

BIDDING DOCUMENTS

Central Water Commission

Ministry of Water Resources, RD &GR, Government of India

Procurement of Goods

International Competitive Bidding

(Two-Envelope Bidding Process with e-Procurement)

Jan, 2019

Bidding Document for Procurement of Goods (e-Tender)

Procurement of:

**SUPPLY, INSTALLATION, TESTING, COMMISSIONING AND
MAINTENANCE OF REAL TIME DATA ACQUISITION SYSTEM
(RTDAS) OF NORTH EASTERN STATE (EXCEPT ASSAM) OF INDIA
UNDER NATIONAL HYDROLOGY PROJECT (NHP)**

ICB No: NHP/2019-RDC-1/01

Project: NATIONAL HYDROLOGY PROJECT

**Purchaser: CENTRAL WATER COMMISSION,
MINISTRY OF WATER
RESOURCES, RIVER DEVELOPMENT
& GANGA REJUVINATION,
GOVERNMENT OF INDIA**

Country: INDIA

**GOVERNMENT OF INDIA
CENTRAL WATER COMMISSION**

**Invitation for Bids
E-Procurement Notice
(Two-Envelope e-procurement Bidding Process)**

INDIA
National Hydrology Project
Loan No.:8725-IN

Contract Title: SUPPLY, INSTALLATION, TESTING, COMMISSIONING AND MAINTENANCE OF REAL TIME DATA ACQUISITION SYSTEM (RTDAS) OF NORTH EASTERN STATES (EXCEPT ASSAM) UNDER NATIONAL HYDROLOGY PROJECT (NHP)

Reference No.: NHP/2019-RDC-1/01

1. The Government of India *has received* financing from the World Bank toward the cost of the National Hydrology Project, and intends to apply part of the proceeds toward payments under the contract for which this invitation of Bids is issued. This Invitation for Bid follows the General Procurement Notice for this Project that appeared in Development Business on 21/09/2016
2. The Executive Engineer, Middle Brahmaputra Division, CWC, Guwahati, Assam (*Purchaser*) now invites online bids from eligible bidders for supply, Installation, Commissioning and maintenance of Real Time Data Acquisition System (RTDAS) for North Eastern States of Meghalaya, Tripura, Mizoram, Arunachal Pradesh, Nagaland, Manipur and Sikkim as follows:
 - i. Automatic Water Level Recorders, Radar type with INSAT communication including all necessary hardwares and softwares.
 - ii. Automatic Weather Station with INSAT communications.
 - iii. Automatic Rain Gauges with INSAT communications.
 - iv. Automatic Water Level Recorders, Radar type and Automatic Rain Gauge with INSAT communications including all necessary hardwares and softwares.
 - v. Server for North Eastern State Data Centres at Gangtok, Shillong, Aizwal, Itanagar, Agartala, Kohima and Imphal to collect and store data including all necessary hardware and software from ERS stations located at New Delhi or other locations and integrating with real time collection platforms,
 - vi. Related Services.

3. Bidding will be conducted through the International Competitive Bidding procedures as specified in the World Bank's *Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011 Revised July 2014* and is open to all eligible bidders as defined in the Procurement Guidelines. In addition, please refer to paragraphs 1.6 and 1.7 setting forth the World Bank's policy on conflict of interest.
4. Bidding documents in English are available online <https://www.tcil-india-electronictender.com>, CWC website www.cwc.gov.in and e-procurement website <https://eprocure.gov.in/eprocure/app> at free of cost. Bidders will be required to register in the website, <https://www.tcil-india-electronictender.com> for participating in the bidding process. The bidder would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated.

(a)	Price of bidding document	: Nil
(b)	Date of commencement of downloading of bidding document	: 22-01-2019; 18:00Hrs
(c)	Last date for downloading of bidding document	: 08-03-2019; 09:59Hrs
(d)	Starting date and time for online Bid Submission	: 23-01-2019; 16:00Hrs
(e)	Last date and time for online Bid Submission	: 08-03-2019; 10:00Hrs
(f)	Last date and time of Receipt of relevant document as mentioned (IFB) by Speed post/Courier/by hand	: 08-03-2019; 13:00Hrs
(g)	Time and date of opening of bids-Technical part	: 08-03-2019; 15:00Hrs

5. For submission of the bids, the bidder is required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities, authorized by Government of India for issuing DSC. Bidders can see the list of licensed CA's from the link (www.cca.gov.in). Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same by registering from the website: <https://www.tcil-india-electronictender.com>.
6. Bids must be submitted online at <https://www.tcil-india-electronictender.com> on or before; **08-03-2019; 10:00Hrs**. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. The electronic bidding system would not allow any late submission of bids. 'Technical Part' of the Bids will be publicly opened online in the presence of the bidders' designated representatives and anyone who choose to attend at the address below on; **08-03-2019; 15:00Hrs**, and this could also be viewed by the bidders online. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. In the event of the date specified for bid opening being declared as a closed holiday for the purchaser's office, the due date for opening of bids will be the following working day at the appointed time.

7. Bid security of **INR 76 Lakh/USD 108572** must be submitted as per the procedure described in paragraph 8 below.
8. The bidders are required to submit (a) original bid security in approved form; and (b) original affidavit regarding correctness of information furnished with bid document with Executive Engineer, Middle Brahmaputra Division, CWC, Guwahati, Assam before **08-03-2019; 13:00Hrs**, either by registered post/speed post/courier or by hand, failing which such bids will be declared non-responsive and will not be opened.
(c) Pass-phrase for opening of Technical and Financial Bids: Passphrase shall be supplied in one big sealed envelope containing two small sealed envelopes having pass-phrase for technical & financial bids. Each envelope shall clearly marked “pass-phrase for technical bid” and “pass-phrase for financial bid”. Bigger envelope shall be marked as “pass-phrases for **Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern States of India (except Assam) under National Hydrology Project (NHP)** before **08-03-2019; 13:00Hrs**, either by registered post/speed post/courier or by hand or can be emailed on: mbdcwc1@yahoo.com, failing which such bids will be declared non-responsive and will not be opened.
9. A pre-bid meeting will be held on **11-02-2019; 11:30hrs (IST)** at the **Conference Room, 2nd Floor, Sewa Bhawan, CWC, New Delhi**, to clarify issues and to answer questions on any matter that may be raised at that stage as stated in clause 9.2 of the ‘Instructions to Bidders’ of the bidding document.
10. Other details can be seen in the bidding document. The Purchaser shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Purchaser shall not be liable for any information not received by the bidder. It is the bidders’ responsibility to verify the website for the latest information related to this bid.
11. The address(es) referred to above is(are):

Executive Engineer,
Middle Brahmaputra Division,
Central Water Commission,
Government of India,
Adabari, Guwahati, Assam, India
For & On behalf of North Eastern State of India
Tel:0361-2674267
Fax: 0361-2674267
E-mail: mbdcwc1@yahoo.com
Web site: www.cwc.gov.in

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PART 1 – Bidding Procedures

Section I. Instructions to Bidders

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Section I. Instructions to Bidders

A. General

- 1. Scope of Bid**
 - 1.1 In connection with the Invitation for Bids, **specified in the Bid Data Sheet (BDS)**, the Purchaser, **as specified in the BDS**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this International Competitive Bidding (ICB) procurement are **specified in the BDS**.
 - 1.2 Throughout these Bidding Documents:
 - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa; and
 - (c) “day” means calendar day.
- 2. Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in BDS**, toward the project named **in BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
- 3. Corrupt and Fraudulent Practices**
 - 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.
 - 3.2 In further pursuance of this policy, Bidders shall permit and shall

cause its agents (where declared or not), sub-contractors, sub-consultants, service providers or suppliers and to permit the Bank to inspect all accounts, records and other documents relating to the submission of the application, bid submission (in case prequalified), and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

- 4.1 A Bidder may be a firm that is a private entity, a government-owned entity—subject to ITB 4.5—or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. **Unless specified in the BDS,** there is no limit on the number of members in a JV.
- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - (b) receives or has received any direct or indirect subsidy from another Bidder; or
 - (c) has the same legal representative as another Bidder; or
 - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
 - (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same sub-contractor in more than one bid; or
 - (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
 - (g) any of its affiliates has been hired (or is proposed to be

- hired) by the Purchaser or Borrower for the Contract implementation; or
- (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.
- 4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
- 4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.
- 4.5 Bidders that are Government-owned enterprises or institutions in the Purchaser's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate

under commercial law, and (iii) are not dependent agencies of the Purchaser. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

- 4.6 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration.
- 4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.8 A Bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

5. Eligible Goods and Related Services

- 5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially

in its basic characteristics from its components.

