:

1. Compliance/Deviation statement comparing the specifications of the quoted model to the required specifications. This statement should also give the page number(s) of the technical literature where the relevant specification is mentioned.
2. Bids must have supporting documents (technical literature or copies of relevant pages from the service manual or factory test data) for all the points noted above, failure regarding which may result in rejection of bid.

Chapter 8

Specifications and allied Technical details

Specifications of Magnetotelluric System: (Item No. 1)

Major Specification:

i) Sensors:

a) Magnetic Field Sensors:

Noise Level: 20 pT / $\sqrt{\text{Hz}}$ or lower over entire frequency range

Drift: Low Drift

Least Count: 10^{-2} nT or smaller

Frequency Range: 0.0001 Hz – 1000 Hz minimum or better range

b) Electric Field Sensor: Lead/Lead chloride sealed or Cd/CdCl₂ type; non - polarizing, broadband, protection against foul weather and temperature variations when buried in the earth

ii) Data Acquisition Module :

No of Channels: Minimum 5 channels (3 for magnetic and 2 for electric)

Input Impedance: greater than 1 mega ohm

A/D converter: 24 bit or higher

Dynamic range: 130 dB or higher

Frequency range: 0.00024 Hz - 1 kHz minimum or better

Time synchronization: Onboard GPS for time synchronization better than ± 1 microsecond, with communication cable;

GPS should be capable of getting the positional coordinate (Lat, Long, elevation) and storing co-ordinates of site

Filtering: - anti-alias analogue filters

- High pass analogue filters on telluric channels only to remove electrode drift.

- Switchable analogue filters to remove power line even and odd harmonics.

Data storage: On Board storage of real time

Data of one week on removable non-volatile memory module (16 GB or larger).

Connectivity with PC / Data transfer: Network Facility to transfer data to Notebook/PC with high speed
USB 2.0/3.0 (wireless/Bluetooth) facility
GPRS facility or advanced facility.

Power Consumption: 10 watts or lower

Power requirement: 12 v dc, internal battery but waterproof connector for external battery and solar panel must be provided.

Calibration: Auto calibration capability. Instrument response must be provided as poles, zeroes or table of response (frequency, amp and phase). Noise spectrum from data acquisition module must be provided.

Lightning protection: Lightning protection on input to telluric amplifiers sufficient to prevent system damage.

Telluric sensors configuration: Telluric sensors configurable in L (3 electrodes) or X (5 electrodes) array.
Operating temperature : -10 deg C to 70 deg C

General specifications

iii) **Cables:** Cables for connecting all sensors (3 magnetic and 4 electric sensors) network cable, battery cable etc. with waterproof connectors required for complete operation in field.

iv) **Software:** Licensed MT Processing software: Windows based; time and frequency domain display; real-time acquisition & monitoring software; With 1D and 3D MT inversion facility; EDI output to work with off-the-shelf software.

v) **Training:** On site field installation, Data acquisition, data processing & interpretation with users full satisfaction.

vi) **Warranty:** Five years from the date of installation and maintenance.

Specification of Digital Fluxgate Magnetometer: (Item No. 2)

Major specifications:

(Low noise 3-component Digital Fluxgate Magnetometer
High resolution & precise with high base stability along with normal wireless connectivity provision)

a) Measurement range of magnetic field variation: ± 4000 nT or better.

- b) Total measurement range should be 60000 nT or better
- c) Long-time drift: <3nT/year
- d) Automatic operation control.
- e) Digital display
- f) User selectable sampling rates
- g) Robust with wide range of operating temperature.
- h) Built-in AD converter (16bit or better)
- i) Power Consumption: Low power consumption, should be less than 4W
- j) Power requirement: 10 - 15 V DC
- k) Pair of Non-polarizable Geophysical electrodes

General specifications

- l) Sufficient data storage capability with support of FLASH card.
- m) Time Synchronization: On-board GPS with required cables & accessories
- n) Lightning Protector must be available
- o) Cables & accessories: All cables and accessories as per actual requirement.
- p) Provision for connectivity with external GPRS modem for remote data transfer.
- q) **Software:** Necessary data acquisition and processing software with in-field processing capability, multi user license. The software should be compatible with different formats of data.

Training:

Should provide free training for two personnel (onsite/origin) on installation, data acquisition processing & interpretation to the user's full satisfaction.

Warranty:

5 years warranty from date of installation and maintenance

Specification of ULF Induction Coil Magnetometer System: (Item No. 3)

A) Major Specifications:

- a) Frequency band of measured signals: 0.001—64 Hz minimum or better

- b) Measuring range: $\pm 200\text{nT}$
- c) Transformation factor
 - From 0.001 Hz to 1 Hz: $20 \times f \text{ mV/nT}$
 - From 1 Hz to 30 Hz : 20 mV/nT
- d) Auxiliary output gain: 20 dB
- e) Full band transformation factor error: $\leq 3 \text{ dB}$
- f) Maximum output signal: $\pm 5\text{V}$
- g) Magnetic noise level at
 - 0.01 Hz: $\leq 20 \text{ pT} \times \text{Hz}^{-1/2}$
 - 0.1 Hz: $\leq 2 \text{ pT} \times \text{Hz}^{-1/2}$
 - 1 Hz: $\leq 0.2 \text{ pT} \times \text{Hz}^{-1/2}$
 - 10 Hz: $\leq 0.04 \text{ pT} \times \text{Hz}^{-1/2}$
- h) Mains interference rejection : $> 60 \text{ dB}$

B) GENERAL SPECIFICATIONS:

- a) Power supply: $\pm(6...15) \text{ V}$, $\pm 15 \text{ mA}$
- b) Temperature range of operation: $- 10 \text{ — } +50^\circ\text{C}$
- c) Operation humidity: Up to 95%
- d) Length of connecting cable: Up to $\leq 200\text{m}$

CAM Unit (communication unit):

A) MAJOR SPECIFICATIONS

- a) Number of inputs: 3
- b) Frequency band: 0.001—40 Hz
- c) Input signals range:
 - max input range : 8 V_{ptp}
 - with resolution : 488 nV/bit
 - min input range : $8 \text{ mV}_{\text{ptp}}$
 - with resolution : 0.488 nV/bit
- d) Full band transformation coefficient error: $\leq 3 \text{ dB}$
- e) Sampling frequency of each channel: Up to 256 Hz

B) GENERAL SPECIFICATIONS

- a) Programmable system gain: 1,10,100,1000

- b) CAM-Unit input: 3 differential inputs
- c) ADC resolution: 24 bit
- d) Timing: GPS Synchronized

- **Software:** Licensed software for monitoring and processing the Magnetometer data
- **Training:** On site field installation, Data acquisition, data processing & interpretation with users full satisfaction.
- **Warranty:** Five years from the date of installation and maintenance

Specification of Global Positioning System: (Item No. 4)

Global Positioning System [Permanent observatory type for Network operation]

Accuracy in Millimeter range: Input voltage 12 – 24VDC, TCP/IP based on-line communication for Centralized data acquisition and processing. **GPS software and Win Xp Server** [Branded] for data processing

(A) GPS RECEIVER

MAJOR specifications

- Dual frequency receiver with GLONASS / tracking facility , having internal memory and removal card memory of minimum 256 MB – 1 GB capable of storing minimum 180 days of data at 30 second sampling interval. Should also have user selectable sampling rate of 5 Hz to 1 min. The receiver should be capable of recording data at two sampling intervals simultaneously, so that the higher frequency data can also be retained within the receiver for a specified number of days (say, 3 – 7 days).
- The GPS receiver should be able to accommodate met – package so that met data are automatically stored in binary file produces separate met file.
- Should have total minimum 70 channels (GPS + GLONASS) and should be capable of tracking: GPS: L1 – C/A, L2C – C/A & P. receiver should also be capable of up gradation to track GPS L5 and Galileo in future.
- Receiver should be equipped with display and control unit / panel.
- Power consumption not exceeding 5 Watt (receiver, Antenna, Controller nominal) with external Battery voltage in the range 12 – 16 volts D.C.
- Power ports: Minimum two external physical redundant power ports with automatic switching facility within 12 – 16 VDC, physical over- voltage protection and polarity protection. The power port should not be connected internally.

- Remote monitoring and Online data downloading capability directly through radio modem / telephone line / Ethernet.
- Data Ports: USB, Serial and Ethernet ports. The receiver must be able to support met- package as well as data I/O using VSAT simultaneously.

GENERAL specifications

- Operating temperature range – 40 Deg. C to +65 Deg. C.
- Should be waterproof (IP66), shockproof, dustproof, humidity – proof (100% or better) and considerable proof.
- All necessary OEM power (2 sets per receiver) / data cables, as required.
- Automatic power-on and data logging after power failure and keep alive battery for storing the original configuration and parameter files.
- Should be capable of tracking all available satellites to 0 degree elevation.
- The product [specified model] should qualify the GPS calibration norms conducted by any International Testing Laboratory, and offer must accompany such certificate.
- Quantity Control Statistics (10 – 90 degree).
- Receiver must have (observation recorded / observations expected)>99%.
- MP1 (Multi-path on L1) MP2 values < 0.8m.
- Not more than 1 cycle slip per 20,000 observations on an average; i.e. (total observation / total slips) > 20,000.
- Functionality in short baseline processing.
- L1, L2, L3 precision < 0.5 min in N, E, 10MM in vertical.