B. Contents of Bidding Document

6. Sections of Bidding Document

- 6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1-Bidding Procedures

- Section I. Instructions to Bidders (ITB)
- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries
- Section VI. Bank Policy-Corrupt and Fraudulent Practices

PART 2-Supply Requirements

- Section VII. Schedule of Requirements

PART 3-Contract

- Section VIII. General Conditions of Contract (GCC)
- Section IX. Special Conditions of Contract (SCC)
- Section X. Contract Forms

- 6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.

- 6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.

7. Clarification of Bidding Documents

- 7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Purchaser in writing at the Purchaser's address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is

received prior to the deadline for submission of bids within a period **specified in the BDS**. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so **specified in the BDS**, the Purchaser shall also promptly publish its response at the web page **identified in the BDS**. Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.

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| 8. Amendment of Bidding Document | <p>8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addenda.</p> <p>8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITB 7.1.</p> <p>8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.</p> |
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C. Preparation of Bids

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| 9. Cost of Bidding | 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process. |
| 10. Language of Bid | 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language specified in the BDS . Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language specified in the BDS , in which case, for purposes of interpretation of the Bid, such translation shall govern. |
| 11. Documents Comprising the Bid | 11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope Bidding process). One envelope shall contain only information relating to the Technical Part and the other, only information relating to the Financial Part. These two envelopes shall be |

enclosed in a separate sealed outer envelope marked “ORIGINAL BID”.

11.2 The **Technical Part** shall contain the following:

- (a) Letter of Bid - Technical Part in accordance with ITB 12;
- (b) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1;
- (c) Alternative Bid - Technical Part, if permissible, in accordance with ITB 13, the Technical Part of any Alternative Bid;
- (d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
- (e) documentary evidence in accordance with ITB 17 establishing the Bidder’s qualifications to perform the contract if its bid is accepted;
- (f) documentary evidence in accordance with ITB 17 establishing the Bidder’s eligibility to bid;
- (g) documentary evidence in accordance with ITB 16, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
- (h) documentary evidence in accordance with ITB 16 and 29, that the Goods and Related Services conform to the Bidding Documents; and
- (i) any other document **required in the BDS.**

11.3 The **Financial Part** shall contain the following:

- (a) Letter of Bid – Financial Part: prepared in accordance with ITB 12 and ITB 14;
- (b) Price Schedules: completed prepared in accordance with ITB 12 and ITB 14;
- (c) Alternative Bid - Financial Part; if permissible in accordance with ITB 13, the Financial Part of any Alternative Bid; and
- (d) any other document **required in the BDS.**

11.4 The Technical Part shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part, the Bid shall be declared non-responsive.

11.5 In addition to the requirements under ITB 11.1 to ITB 11.4, bids

submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.

- 11.6 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

12. Letters of Bid and Price Schedules

- 12.1. The Bidder shall prepare the Letter of Bid – Technical Part, Letter of Bid – Financial Part, and Price Schedules using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.

13. Alternative Bids

- 13.1. Unless otherwise **specified in the BDS**, alternative bids shall not be considered.

14. Bid Prices and Discounts

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Bid – Financial Part and in the Price Schedules shall conform to the requirements specified below.
- 14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.
- 14.3 The price to be quoted in the Letter of Bid – Financial Part in accordance with ITB 12.1 shall be the total price of the bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid – Financial Part, in accordance with ITB 12.1.
- 14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, **unless otherwise specified in the BDS**. A bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 31. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise **specified in the BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the

quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4 provided the bids for all lots (contracts) are opened at the same time.

14.7 The terms EXW, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, **as specified in the BDS.**

14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:

(a) For Goods manufactured in the Purchaser's Country:

- (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
- (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
- (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) **specified in the BDS.**

(b) For Goods manufactured outside the Purchaser's Country, to be imported:

- (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, **as specified in the BDS;**
- (ii) the price for inland transportation, insurance, and

other local services required to convey the Goods from the named place of destination to their final destination (Project Site) **specified in the BDS;**

- (c) For Goods manufactured outside the Purchaser's Country, already imported:
 - (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported;
 - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
 - (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;
 - (iv) any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
 - (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) **specified in the BDS.**
- (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:
 - (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

15. Currencies of Bid and Payment

- 15.1 The currency(ies) of the bid and the currency(ies) of payments shall be **as specified in the BDS**. The Bidder shall quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in the currency of the Purchaser's country, unless otherwise **specified in the BDS**.
- 15.2 The Bidder may express the bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser's Country.

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| <p>16. Documents
 Establishing the Eligibility and Conformity of the Goods and Related Services</p> | <p>16.1 To establish the eligibility of the Goods and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.</p> <p>16.2 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.</p> <p>16.3 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.</p> <p>16.4 The Bidder shall also furnish 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 period specified in the BDS following commencement of the use of the goods by the Purchaser.</p> <p>16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.</p> |
| <p>17. Documents
 Establishing the Eligibility and Qualifications of the Bidder</p> | <p>17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms.</p> <p>17.2 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:</p> <p style="padding-left: 40px;">(a) that, if required in the BDS, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it</p> |

has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;

- (b) that, if **required in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

18. Period of Validity of Bids

- 18.1. Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser in accordance with ITB 22.1. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.
- 18.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 19, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
- 18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:
 - (a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**.
 - (b) In the case of adjustable price contracts, no adjustment shall be made.
 - (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

- 19.1. The Bidder shall furnish as part of the Technical Part of its bid, either a Bid-Securing Declaration or a bid security, as **specified in the BDS**, in original form and, in the case of a bid security, in the amount and currency **specified in the BDS**.
- 19.2. A Bid Securing Declaration shall use the form included in

Section IV, Bidding Forms.

19.3. If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option:

- (a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);
- (b) an irrevocable letter of credit;
- (c) a cashier's or certified check; or
- (d) another security **specified in the BDS**,

from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Purchaser's Country, the issuing financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

19.4. If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.

19.5. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 44.

19.6. The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.

19.7. The Bid Security may be forfeited or the Bid Securing Declaration executed:

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid – Technical Part and repeated in the Letter of Bid - Financial Part, or any extension thereto provided by the Bidder; or

(b) if the successful Bidder fails to:

(i) sign the Contract in accordance with ITB 43; or

(ii) furnish a performance security in accordance with ITB 44.

19.8. The bid security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the bid security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.

19.9. If a bid security is **not required in the BDS**, pursuant to ITB 19.1, and

(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid – Technical Part and repeated in the Letter of Bid - Financial Part, or

(b) if the successful Bidder fails to: sign the Contract in accordance with ITB 43; or furnish a performance security in accordance with ITB 44;

the Borrower may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

20. Format and Signing of Bid

20.1 The Bidder shall prepare the bid as per details given in ITB 11 and 21.

20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.