GPS Antenna:

MAJOR specifications

- **Antenna with Choke Ring with DM element** should be separated from the receiver and should be supplied with RADOME.
- Repeatability of Antenna phase center variation with elevation with elevation angle (10 - 90 degree) should not be greater than 0.2 mm horizontal and 0.5mm vertical (ref. NSG Report)
- Multi-path reduction capability mechanism such that MP1 and MP2 values are less than 0.8 m for 10 - 90 degree elevation angle (ref: TEQC software)
- Geodetic grade, high gain on all bands.
- Operating temperature range: - 40 degree C to + 65 degree C.
- Should be waterproof, shockproof, dust proof, 100% humidity proof and condensation proof.
- The antenna must be of permanent station / observation standard.

GENERAL specifications

- Antenna Cable operational without amplifier (length 10 - 30 m as per the site requirements).
- Forced – centering device for accurate centering over the station mark, with rustproof tribrach and tripod.
- Industrial grade flash cards, with operational temperature range -40 deg.C to 65 deg.C.
- Surge and lightning protector

- DC – Lightning arrestor.
- EMP Protector / surge arrestor & capsule kit (GPS Antenna).
- Power Source and Accessories:
 - Solar Panel, 80 watts × 4 (four), with charge controller and voltage regular.
 - 350 (three hundred fifty) Amp Hr SMF battery for system power and 1 week autonomy.

Computer / Workstation:

- Windows Xp, Intel Xenon, Dual CPU@3.6 GHz, 2GB RAM, 80 × 2Bb HDD, USB serial and Ethernet ports, LCD Monitor.
- GPS data acquisition, Control and Analysis software:
- Software for configuring receiver through PC, without hardware lock.
- Base station Software: The software should be able to perform all necessary function of transferring data to card / external data logger / computer, remote communication, remote configuration data processing.
- Met – package for GPS permanent station.
- **Provision for Extended C / Ku** band communication/GPRS.

Warranty- 5 years from the date of installation and maintenance.

Training- On site field installation, Data acquisition, data processing & interpretation with user's full satisfaction.

Specification of Radon Monitoring System: (Item No. 5)

One Radon monitoring system with necessary training

Major Specifications:

1. Modes of Operation: Passive measurement
2. Measurements: Measurements of radon in the ground, water and air, ²²²Rn, temperature, atmospheric pressure, shocks, battery voltage, humidity, rain gauge
3. Power supply: From external power supply
4. PC Connectivity: RS232 connection (19200 Bauds) with necessary software

5. Nominal Sensitivity: 50 Bq.m⁻³ per imp.h⁻¹ or better
6. Radon Concentration Range: 0 to 1 GBq.m⁻³ or better
7. Cycle Range: Measuring cycle: adjustable parameters: 1 to 240 minutes or better
8. Calibration accuracy: better than + 1%

GENERAL Specifications:

9. Data Storage: Sufficient data storage capacity with support of flash card
10. Data retrieval: Data can be displayed on the unit's LCD, printed on external printer or downloaded to a PC for further analysis
11. Operating temperature Ranges: -20°C to +70°C
12. LCD Display Output: LCD Display
13. Power Supply: Suitable power supply
14. Software: Licensed User friendly acquisition, processing and inversion software with necessary training
15. Warranty: 5 years from the date of installation and maintenance
16. Training: On site field installation with necessary boring/borehole, data acquisition, data processing and interpretation with user's full satisfaction

Specification of Resistivity / IP System: (Item No. 6)

One Resistivity/IP system with necessary training

MAJOR Specifications:

1. Measurement modes: Resistivity, Induced Potential and Self Potential
2. Measurement range: -10V to +10V or better
3. Measuring resolution: Within 30 nV, depends on voltage level or better

4. Screen resolution: 4 digits in engineering notation.
5. Output current intensity: Up to 3A or better
6. Output voltage: 50V, 120V or 350 (100Vp-p, 240Vp-p, 700Vp-p) or better
7. Output power: 250W or better
8. Input channels: 10 or better
9. Input gain ranging: Automatic, always uses full dynamic range of receiver
10. Input impedance: 100 M Ω or better

GENERAL Specifications

11. Input voltage: 15V or equivalent
12. SP compensation: Automatic cancellation of SP
13. Noise suppression: Better than 100 dB, including powerline noise suppression, automatic stacking number in relation with a given standard deviation value
14. Total accuracy: Better than 1%
15. System calibration: Availability of proper calibration system
16. Supported configurations: Wenner Schlumberger, Dipole Dipole, Pole Dipole, Pole Pole
17. Data storage: Data storage on external SD card or better device
18. Data display: A back light liquid crystal four lines alpha-numeric display or better display facility
19. Data transmission: USB interface or RS-232C or advanced transmission mode
20. Automatic multi-electrodes: Automatic switching capability for 10, 24, 48, 72, 96, 120, up to 1300 electrodes.
21. User controls: All weather proof keyboard with numeric entry keys and function keys. On/Off switch, Measure button, integrated within main keyboard. LCD night light switch (push to illuminate) or equivalent user controls