20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

20.4 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

D. Submission of Bids

21. Sealing and Marking of Bids

- 21.1. The Bidder shall deliver the Bid in two separate, sealed envelopes (the Technical Part and the Financial Part). These two envelopes shall be enclosed in a sealed outer envelope marked “ORIGINAL BID”.
- 21.2. In addition, the Bidder shall submit copies of the Bid in the number specified **in the BDS**. Copies of the Technical Part shall be placed in a separate sealed envelope marked “COPIES: TECHNICAL PART”. Copies of the Financial Part shall be placed in a separate sealed envelope marked “COPIES: FINANCIAL PART”. The Bidder shall place both of these envelopes in a separate, sealed outer envelope marked “BID COPIES”. In the event of any discrepancy between the original and the copies, the original shall prevail. If alternative Bids are permitted in accordance with ITB 13, the alternative Bids shall be submitted as follows: the original of the alternative Bid Technical Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – TECHNICAL PART” and the Financial Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – FINANCIAL PART” and these two separate sealed envelopes then enclosed within a sealed outer envelope marked “ALTERNATIVE BID – ORIGINAL”, the copies of the alternative Bid will be placed in separate sealed envelopes marked “ALTERNATIVE BID – COPIES OF TECHNICAL PART”, and “ALTERNATIVE BID – COPIES OF FINANCIAL PART” and enclosed in a separate sealed outer envelope marked “ALTERNATIVE BID - COPIES”.
- 21.3. The envelopes marked “ORIGINAL BID” and “BID COPIES” (and, if appropriate, a third envelope marked “ALTERNATIVE BID”) shall be enclosed in a separate sealed outer envelope for submission to the Purchaser.
- 21.4. All inner and outer envelopes shall:
 - (a) bear the name and address of the Bidder;
 - (b) be addressed to the Purchaser in accordance with ITB 22.1;
 - (c) bear the specific identification of this bidding process indicated in ITB 1.1; and
 - (d) bear a warning not to open before the time and date for bid opening.
- 21.5. If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.

22. Deadline for

- 22.1. Bids must be received by the Purchaser at the address and no

- Submission of Bids** later than the date and time **specified in the BDS**. When so **specified in the BDS**, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.
- 22.2. The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 23. Late Bids** 23.1. The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.
- 24. Withdrawal, Substitution, and Modification of Bids** 24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) prepared and submitted in accordance with ITB 20 and 21 (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 22.
- 24.2. Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.
- 24.3. 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 Letter of Bid and repeated in the Letter of Bid - Financial Part, or any extension thereof.

E. Public Opening of Technical Parts of Bid

- 25. Public Opening of Technical Parts of Bids** 25.1. Except as in the cases specified in ITB 23 and 24.2, the Purchaser shall publicly open and read out in accordance with ITB 25.3 technical parts of all bids received by the deadline at

the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as **specified in the BDS**.

- 25.2. 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. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will be opened. 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.
- 25.3. All other envelopes marked "Technical Part" shall be opened one at a time. All envelopes marked "FINANCIAL PART" shall remain sealed, and kept by the Purchaser in safe custody until they are opened, at a later public opening, following the evaluation of the Technical Part of the Bids. On opening the envelopes marked "TECHNICAL PART" the Purchaser shall read out: the name of the Bidder and whether there is a modification; and Alternative bid; the presence or absence of a Bid Security, if required; and any other details as the Purchaser may consider appropriate. Only Technical Parts of Bids and Alternative Bids – Technical Parts that are read out at Bid opening shall be considered further for evaluation. The Letter of Bid – Technical Part and the separate sealed envelope marked "FINANCIAL PART" are to be initialed by representatives of the Purchaser attending bid opening in the manner **specified in the BDS**. The Purchaser shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 23.1).
- 25.4. Following the opening of the Technical Parts of the Bid, the Purchaser shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there

is a withdrawal, substitution, or modification; if applicable, any Alternative Bid – Technical Part; the presence or absence of a Bid Security or Bid-Securing Declaration; and the presence or absence of a duly sealed envelope marked “FINANCIAL PART”. The Bidders’ representatives who are present shall be requested to sign the record. The omission of a Bidder’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

F. Evaluation of Bids – General Provisions

- 26. Confidentiality**
- 26.1 Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with the bidding process until information on Contract Award is communicated to all Bidders in accordance with ITB 42.
- 26.2 Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.
- 26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.
- 27. Clarification of Bids**
- 27.1 To assist in the examination, evaluation, comparison of the bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser’s request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB 35.
- 27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser’s request for clarification, its bid may be rejected.

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| 28. Deviations, Reservations, and Omissions | <p>28.1 During the evaluation of bids, the following definitions apply:</p> <ul style="list-style-type: none"> (a) “Deviation” is a departure from the requirements specified in the Bidding Documents; (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and (c) “Omission” is the failure to submit part or all of the information or documentation required in the Bidding Documents. |
| 29. Nonconformities, Errors and Omissions | <p>29.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.</p> <p>29.2 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.</p> <p>29.3 Provided that a Bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified in the BDS.</p> |

G. Evaluation of Technical Parts of Bids

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| 30. Evaluation of Technical Parts | <p>30.1 In evaluating the Technical Parts of each Bid, the Purchaser shall use the criteria and methodologies listed in ITB 31, ITB 32, the BDS, if applicable, and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.</p> |
| 31. Determination of Responsiveness | <p>31.1 The Purchaser’s determination of a bid’s responsiveness is to be based on the contents of the bid itself, as defined in ITB 11.</p> <p>31.2 A substantially responsive Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:</p> <ul style="list-style-type: none"> (a) if accepted, would |

- (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
 - (b) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.
- 31.3 The Purchaser shall examine the technical aspects of the bid submitted in accordance with ITB 16 and ITB 17, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.
- 31.4 If a bid is not substantially responsive to the requirements of Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

32. Qualification of the Bidders

- 32.1 The Purchaser shall determine, to its satisfaction, whether all eligible Bidders, whose Bids have been determined to be substantially responsive to the bidding document, meet the Qualification Criteria specified in Section III, Evaluation and Qualification Criteria.
- 32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, sub-contractors (other than specialized sub-contractors if permitted in the bidding document), or any other firm different from the Bidder.
- 32.3 If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 32.4 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.

H. Public Opening of Financial Parts of Bids

**33. Public Opening
of Financial
Parts**

- 33.1 Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Purchaser shall notify in writing those Bidders who have failed to meet the Qualification Criteria and/or whose Bids were considered non-responsive to the requirements in the bidding document, advising them of the following information:
- (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;
 - (b) their envelope marked “FINANCIAL PART” will be returned to them unopened after the completion of the bid evaluation process and the signing of the Contract; and
 - (c) notify them of the date, time and location of the public opening of the envelopes marked “FINANCIAL PART”.
- 33.2 The Purchaser shall, simultaneously, notify in writing those Bidders whose Technical Parts have been evaluated as substantially responsive to the bidding document and met the Qualification Criteria, advising them of the following information:
- (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria;
 - (b) their envelope marked “FINANCIAL PART” will be opened at the public opening of Financial Parts; and
 - (c) notify them of the date, time and place of the public opening of the envelopes marked “FINANCIAL PART”.
- 33.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bid shall be opened publicly in the presence of Bidders’ designated representatives and anyone who chooses to attend
- 33.4 At this public opening the Financial Parts will be opened by the Purchaser in the presence of Bidders, or their designated representatives and anyone else who chooses to attend. Bidders who met the Qualification Criteria and whose Bids were evaluated as substantially responsive will have their envelopes marked “FINANCIAL PART” opened at the second public opening. Each of these envelopes marked “FINANCIAL PART” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Purchaser. The Purchaser shall read out the names of each Bidder, and the total Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part, and

any other details as the Purchaser may consider appropriate.

- 33.5 Only envelopes of Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation. The Letter of Bid - Financial Part and the Price Schedules are to be initialed by a representative of the Purchaser attending the Bid opening in the manner specified **in the BDS**.
- 33.6 The Purchaser shall neither discuss the merits of any Bid nor reject any envelopes marked "FINANCIAL PART".
- 33.7 The Purchaser shall prepare a record of the Financial Part of the Bid opening that shall include, as a minimum:
 - (a) the name of the Bidder whose Financial Part was opened;
 - (b) the Bid price, per lot (contract) if applicable, including any discounts,
 - (c) if applicable, any Alternative Bid - Financial Part.
- 33.8 The Bidders whose envelopes marked "FINANCIAL PART" have been opened or their representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

I. Evaluation of Financial Parts of Bids

34 Evaluation of Financial Parts

- 34.1 To evaluate the Financial Part of each Bid, the Purchaser shall consider the following:
 - (a) evaluation will be done for Items or Lots (contracts), as specified **in the BDS**; and the Bid Price as quoted in accordance with ITB 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 35.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.4;
 - (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 36;

- (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 29.3; and
 - (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria.
- 34.2 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
- 34.3 If these Bidding Documents allow Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated cost of the lot (contract) combinations, including any discounts offered in the Letter of Bid - Financial Part, is specified in Section III, Evaluation and Qualification Criteria.
- 34.4 The Purchaser's evaluation of a bid will exclude and not take into account:
 - (a) in the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
 - (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
 - (c) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 34.5 The Purchaser's evaluation of a Bid may require the consideration of other factors, in addition to the Bid price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of Bids, unless otherwise specified **in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.1 (f).

35. Correction of Arithmetical Errors

- 35.1 In evaluating the Financial Part of each Bid, 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.
- 35.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 35.1, shall result in the rejection of the Bid.
- 36. Conversion to Single Currency** 36.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as **specified in the BDS**.
- 37. Margin of Preference** 37.1 Unless otherwise **specified in the BDS**, a margin of preference shall not apply.
- 38. Comparison of Financial Parts** 38.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 34.1 to determine the lowest evaluated bid. The comparison shall be on the basis of CIP (place of final destination) prices for imported goods and EXW prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Borrower's country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.
- 39. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids** 39.1 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 contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

J. Award of Contract

- 40. Award Criteria** 40.1 Subject to ITB 39.1, the Purchaser shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be

qualified to perform the Contract satisfactorily.

**41. Purchaser's
Right to Vary
Quantities at
Time of Award**

41.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

**42. Notification of
Award**

42.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding and shall publish in *UNDB online* the results identifying the bid and lot (contract) numbers and the following information:

- (i) name of each Bidder who submitted a Bid;
- (ii) bid prices as read out at Bid Opening;
- (iii) name and evaluated prices of each Bid that was evaluated;
- (iv) name of bidders whose bids were rejected and the reasons for their rejection; and
- (v) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.

42.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

42.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 42.1, requests in writing the grounds on which its bid was not selected.

**43. Signing of
Contract**

43.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.

43.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

43.3 Notwithstanding ITB 43.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the

Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

44. Performance Security

44.1 Within twenty-eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC 18, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country.

44.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.

Section II. Bid Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

[Instructions for completing the Bid Data Sheet are provided, as needed, in the notes in italics mentioned for the relevant ITB Clauses.]

ITB Clause Reference	A. General																																																																														
ITB 1.1	The reference number of the Invitation for Bids is: NHP/2019-RDC-1/01																																																																														
ITB 1.1	The Purchaser is: Executive Engineer, Middle Brahmaputra Division, Central Water Commission, Adabari, Guwahati- 781014, Contact No. 0361-2674267, E-mail: mbdwcw1@yahoo.com.																																																																														
ITB 1.1	<p>The name of the ICB is: Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern States of India (except Assam) under National Hydrology Project (NHP).</p> <table><tr><th rowspan="2">Lot No.</th><th rowspan="2">Name of State</th><th colspan="6">Name of Equipment</th></tr><tr><th>ARG</th><th>AWLR</th><th>AWLR+ ARG</th><th>AWS</th><th>SNOW PILLOW</th><th>Set of Data Center Equipment</th></tr><tr><td>1</td><td>Nagaland</td><td>9</td><td>0</td><td>32</td><td>6</td><td>0</td><td>1</td></tr><tr><td>2</td><td>Manipur</td><td>12</td><td>17</td><td>0</td><td>6</td><td>0</td><td>1</td></tr><tr><td>3</td><td>Meghalaya</td><td>0</td><td>0</td><td>25</td><td>5</td><td>0</td><td>1</td></tr><tr><td>4</td><td>Mizoram</td><td>27</td><td>16</td><td>0</td><td>10</td><td>0</td><td>1</td></tr><tr><td>5</td><td>Sikkim</td><td>0</td><td>13</td><td>0</td><td>5</td><td>3</td><td>1</td></tr><tr><td>6</td><td>Arunachal Pradesh</td><td>0</td><td>05</td><td>40</td><td>05</td><td>0</td><td>1</td></tr><tr><td>7</td><td>Tripura</td><td>11</td><td>11</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td colspan="2">Total</td><td>59</td><td>62</td><td>97</td><td>37</td><td>3</td><td>7</td></tr></table> <p>The identification number of the ICB is: NHP/2019-RDC-1/01</p> <p>The number and identification of lots (contracts) comprising this ICB is: 7 Nos.</p> <p>The bidders shall note that this is one complete package consisting of 7 lots. The bidder shall quote for the complete package consisting of 7 lots and whole package shall be awarded to one successful bidder.</p>	Lot No.	Name of State	Name of Equipment						ARG	AWLR	AWLR+ ARG	AWS	SNOW PILLOW	Set of Data Center Equipment	1	Nagaland	9	0	32	6	0	1	2	Manipur	12	17	0	6	0	1	3	Meghalaya	0	0	25	5	0	1	4	Mizoram	27	16	0	10	0	1	5	Sikkim	0	13	0	5	3	1	6	Arunachal Pradesh	0	05	40	05	0	1	7	Tripura	11	11	0	0	0	1	Total		59	62	97	37	3	7
Lot No.	Name of State			Name of Equipment																																																																											
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4	Mizoram	27	16	0	10	0	1																																																																								
5	Sikkim	0	13	0	5	3	1																																																																								
6	Arunachal Pradesh	0	05	40	05	0	1																																																																								
7	Tripura	11	11	0	0	0	1																																																																								
Total		59	62	97	37	3	7																																																																								

ITB 2.1	The Borrower is: Government of India
ITB 2.1	Loan or Financing Agreement amount: USD 175 million
ITB 2.1	The name of the Project is: National Hydrology Project
ITB 4.1	Numbers of members/firms in a joint venture shall not be more than two including the lead partner.
ITB 4.2(f)	In ITB 4.2(f) replace the ‘works’ with ‘goods’.
IITB 4.4	A list of debarred firms and individuals is available on the Bank’s external website: http://www.worldbank.org/debarr .
	B. Contents of Bidding Documents
ITB 7.1	<p>Replace ITB 7.1 with the following:</p> <p>“7.1. The electronic bidding system TCIL (https://www.tcil-india-electronictender.com) provides for online clarifications. A Bidder requiring any clarification of the Bidding Document may notify the Purchaser online. Clarifications requested through any other mode shall not be considered by the Purchaser. The Purchaser will respond to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period 20 days. Description of clarification sought and the response of the Purchaser shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2. It is the bidder’s responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.”</p>
ITB 7.1a	<p>The pre-bid meeting shall be held to clarify the issues regarding bidding document. The details are as follows:</p> <p>Date: 11.02.2019</p> <p>Time: 11:30 Hrs</p> <p>Place : Conference Room, 2nd Floor, Sewa Bhawan, CWC, New Delhi-110066</p>
ITB 8.1	<p>Replace ITB 8.1 with the following:</p> <p>“8.1. Any addendum issued shall be part of the Bidding Documents and shall be deemed to have been communicated to all bidders. The addenda will appear on the e-procurement system TCIL (https://www.tcil-india-electronictender.com) under “Latest Corrigendum”. Email notification is also automatically sent to those bidders who have started working on the tender”.</p>