22. Display: Graphic LCD screen or better
23. Operating temperature: $-10 \pm 50^{\circ}\text{C}$
24. Weight: Less than 13Kg
25. Warranty: 5 years from date of installation and maintenance
26. Software: Licensed User friendly acquisition, processing and inversion software with necessary training
27. Training: On site field installation, data acquisition, data processing and interpretation with user's full satisfaction

Specification of Accelerograph: (Item No. 7)

(A)Topology

MAJOR specifications

1. **Topology**-Tri-axial transducers, horizontal - vertical in a single sealed unit with internal recorder. The unit should have an indicator mark on its body to indicate relative orientation of the sensors.
2. **Type**-Force Balanced
3. **Full scale**-Field software selectable, up to $\pm 4g$
4. **Dynamic range**- ≥ 150 dB or better
5. **Frequency Response**-Nominally flat ($\pm 3\text{dB}$) from DC to at least 200 Hz
6. **Cross axis sensitivity**- $< 1\%$ (including misalignment)
7. **Linearity**- The relationship between output signal and input acceleration to be within $\pm 1\%$ of full scale for all frequencies from DC to 50Hz.

GENERAL

8. **Output impedance**- Matching to that of the recording unit
9. **Level indicator**- Bubble type

(B) Recorder (In-Built)

MAJOR specifications

1. **Number of channels-** Three channels
2. **Sampling Rate-** Software selectable up to 1000 SPS per channel or better.
3. **Dynamic Range-** At least 135 dB at 100 SPS or better
4. **Bit Resolution-** 24 bit.
5. **Frequency response-** DC to Nyquist frequency
6. **Input range-** Matched to the accelerometer output
7. **Timing system-** GPS receiver based timing system
8. **Timing Accuracy-** Free running accuracy of 0.1ppm to give + 100 micro sec latch-on accuracy
9. **Triggering-** The system must be capable of recording the acceleration data in triggered mode, e.g. threshold or STA/LTA ratio trigger.
10. **Data Storage-** Recording shall be on a Compact Flash card / SD card of the order 16 GB or better. One additional card with each unit.
11. **Output data format-** Direct output of PGA, PGV and PGD.
12. **Communication-** Ethernet interface, RS232, USB.

GENERAL specifications

13. **Operating temperature-** -20° C to + 60° C ambient.
14. **Humidity tolerance-** Upto 100% RH.
15. **Power consumption (accelerometer + recorder) -< 3W.**
16. **Power supply-** 12 V DC.
17. **Communication-**
 - a. T Ethernet, RS232.
 - b. The system should have a storage facility for SOH and communicate to a central recording station.

18. Analysis software subsequent-

- 18.1 Software for data retrieval and data processing should be provided
- 18.2 The software should be able to provide parameter setting for event recording and display state of health information of the system performance.

- 18.3 Format conversion routines to convert the data into the various standard formats like SEISAN, Mini SEED etc to be provided.
- 18.4 Compatible software versions of the above software for working in UNIX / SOLARIS / Windows environments should be provided.

19. Warranty- 5 years from the date of installation and maintenance.

20. Training- On site field installation, Data acquisition, data processing & interpretation with user's full satisfaction.

Specification of Overhauser Magnetometer System: (Item No. 8)

Major Specifications

- i) **Performance:**
 - Sensitivity: $\leq 0.015 \text{ nT}/\sqrt{\text{Hz}}$ @ 1 Hz
 - Resolution: $\leq 0.01 \text{ nT}$
 - Gradient Tolerance: $> 10,000 \text{ nT/m}$
 - Range: 10,000 to 120,000 or better
 - External Trigger: By RS 232
 - Sampling Rates: 1/Minute to 1Hz
 - Communications: RS-232, 9600 BPS
 - Power consumption: Less than 960 mW or equivalent

General specifications

- ii) **Operating Parameters:**
 - Operating temperature: -40 C to +50 C or better
 - Communication: Full duplex, 3-wire RS 232.
9600 bps, 8 data bits or better