	C. Preparation of Bids
ITB 10.1	<p>The language of the bid is: English.</p> <p>All correspondence exchange shall be in English language.</p> <p>Language for translation of supporting documents and printed literature is English.</p>
ITB 11.2 (i)	<p>The Bidder shall submit the following additional documents in its bid:</p> <ul style="list-style-type: none"> i) Certification of incorporation of the bidder and manufacturer ii) The bidder shall clearly confirm that all facilities exist with him (or manufacturer, as applicable) in his factory for inspection and testing and these can be accessed by the Purchaser or his representative for inspection. iii) Certificate from OEM ensuring that warranty and Annual Maintenance Services of all equipment would be supported for a minimum period of 10 years after commissioning. iv) Technical schedules of goods as required by technical specifications. v) Descriptive Documents, drawings, notes and references of operating and assembly of mechanical part vi) A detailed description of the Goods essential technical and performance characteristics: vii) A clause-by-clause 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. viii) For purposes of the commentary to be furnished pursuant to Paragraph 6 above, the Bidder shall note that standards for workmanship, material and goods, and references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers 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 ix) The documentary evidence of the goods and services eligibility shall consist of a statement in the Price Schedule on the country of origin of the goods and services offered which shall be confirmed by a

	<p>certificate of origin at the time of shipment</p> <p>x) Non-manufacturer bidders will submit the manufacturer's authorization in the prescribed Format as per Proforma in Section IV.</p> <p>xi) The following details shall also be provided by Indian Bidders:</p> <ol style="list-style-type: none"> Name, address, PAN and ward/circle where they are being assessed of the Directors of the Bidding Company. Company's PAN and Income Tax clearance certificate and ward/circle where it is being assessed, Registration details of the company under GST <p>xii) The bidders from outside India shall provide the corresponding details of Income Tax registration, Social Security Number, details regarding Registration under Value Added Tax or sale of goods (as may be applicable) etc.</p> <p>xiii) The bidder shall disclose instance of previous past performance that may have resulted into adverse actions taken against the bidder during the last five years.</p>
ITB 11.3 (d)	The Bidder shall submit the following additional documents in its bid: <i>None</i>
ITB 13.1	Alternative Bids (Technical and Financial Parts) <i>shall not be</i> considered.
ITB 14	<p>In ITB 14.8(a) (i) replace the word 'sales' with 'GST' in the third line.</p> <p>In ITB 14.8(a) (ii) replace the word 'sales tax' with 'GST' in the first line.</p> <p>In ITB 14.8(c) (iv) replace the word 'sales' with 'GST' in the first line.</p>
ITB 14.5	The prices quoted by the Bidder <i>shall not</i> be subject to adjustment during the performance of the Contract.
ITB 14.6	Prices quoted for each lot (contract) shall correspond at least to 100 percent of the items specified for each lot (contract). Prices for All lots have to be quoted by the bidder. If the bidder does not quote prices for all lots its bid shall be treated as non-responsive. The base price of each similar equipment in the all lot should be same. In case of any difference in base price of similar items in different lots, the lowest base price will be considered for evaluation and contract purpose. If the bidder does not agree to the same, his bid will be treated as non-responsive.
ITB 14.7	The Incoterms edition is: Incoterms 2010
ITB 14.8 (b)	Place of Destination: as per given in Schedule of Requirement of each

(i) and (c) (v)	states in Section VII.
ITB 14.8 (a) (iii);(b)(ii) and (c)(v)	“Final destination (Project Site)”: as per given in Schedule of Requirement of each states in Section VII.
ITB 14.9	<p>Add the following as sub-clause 14.9</p> <p>“14.9. Tax/duty exemptions Bidders may like to ascertain availability of tax/duty exemption benefits available in India to the contracts financed under World Bank loan/credits. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the purchaser will not compensate the bidder.</p> <p>Where the bidder has quoted taking into account such benefits, it must give all information required for issue of necessary Certificates in terms of Government of India’s relevant notifications along with its bid as per form stipulated in Section IV.</p> <p>If the bidder has considered the tax/duty exemption in its bid, the bidder shall confirm and certify that the Purchaser will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the contract execution, except issuing the required certificate. The bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of tax/ duty exemption or compensation on withdrawal of any variations to the said exemptions will be treated as non-responsive and liable to rejection.”</p>
ITB 15.1	<p>Replace ITB 15.1 with the following:</p> <p>“15.1 The Bidder is required to quote in Indian National Rupees for the portion of the bid price that corresponds to expenditures incurred in Indian rupees”</p>
ITB 16.4	Period of time the Goods are expected to be functioning (for the purpose of spare parts): 10 Years
ITB 17.2 (a)	Manufacturer’s authorization is: required as per proforma in Section IV.
ITB 17.2 (b)	After sales service is: required . After sales service wherever required, shall be provided by the Supplier or alternatively by its Agent in case of a foreign bidder.
ITB 17.2 (d)	<p>Add the following as Clause 17.2 (d)</p> <p>“17.2 (d) Supplies for any particular item in each schedule of the bid should be from one manufacturer only for the entire quantity required. Bids</p>

	from agents offering supplies from different manufacturers for the same item of the schedule in the bid other than alternative bids will be treated as non-responsive.”
ITB 18.1	The bid validity period shall be 90 days .
ITB 18.3 (a)	<p>The bid price shall be adjusted by the following factor(s):</p> <p>Factor A: Local Currency: The factor shall be 1.0007692 per week.</p> <p>Factor B: Foreign Currency: The factor shall be @ LIBOR rate as on date of bid opening.</p> <p>(i) The local currency component of the price shall be increased by the factor (value of factor A) for each week, or part of a week, that has elapsed from the expiration of the initial bid validity to the date of notification of award to the successful Bidder.</p> <p>(ii) The foreign currency component of the price shall be increased by the factor (value of factor B) for each week, or part of a week, that has elapsed from the expiration of the initial bid validity to the date of notification of award to the successful Bidder.</p>
ITB 19.1	<p>A Bid Security shall be required.</p> <p>The amount and currency of the bid security (issued by Bank) shall be INR 76,00,000/ 1,08,572 US Dollars or an equivalent amount in a freely-convertible currency in favour of Executive Engineer, Middle Brahmaputra Division, Central Water Commission, Adabari, Guwahati, Assam, India</p> <p>Bid security shall not be in the form of a Bid Bond.</p>
ITB 19.3 (d)	<p>Other types of acceptable securities:</p> <p>Fixed Deposit/Time Deposit certificate issued by a reputed Bank located in India for equivalent or higher values are acceptable provided it is pledged in favour of Executive Engineer, Middle Brahmaputra Division, Central Water Commission, Guwahati (Purchaser) and such pledging has been noted and suitably endorsed by the bank issuing the certificate.</p> <p>The last sentence of ITB 19.3 is modified as “The bid security shall be valid for forty-five (45) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.”</p>

ITB 19.9	<i>Omitted</i>
ITB 20.2	Replace ITB 20.2 with the following: “20.2. The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The authorization shall be uploaded along with the bid, and shall consist of a written confirmation.
ITB 20.4	Replace ITB 20.4 with the following: “20.4. Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.”
	D. Online Submission of Bids
ITB 21 Preparation and Submission of Bids	<p>Replace ITB 21 with the following:</p> <p>“21.1. Detailed guidelines for viewing bids and for online submission are given on the website. The Invitation for Bids under this Project is published on this website. Anyone can logon to this website and view the Invitation for Bids and can view the details of goods for which bids are invited. However, bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any authorised certifying agency of Government of India for class II or above. The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration (Please follow ‘Special instruction to consultants by TCIL for e-tendering’ given below). After getting the bid schedules, the Bidder should go through them carefully and submit the specified documents, along with the bid, otherwise the bid will be rejected.</p> <p>21.2. The completed bid, both Technical and Financial Parts, comprising of documents indicated in ITB 11 and 12, including the Letter of Bid – Technical Part, Letter of Bid – Financial Part and filled-up Price Schedules, should be uploaded on the e-procurement portal specified in ITB 7.1, along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.</p> <p><i>[Note for Bidders: For online submission of bids, the bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled-up pages shall then be scanned and uploaded on the e-procurement portal along with the scanned copies of the supporting documents.]</i></p> <p>21.3. All the documents are required to be signed digitally by the bidder. After electronic online bid submission, the system generates a unique bid</p>

identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.”

21.4. Submission of Original Documents: The bidders are required to submit (a) original bid security in approved form; and (b) original affidavit regarding correctness of information furnished with bid document with Executive Engineer, Middle Brahmaputra Division, CWC, Guwahati, Assam before **08-03-2019; 13:00Hrs**, either by registered post/speed post/courier or by hand, failing which such bids will be declared non-responsive and will not be opened.

(c) Pass-phrase for opening of Technical and Financial Bids: Passphrase shall be supplied in one big sealed envelope containing two small sealed envelopes having pass-phrase for technical & financial bids. Each envelope shall clearly marked “pass-phrase for technical bid” and “pass-phrase for financial bid”. Bigger envelope shall be marked as “pass-phrases for **Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern States of India (except Assam) under National Hydrology Project (NHP)** before **08-03-2019; 13:00Hrs**, either by registered post/speed post/courier or by hand or can be emailed on: mbdcwc1@yahoo.com, failing which such bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid is not to be submitted.

The address(es) referred to above is(are):

Executive Engineer,
Middle Brahmaputra Division,
Central Water Commission,
Government of India,
Adabari, Guwahati, Assam, India
For & On behalf of North Eastern State of India
Tel: 0361-2674267
Fax: 0361-2674267
E-mail: mbdcwc1@yahoo.com
Web site: www.cwc.gov.in

The consultants are required to follow the following instructions as detailed below:

Special instructions to consultants by TCIL for e-Tendering

The Special Instructions (for e-Tendering) supplement ‘Instruction to Bidders’, as given in these Tender Documents. Submission of Online Bids is mandatory for this Tender. E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. Now, the Government of India has made e-tendering mandatory. Suppliers/Vendors will be the biggest beneficiaries of this new system of

procurement. For conducting electronic tendering, **Central Water Commission** has decided to use the portal <https://www.tcil-india-electronictender.com> through TCIL, a Government of India Undertaking. This portal is based on the world's most 'secure' and 'user friendly' software from Electronic Tender®. A portal built using Electronic Tender's Software is also referred to as Electronic Tender System® (ETS). Benefits to tenderers are outlined on the Home-page of the portal.

Instructions

Tender Bidding Methodology:

Single Stage Envelope

Broad Outline of Activities from Bidder's Perspective:

Procure a Digital Signing Certificate (DSC)

Register on Electronic Tendering System® (ETS)

Create Marketing Authorities (MAs), Users and assign roles on ETS

View Notice Inviting Tender (NIT) on ETS

For this tender -- Assign Tender Search Code (TSC) to a MA

Download Official Copy of Tender Documents from ETS

Clarification to Tender Documents on ETS

Query to Central Water Commission (Optional)

View response to queries posted by Central Water Commission

Bid-Submission on ETS

Attend Public Online Tender Opening Event (TOE) on ETS

– Opening of relevant Bid-Part

Post-TOE Clarification on ETS (Optional)

– Respond to Central Water Commission Post-TOE queries

Attend Public Online Tender Opening Event (TOE) on ETS

Opening of relevant part (i.e. Financial-Part)

(Only for Technical Responsive Bidders)

Participate in e-Reverse Auction on ETS

For participating in this tender online, the following instructions are to be read carefully.

These instructions are supplemented with more detailed guidelines on the relevant screens of the ETS.

Digital Certificates

For integrity of data and authenticity/non-repudiation of electronic records, and to be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). Also referred to as Digital Signature Certificate (DSC), of Class 2 or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].

Registration

To use the Electronic Tender® portal <https://www.tcil-india-electronictender.com>, vendors need to register on the portal. Registration of each organization is to be done by one of its senior persons who will be the

<p>main person coordinating for the e-tendering activities. In ETS terminology, this person will be referred to as the Super User (SU) of that organization. For further details, please visit the website/portal, and click on the 'Supplier Organization' link under 'Registration' (on the Home Page), and follow further instructions as given on the site. Pay Annual Registration Fee as applicable.</p> <p>After successful submission of Registration details and Annual Registration Fee, please contact TCIL/ETS Helpdesk (as given below), to get your registration accepted/activated.</p> <p>Important Note: To minimize teething problems during the use of ETS (including the Registration process), it is recommended that the user should peruse the instructions given under 'ETS User-Guidance Center' located on ETS Home Page, including instructions for timely registration on ETS. The instructions relating to 'Essential Computer Security Settings for Use of ETS' and 'Important Functionality Checks' should be especially taken into cognizance.</p> <p>Please note that even after acceptance of your registration by the Service Provider, to respond to a tender you will also require time to complete activities related to your Organization, such as creation of users, assigning roles to them, etc.</p>	
TCIL/ ETS Helpdesk	
Telephone/ Mobile	Customer Support (0930 hrs to 1800 hrs, Monday to Friday except on gazetted holidays): +91-11-26202699 (Multiple lines) Emergency Support Mobile Numbers: +91-9868393775, 9868393717, 9868393792
E-mail ID	ets_support@tcil-india.com
Buyer Organization Name Contact	
Central Water Commission Contact Person	Director, River Data Compilation-1 Dte, Central Water Commission,
Telephone/ Mobile	Telephone/Mobile : 011-26100285 [between 10:00 hrs to 18:00 hrs on working days]
E-mail ID	E-mail Id : rdcdte-cwc@nic.in
<p>Some Bidding related Information for this Tender (Sealed Bid)</p> <p>The entire bid-submission would be online on ETS (unless specified for Offline Submissions). Broad outline of submissions are as follows:</p> <p>Submission of Bid-Parts/ Envelopes</p> <p>Single-Part</p> <p>Submission of information pertaining Bid Security/ Earnest Money Deposit (EMD)</p> <p>Submission of digitally signed copy of Tender Documents/ Addendum</p>	