 - Or Enhanced communicating facility

 - Storage Capacity: Sufficient capacity close to One millions readings or better

Battery pack: Gel Cell 12 V, 7 Ah or Enhanced system

- iii) **Software:** Necessary supporting Software: for configuration, data download, Software for Automated Modelling & Inversion of magnetometer data
- iv) **Training:** On site field installation, Data acquisition, data processing & interpretation with users full satisfaction.
- v) **Standard components:**
 - a) Housing with complete with electronic module
 - b) Rugged aluminium base;
 - c) Aluminium legs for attachment to the base;
 - d) Thumbscrews to secure the legs to base;
 - e) 22v, 50 Hz AC power supply,
 - f) RS 232 cable;
 - g) Cap to seal the housing for subsea deployment;
 - h) Custom rotomolded Harding Case;
 - i) Compatible software.
- vi) **Warranty:** Five years from the date of installation and maintenance

Specification of Broadband Seismograph: (Item No.9)

A) Broadband Seismometer

B) Broadband Digitizer

(Both the instruments should be manufactured by the same company)

A) Broadband Seismometer

MAJOR specifications

- 1) Topology: Symmetric / Orthogonal tri-axial, broadband force balanced type velocity transducer in a single sealed water and vacuum tight enclosure. Axial accuracy should be better than <0.5 degree
- 2) Feedback: Force balanced type
- 3) Frequency response: Flat response from 120 Sec to 50 Hz or
- 4) Sensitivity: 1200 V/m/s or higher
- 5) Dynamic range: >140dB or better

- 6) Mass Centering/ Mass Locking: Operates over the temperature range of $\pm 30^{\circ}\text{C}$ without manual mass re-centering or better Safety mechanism for the seismometer during transportation, details to be provided.
- 7) Leveling Indicator: Integrated bubble levelling
- 8) Mass Position: Three independent voltage outputs
- 9) Calibration: Remote calibration from DAS

GENERAL specifications

- 10) Power: 10 to 30 V DC, <2W
- 11) Operating temperature -20°C to $+50^{\circ}\text{C}$
- 12) Humidity: 0 to 100 %
- 13) Seismometer cable: High quality, low noise cable with 10 meter length and end connector in compatible with DAS

B) Broadband Seismic Digitizer

MAJOR specifications

- 1) Number of Channel: 3 Channels or upgradable up to 6 channels
- 2) State of Health Channels: Provision for checking state of health information like sensor mass position, temperature, Voltage, Condition of GPS, time lock etc., through Laptop.
- 3) Hardware Gain: User Selectable in various range
- 4) Sampling rate: User-Selectable; 10,20,50,100, 200, 500, 1000 SPS or better
- 5) ADC resolution: True 24 bit
- 6) Dynamic Range: >135 dB to 142dB at 100 SPS or better
- 7) Data Acquisition Mode: Continuous / Trigger mode
- 8) Sensor mass position monitoring: Digitizer should have the facility to monitor the seismometer mass position to be provided
Input range: Match with the
- 9) sensor output
- 10) RAM memory: At-least 64 MB RAM or better

- 11) Shortest input noise: > 1 count RMS @ 100 SPS of 24-bits.
- 12) Storage Type: Hot Swappable CF/SD card of 32 GB or better with each Digitizer – 2nos
- 13) Recording format: The data should be available in Mini-seed format while download the data from the storage Media or Directly from the Digitizer or any compatible format.
- 14) GPS Timing system: GPS synchronized timing. Timing accuracy less than 0.1 mSec when GPS is locked. Antenna enclosed in water tight and work effectively in extreme climate condition. Antenna mounting rod and its accessories
- 15) Power Supply:
 - a. Supply Voltage 10-35 Volts
 - b. Power consumption of DAS should be less than 2W in data acquisition mode including the Storage media at 100 SPS continuous mode.
 - c. Low battery voltage protection
 - d. DAS shall resume data acquisition and transmission automatically when power is restored.

GENERAL specifications

- 16) Environment: Operating temperature -20 to 60.
- 17) Communication port: Configurable serial asynchronous full duplex port, 100 Mbps Ethernet port, for VSAT connectivity and data transfer should be ready to connect the VSAT at any time without any additional charges. The Digitizer should have the Web browser.
- 18) Environment: All outdoor equipment should work in harsh weather conditions such as temperature range -20 to 50 degree C, 100% RH and IP67 rated or better.
- 19) Indicator LED: Indicator LED to view the Power, GPS Status, etc.,
- 20) Cables: The supplier should supply 3 meter Power cable with end connector & Ethernet cable with end connector
- 21) Installation and training: On site field installation, Data acquisition, data processing & interpretation with full satisfaction.
- 22) Warranty: All the supplied items should be under five year warranty from the date of installation commissioning and maintenance.

Chapter 9.

Evaluation of tender.

Unless specifically mentioned, the overall lowest bid meeting the technical specifications will be selected for placement of purchase order.