	<p>Submission of General Terms and Conditions (with/ without deviations) Submission of Special Terms and Conditions (with/ without deviations) Special Note on Security and Transparency of Bids Security related functionality has been rigorously implemented in ETS in a multidimensional manner. Starting with 'Acceptance of Registration by the Service Provider', provision for security has been made at various stages in Electronic Tender's software. Specifically for Bid Submission, some security related aspects are outlined below:</p> <p>As part of the Electronic Encrypter™ functionality, the contents of both the 'Electronic Forms' and the 'Main-Bid' are securely encrypted using a Pass-Phrase created by the Bidder himself. Unlike a 'password', a Pass-Phrase can be a multi-word sentence with spaces between words (e.g. I love this World). A Pass-Phrase is easier to remember, and more difficult to break. It is recommended that a separate Pass-Phrase be created for each Bid-Part. This method of bid-encryption does not have the security and data-integrity related vulnerabilities which are inherent in e-tendering systems which use Public-Key of the specified officer of a Buyer organization for bid-encryption. Bid-encryption in ETS is such that the Bids cannot be decrypted before the Public Online Tender Opening Event (TOE), even if there is connivance between the concerned tender-opening officers of the Buyer organization and the personnel of e-tendering service provider.</p> <p>CAUTION: All bidders must fill Electronic Forms™ for each bid-part sincerely and carefully, and avoid any discrepancy between information given in the Electronic Forms™ and the corresponding Main-Bid. For transparency, the information submitted by a bidder in the Electronic Forms™ is made available to other bidders during the Online Public TOE. If it is found during the Online Public TOE that a bidder has not filled in the complete information in the Electronic Forms™, the TOE officer may make available for downloading the corresponding Main-Bid of that bidder at the risk of the bidder. If variation is noted between the information contained in the Electronic Forms™ and the 'Main-Bid', the contents of the Electronic Forms™ shall prevail. Alternatively, the Buyer organization reserves the right to consider the higher of the two pieces of information (e.g. the higher price) for the purpose of short-listing, and the lower of the two pieces of information (e.g. the lower price) for the purpose of payment in case that bidder is an awardee in that tender.</p> <p>Typically, 'Pass-Phrase' of the Bid-Part to be opened during a particular Public Online Tender Opening Event (TOE) is furnished online by each bidder during the TOE itself, when demanded by the concerned Tender Opening Officer.</p> <p>(Optional Text in EBI, depending upon the decision of the Buyer organization):</p> <p>Additionally, the bidder shall make sure that the Pass-Phrase to decrypt the relevant Bid-Part is submitted to Buyer Organization Name in a sealed envelope before the start date and time of the Tender Opening Event (TOE). OR Additionally, the bidder shall make sure that the Pass-Phrase to decrypt the relevant Bid-Part is submitted into the 'Time Locked Electronic Key Box (EKB)' after the corresponding deadline of Bid Submission, and before the commencement of the Online TOE. The process of submission of this Pass-Phrase in the 'Time Locked Electronic Key Box' is done in a secure manner by</p>
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first encrypting this Pass-Phrase with the designated keys provided by the Buyer organization.

There is an additional protection with SSL Encryption during transit from the client-end computer of a Supplier organization to the e-tendering server/ portal.

Public Online Tender Opening Event (TOE)

ETS offers a unique facility for 'Public Online Tender Opening Event (TOE)'. Tender Opening Officers, as well as, authorized representatives of bidders can simultaneously attend the Public Online Tender Opening Event (TOE) from the comfort of their offices. Alternatively, one/ two duly authorized representative(s) of bidders (i.e. Supplier organization) are requested to carry a Laptop with Wireless Internet Connectivity, if they wish to come to Buyer Organization Name office for the Public Online TOE.

Every legal requirement for a transparent and secure 'Public Online Tender Opening Event (TOE)', including digital counter-signing of each opened bid by the authorized TOE Event (TOE)', including digital counter-signing of each opened bid by the authorized TOE officer(s) in the simultaneous online presence of the participating bidders' representatives, has been implemented on ETS.

As soon as a Bid is decrypted with the corresponding 'Pass-Phrase' as submitted online by the bidder himself (during the TOE itself), salient points of the Bids (as identified by the Buyer organization) are simultaneously made available for downloading by all participating bidders. The tedium of taking notes during a manual 'Tender Opening Event' is therefore replaced with this superior and convenient form of 'Public Online Tender Opening Event (TOE)'.

ETS has a unique facility of 'Online Comparison Chart' which is dynamically updated as each online bid is opened. The format of the chart is based on inputs provided by the Buyer for each Bid-Part of a tender. The information in the Comparison Chart is based on the data submitted by the Bidders. A detailed Technical and/ or Financial Comparison Chart enhance Transparency. Detailed instructions are given on relevant screens.

ETS has a unique facility of a detailed report titled 'Minutes of Online Tender Opening Event (TOE)' covering all important activities of 'Online Tender Opening Event (TOE)'. This is available to all participating bidders for 'Viewing/ Downloading'.

There are many more facilities and features on ETS. For a particular tender, the screens

viewed by a Supplier will depend upon the options selected by the concerned Buyer.

Other Instructions

For further instructions, the vendor should visit the home-page of the portal <https://www.tcil-india-electronictender.com>, and go to the User-Guidance Center. The help information provided through 'ETS User-Guidance Center' is available in three categories – Users intending to Register / First-Time Users, Logged-in users of Buyer organizations, and Logged-in users of Supplier organizations. Various links (including links for User Manuals) are provided under each of the three categories.

Important Note : It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups, and minimize teething problems during the use of ETS.

	<p>SIX CRITICAL DO'S AND DON'TS FOR BIDDERS</p> <p>Specifically for Supplier organizations, the following 'SIX KEY INSTRUCTIONS for BIDDERS' must be assiduously adhered to:</p> <p>Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your first tender submission deadline on ETS</p> <p>Register your organization on ETS well in advance of the important deadlines for your first tender on ETS viz 'Date and Time of Closure of Procurement of Tender Documents' and 'Last Date and Time of Receipt of Bids'. Please note that even after acceptance of your registration by the Service Provider, to respond to a tender you will also require time to complete activities related to your organization, such as creation of users, assigning roles to them, etc.</p> <p>Get your organization's concerned executives trained on ETS well in advance of your first tender submission deadline on ETS</p> <p>Submit your bids well in advance of tender submission deadline on ETS (There could be last minute problems due to internet timeout, breakdown, et al)</p> <p>It is the responsibility of each bidder to remember and securely store the Pass Phrase for each Bid-Part submitted by that bidder. In the event of a bidder forgetting the Pass Phrase before the expiry of deadline for Bid-Submission, facility is provided to the bidder to 'Annul Previous Submission' from the Bid-Submission Overview page and start afresh with new Pass-Phrase(s)</p> <p>ETS will make your bid available for opening during the Online Public Tender Opening Event (TOE) 'ONLY IF' your 'Status pertaining Overall Bid-Submission' is 'Complete'. For your record, you can generate and save a copy of 'Final Submission Receipt'. This receipt can be generated from 'Bid-Submission Overview Page' only if the 'Status pertaining overall Bid-Submission' is 'Complete'.</p> <p>NOTE:</p> <p>While the first three instructions mentioned above are especially relevant to first-time users of ETS, the fourth, fifth and sixth instructions are relevant at all times.</p> <p>Minimum Requirements at Bidder's End</p> <p>Computer System with good configuration (Min PIV, 1 GB RAM, Windows XP with Service Pack 3)</p> <p>Broadband connectivity</p> <p>Microsoft Internet Explorer 6.0 or above</p> <p>Digital Certificate(s)</p>
ITB 22.1	<p>Replace ITB 22.1 with the following:</p> <p>"22.1. Bids, both technical and financial parts, must be uploaded online no later than 08-03-2019; 10:00 Hrs</p> <p>Physical, Email, Telex, Cable or Facsimile bids will be rejected.</p>
ITB 23	<p>Replace ITB 23.1 with the following:</p> <p>"23.1. The electronic bidding system would not allow any late submission of bids after due date & time as per server time."</p>
ITB 24.1	<p>Replace ITB 24.1 with the following:</p> <p>"24.1. Bidders may modify their bids by using appropriate option for bid</p>