A. Grounds for summary rejection of bid / offer without any further clarification at preliminary evaluation stage:

1. Unsigned bid
2. Late or delayed bid
3. Bid validity is shorter than the required period
4. The bid is not accompanied by Earnest Money Deposit (EMD) if EMD is required
5. The bidder is not eligible
6. No authorisation letter from the manufacturer
7. If there is no mention of packing, forwarding, freight, transportation and insurance charge in the offer
8. Not willing to provide performance security if it is requirement of tender.

B. Grounds to be considered as material deviation for summary rejection of bid / offer without any further clarification during intensive technical evaluation stage:

1. The good(s) quoted which are not meeting the following major / essential technical specifications.

Major Specification Magnetotelluric System: (Item No. 1):

i) Sensors:

a) Magnetic Field Sensors:

Noise Level: 20 pT / $\sqrt{\text{Hz}}$ or lower over entire frequency range

Drift: Low Drift

Least Count: 10^{-2} nT or smaller

Frequency Range: 0.0001 Hz – 1000 Hz minimum or better range

b) Electric Field Sensor: Lead/Lead chloride sealed or Cd/CdCl₂ type; non - polarizing, broadband, protection against foul weather and temperature variations when buried in the earth

ii) Data Acquisition Module :

No of Channels: Minimum 5 channels (3 for magnetic and 2 for electric)

Input Impedance: greater than 1 mega ohm

A/D converter: 24 bit or higher

Dynamic range: 130 dB or higher

Frequency range: 0.00024Hz-1kHz minimum or better

Time synchronization: Onboard GPS for time synchronization better than ± 1 microsecond, with communication cable;
GPS should be capable of getting the positional coordinate (Lat, Long, elevation) and storing co-ordinates of site

Filtering: - anti-alias analogue filters

- High pass analogue filters on telluric channels only to remove electrode drift.
- Switchable analogue filters to remove power line even and odd harmonics.

Data storage: On Board storage of real time

Data of one week on removable non-volatile memory module (16 GB or larger).

Connectivity with PC / Data transfer: Network Facility to transfer data to Notebook/PC with high speed
USB 2.0/3.0 (wireless/Bluetooth) facility
GPRS facility or advanced facility.

Power Consumption: 10 watts or lower

Power requirement: 12 v dc, internal battery but waterproof connector for external battery and solar panel must be provided.

Calibration: Auto calibration capability. Instrument response must be provided as poles, zeroes or table of response (frequency, amp and phase).
Noise spectrum from data acquisition module must be provided.

Lightning protection: Lightning protection on input to telluric amplifiers sufficient to prevent system damage.

Telluric sensors configuration: Telluric sensors configurable in L (3 electrodes) or X (5 electrodes) array.
Operating temperature : -10 deg C to 70 deg C

Major specifications Fluxgate Magnetometer: (Item No. 2):

(Low noise 3-component Digital Fluxgate Magnetometer

High resolution & precise with high base stability along with normal wireless connectivity provision)

- a) Measurement range of magnetic field variation: ± 4000 nT or better.
- b) Total measurement range should be 60000 nT or better
- c) Long-time drift: <3 nT/year
- d) Automatic operation control.
- e) Digital display
- f) User selectable sampling rates
- g) Robust with wide range of operating temperature.
- h) Built-in AD converter (16bit or better)
- i) Power Consumption: Low power consumption, should be less than 4W
- j) Power requirement: 10 - 15 V DC
- k) Pair of Non-polarizable Geophysical electrodes

Major Specifications of ULF Induction Coil Magnetometer System: (Item No. 3)

- a) Frequency band of measured signals: 0.001—64 Hz minimum or better
- b) Measuring range: ± 200 nT
- c) Transformation factor
 - From 0.001 Hz to 1 Hz: $20 \times f$ mV/nT
 - From 1 Hz to 30 Hz : 20 mV/nT
- i) Auxiliary output gain: 20 dB
- j) Full band transformation factor error: ≤ 3 dB
- k) Maximum output signal: ± 5 V
- l) Magnetic noise level at
 - 0.01 Hz: ≤ 20 pT \times Hz $^{-1/2}$
 - 0.1 Hz: ≤ 2 pT \times Hz $^{-1/2}$
 - 1 Hz: ≤ 0.2 pT \times Hz $^{-1/2}$
 - 10 Hz: ≤ 0.04 pT \times Hz $^{-1/2}$

m) Mains interference rejection : >60 dB

CAM Unit (communication unit):

- a) Number of inputs : 3
- b) Frequency band : 0.001—40 Hz
- c) Input signals range:
 - max input range : 8 V_{ptp}
 - with resolution : 488 nV/bit
 - min input range : 8 mV_{ptp}
 - with resolution : 0.488 nV/bit
- d) Full band transformation coefficient error: ≤3 dB
- e) Sampling frequency of each channel: Up to 256 Hz

Major Specification of Global Positioning System: (Item No. 4)

Global Positioning System [Permanent observatory type for Network operation]

Accuracy in Millimeter range: Input voltage 12 – 24VDC, TCP/IP based on-line communication for Centralized data acquisition and processing. **GPS software and Win Xp Server** [Branded] for data processing

(A) GPS RECEIVER

- Dual frequency receiver with GLONASS / tracking facility , having internal memory and removal card memory of minimum 256 MB – 1 GB capable of storing minimum 180 days of data at 30 second sampling interval. Should also have user selectable sampling rate of 5 Hz to 1 min. The receiver should be capable of recording data at two sampling intervals simultaneously, so that the higher frequency data can also be retained within the receiver for a specified number of days (say, 3 – 7 days).
- The GPS receiver should be able to accommodate met – package so that met data are automatically stored in binary file produces separate met file.
- Should have total minimum 70 channels (GPS + GLONASS) and should be capable of tracking: GPS: L1 – C/A, L2C – C/A & P. receiver should also be capable of up gradation to track GPS L5 and Galileo in future.
- Receiver should be equipped with display and control unit / panel.
- Power consumption not exceeding 5 Watt (receiver, Antenna, Controller nominal) with external Battery voltage in the range 12 – 16 volts D.C.

- Power ports: Minimum two external physical redundant power ports with automatic switching facility within 12 – 16 VDC, physical over- voltage protection and polarity protection. The power port should not be connected internally.
- Remote monitoring and Online data downloading capability directly through radio modem / telephone line / Ethernet.
- Data Ports: USB, Serial and Ethernet ports. The receiver must be able to support met- package as well as data I/O using VSAT simultaneously.

GPS Antenna:

- **Antenna with Choke Ring with DM element** should be separated from the receiver and should be supplied with RADOME.
- Repeatability of Antenna phase center variation with elevation with elevation angle (10 - 90 degree) should not be greater than 0.2 mm horizontal and 0.5mm vertical (ref. NSG Report)
- Multi-path reduction capability mechanism such that MP1 and MP2 values are less than 0.8 m for 10 - 90 degree elevation angle (ref: TEQC software)
- Geodetic grade, high gain on all bands.
- Operating temperature range: - 40 degree C to + 65 degree C.
- Should be waterproof, shockproof, dust proof, 100% humidity proof and condensation proof.
- The antenna must be of permanent station / observation standard.

Major Specification of Radon Monitoring System: (Item No. 5)

One Radon monitoring system with necessary training

1. Modes of Operation: Passive measurement
2. Measurements: Measurements of radon in the ground, water and air, ^{222}Rn , temperature, atmospheric pressure, shocks, battery voltage, humidity, rain gauge
3. Power supply: From external power supply
4. PC Connectivity: RS232 connection (19200 Bauds) with necessary software
5. Nominal Sensitivity: 50 Bq.m⁻³ per imp.h⁻¹ or better
6. Radon Concentration Range: 0 to 1 GBq.m⁻³ or better

7. Cycle Range: Measuring cycle: adjustable parameters: 1 to 240 minutes or better
8. Calibration accuracy: better than + 1%

Major Specification of Resistivity / IP System: (Item No. 6)

One Resistivity/IP system with necessary training

1. Measurement modes: Resistivity, Induced Potential and Self Potential
2. Measurement range: -10V to +10V or better
3. Measuring resolution: Within 30 nV, depends on voltage level or better
4. Screen resolution: 4 digits in engineering notation.
5. Output current intensity: Up to 3A or better
6. Output voltage: 50V, 120V or 350 (100Vp-p, 240Vp-p, 700Vp-p) or better
7. Output power: 250W or better
8. Input channels: 10 or better
9. Input gain ranging: Automatic, always uses full dynamic range of receiver
10. Input impedance: 100 M Ω or better

Major Specification of Accelerograph: (Item No. 7)

(A) Topology

1. **Topology**-Tri-axial transducers, horizontal - vertical in a single sealed unit with internal recorder. The unit should have an indicator mark on its body to indicate relative orientation of the sensors.
2. **Type**-Force Balanced
3. **Full scale**-Field software selectable, up to $\pm 4g$
4. **Dynamic range**- ≥ 150 dB or better

5. **Frequency Response**-Nominally flat ($\pm 3\text{dB}$) from DC to at least 200 Hz
6. **Cross axis sensitivity**-< 1% (including misalignment)
7. **Linearity**- The relationship between output signal and input acceleration to be within $\pm 1\%$ of full scale for all frequencies from DC to 50Hz.

(B) Recorder (In-Built)

1. **Number of channels**- Three channels
2. **Sampling Rate**- Software selectable up to 1000 SPS per channel or better.
3. **Dynamic Range**- At least 135 dB at 100 SPS or better
4. **Bit Resolution**- 24 bit.
5. **Frequency response**- DC to Nyquist frequency
6. **Input range**- Matched to the accelerometer output
7. **Timing system**- GPS receiver based timing system
8. **Timing Accuracy**- Free running accuracy of 0.1ppm to give + 100 micro sec latch-on accuracy
9. **Triggering**- The system must be capable of recording the acceleration data in triggered mode, e.g. threshold or STA/LTA ratio trigger.
10. **Data Storage**- Recording shall be on a Compact Flash card / SD card of the order 16 GB or better. One additional card with each unit.
11. **Output data format**- Direct output of PGA, PGV and PGD.
12. **Communication**- Ethernet interface, RS232, USB.

Major Specification of Overhauser Magnetometer System:(Item No. 8)

Performance:

Sensitivity: $\leq 0.015 \text{ nT}/\sqrt{\text{Hz}}$ @ 1 Hz

Resolution: $\leq 0.01 \text{ Nt}$

Gradient Tolerance: >10,000 nT/m
Range: 10,000 to 120,000 or better
External Trigger: By RS 232
Sampling Rates: 1/Minute to 1Hz
Communications: RS-232, 9600 BPS
Power consumption: Less than 960 mW or equivalent

Major Specification of Broadband Seismograph: (Item No. 9)

A) Broadband Seismometer

B) Broadband Digitizer

(Both the instruments should be manufactured by the same company)

A) Broadband Seismometer

- 1) Topology: Symmetric / Orthogonal tri-axial, broadband force balanced type velocity transducer in a single sealed water and vacuum tight enclosure. Axial accuracy should be better than <0.5 degree
- 2) Feedback: Force balanced type
- 3) Frequency response: Flat response from 120 Sec to 50 Hz or
- 4) Sensitivity: 1200 V/m/s or higher
- 5) Dynamic range: >140dB or better
- 6) Mass Centering/ Mass Locking: Operates over the temperature range of $\pm 30^{\circ}\text{C}$ without manual mass re-centering or better Safety mechanism for the seismometer during transportation, details to be provided.
- 7) Leveling Indicator: Integrated bubble levelling
- 8) Mass Position: Three independent voltage outputs
- 9) Calibration: Remote calibration from DAS

B) Broadband Seismic Digitizer

- 1) Number of Channel: 3 Channels or upgradable up to 6 channels

- 2) State of Health Channels: Provision for checking state of health information like sensor mass position, temperature, Voltage, Condition of GPS, time lock etc., through Laptop.
- 3) Hardware Gain: User Selectable in various range
- 4) Sampling rate: User-Selectable; 10,20,50,100, 200, 500, 1000 SPS or better
- 5) ADC resolution: True 24 bit
- 6) Dynamic Range: >135 dB to 142dB at 100 SPS or better
- 7) Data Acquisition Mode: Continuous / Trigger mode
- 8) Sensor mass position monitoring: Digitizer should have the facility to monitor the seismometer mass position to be provided
Input range: Match with the
- 9) sensor output
- 10) RAM memory: At-least 64 MB RAM or better
- 11) Shortest input noise: > 1 count RMS @ 100 SPS of 24-bits.
- 12) Storage Type: Hot Swappable CF/SD card of 32 GB or better with each Digitizer – 2nos
- 13) Recording format: The data should be available in Mini-seed format while download the data from the storage Media or Directly from the Digitizer or any compatible format.
- 14) GPS Timing system: GPS synchronized timing. Timing accuracy less than 0.1 mSec when GPS is locked. Antenna enclosed in water tight and work effectively in extreme climate condition. Antenna mounting rod and its accessories
- 15) Power Supply:
 - a. Supply Voltage 10-35 Volts
 - b. Power consumption of DAS should be less than 2W in data acquisition mode including the Storage media at 100 SPS continuous mode.
 - c. Low battery voltage protection
 - d. DAS shall resume data acquisition and transmission automatically when power is restored.

2. Conditional bid, which is, not agreeing to some essential condition(s) of the tender.
3. No technical literature or brochure from the manufacturer of the quoted item(s) or product verification/ authentication from manufacturer.

C. Grounds for seeking further clarification:

1. Minor informality or irregularity or non-conformity such as make / model, other documents etc in the bid.
2. Non-conformity between figures and words of the quoted price.
3. Discrepancies between original and additional copies of a bid.
4. Requirement for more brochure or printed literature to get more clarity of certain technical specifications.
5. Reasonableness of offer price.
6. After sale support: rate and terms of AMC after warranty.
7. Non-conformity between various parameters / unit of measurement etc of technical specifications.
8. Availability of spares.