	<p>modification on the e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the Bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid not allowed.</p>
ITB 24.2	<p>Replace ITB 24.2 with the following: “24.2. Bids requested to be withdrawn in accordance with ITB Sub-Clause 24.1 shall not be opened.”</p>
	<p>E. Public Opening of Technical Parts of Bids</p>
ITB 25	<p>Replace ITB 25.1 with the following: “25.1. The Purchaser shall publicly open Technical Parts of all bids received by the deadline at the date, time and place specified below in the presence of Bidders’ designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 21.4 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 21.4 will be declared non-responsive and will not be opened. The bidder’s names, Alternative Bids, the presence or absence of a Bid Security, if required; and such other details as the Purchaser may consider appropriate will be notified online by the Purchaser at the time of opening of Technical Part of the Bids.</p> <p>In the event of the specified date of the 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.</p> <p>The online bid opening shall take place at: Executive Engineer, Middle Brahmaputra Division, Central Water Commission, Adabari, Guwahati- 781014, India Contact No. 0361-2674267, E-mail: mbdwcw1@yahoo.com.</p>

	Date: 08-03-2019; Time: 15:00Hrs
	<p>Replace ITB 25.2 with the following:</p> <p>“25.2. The electronic summary of the opening of Technical Part of the Bids will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Bids – Technical Parts, and Alternative Bids – Technical Parts if permitted in ITB 13, that are opened at Bid opening shall be considered further for evaluation.”</p>
	<p>ITB 25.3. Deleted.</p> <p>ITB 25.4. Deleted.</p>
	<p align="center">F. Evaluation of Bids – General Provisions</p>
ITB 29.3	<p>The adjustment shall be based on the highest price of the item or component as quoted in other substantially responsive Bids, subject to a maximum of the estimated price of the item. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Purchaser shall use its best estimate.</p>
	<p align="center">H. Public Opening of Financial Parts of Bids</p>
ITB 33	<p>Replace ITB 33.1(b) with the following:</p> <p>“33.1(b) their Financial Part of the Bid shall not be opened; and”</p> <p>Replace ITB 33.2(b) with the following:</p> <p>“33.2(b) their Financial Part of Bid will be opened at the public opening of F</p> <p>Replace ITB 33.3 with the following:</p> <p>“33.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bids shall be opened publicly in the presence of Bidders’ designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The bidder’s names, the Bid prices, the total amount of each bid, including any discounts, Alternative Bid – Financial Part if permitted, and such other details as the Purchaser may consider appropriate will be notified online by the Purchaser at the time of opening of Financial Part of the Bids.”</p> <p>Replace ITB 33.4 with the following:</p> <p>“33.4 The electronic summary of the opening of Financial Part of the Bids</p>

	<p>will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Part of Bids, Financial Part of Alternative Bids if permitted, and discounts that are opened and read out at opening of Financial Part of the Bids shall be considered further for evaluation.”</p> <p>ITB 33.5 Deleted. ITB 33.6 Deleted. ITB 33.7 Deleted. ITB 33.8 Deleted.</p>
ITB 33.2 (c)	<p>The online opening of the Financial Part of Bids (for technically qualified bidders) shall take place at:</p> <p>Executive Engineer, Middle Brahmaputra Division, Central Water Commission, Adabari, Guwahati- 781014, Contact No. 0361-2674267, E-mail: mbdwcw1@yahoo.com.</p> <p>Date: <i>[insert day, month, and year]</i> Time: <i>[insert time, and identify if a.m. or p.m. i.e. 10:30 a.m.]</i></p> <p><i>[This shall not be earlier than 7 days from the date of communication of technical evaluation results to the bidders.]</i></p> <p>34.3. The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Part of Bids, and discounts that are opened and read out at Bid opening shall be considered further for evaluation</p>
	I. Evaluation of Financial Parts of Bids
ITB 34.1(a)	Evaluation will be done for whole lots as a single package
ITB 34.1 (b)	Deleted
ITB 34.3	<p>Bidders <i>shall not</i> be allowed to quote separate base prices for one or more lots. The base price of each similar equipment in the all lot should be same. In case of any difference in base price of similar items in different lots, the lowest base price will be considered for evaluation and contract purpose. If the bidder does not agree to the same, his bid will be treated as non-responsive.</p>

ITB 34.5	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: <i>[refer to Schedule III, Evaluation and Qualification Criteria; insert complementary details if necessary]</i></p> <p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria:</p> <ul style="list-style-type: none"> (a) Deviation in Delivery schedule: No (b) Deviation in payment schedule: No (c) the cost of major replacement components, mandatory spare parts, and service: No (d) the availability in the Purchaser's Country of spare parts and after-sales services for the equipment offered in the bid: No (e) the projected operating and maintenance costs during the life of the equipment: No (f) the performance and productivity of the equipment offered: No
ITB 35	<p>Replace ITB 35.1 with the following:</p> <p>“35.1 The e-procurement system automatically calculates the total amount from unit rates and quantities, and the system also automatically populates the amount in words from the amount in figures, and therefore there is no scope of discrepancy and need for arithmetic correction.”</p> <p>ITB 35.2 Deleted.</p>
ITB 36.1	<p>The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: <i>Indian Rupee</i></p> <p>The source of exchange rate shall be: BC selling market exchange rates established by the State Bank of India.</p> <p>The date for the exchange rate shall be: the deadline for submission of bids.</p>
ITB 37.1	<p>A margin of domestic preference <i>shall not</i> apply.</p>
ITB 39.1	<p>In ITB 39.1 replace the words ‘all bids submitted’ with ‘all documents submitted’ in the second line.</p>

	J. Award of Contract								
ITB 41.1	The maximum percentage by which quantities may be increased is: 15% The maximum percentage by which quantities may be decreased is: 15%								
ITB 42.1	Replace the last sentence of first paragraph of ITB 42.1 with the following: “At the same time, the Purchaser shall also notify online all other Bidders of the results of the bidding and shall publish on the e-portal or in a National website (CWC website- http://cwc.gov.in or GoI Central Public Procurement Portal https://eprocure.gov.in/cppp/) or on the Purchaser’s website with free access if available, or in at least one newspaper of national circulation in the Purchaser’s Country, or in the official gazette, and in <i>UNDB online</i> the results identifying the bid and lot (contract) numbers and the following information:								
ITB 44.1	Replace ITB 44.1 with the following: “44.1 Within twenty-eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, subject to ITB 34.5, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. A foreign institution providing a security shall have a correspondent financial institution located in the Purchaser’s Country.”								
Additional Clause	<p>For Meghalaya Lot only</p> <p>Vide the Government of Meghalaya, District Council Affairs Department, No. DCA. 36/91/323 dated 24.06.2015, 11 districts in the Meghalaya State fall under the jurisdiction of 3 Autonomous District Councils as follows:-</p> <table border="1"> <thead> <tr> <th>Districts of Meghalaya</th><th>Autonomous District Council Jurisdiction</th></tr> </thead> <tbody> <tr> <td>East, West, South West Khasi Hills & Ri Bhoi</td><td>Khasi Hills Autonomous District Council</td></tr> <tr> <td>East & West Jaintia Hills</td><td>Jaintia Hills Autonomous District Council</td></tr> <tr> <td>East, West, South North & South West Garo Hills</td><td>Garo Hills Autonomous District Council</td></tr> </tbody> </table> <p>Successful bidder who is a non-tribal has to furnish trading license from all the three District Councils of the state of Meghalaya, viz: Khasi Hills Autonomous District Council, Jaintia Hills Autonomous District Council and Garo Hills Autonomous District Council within 20 days following the date of Letter of acceptance failing which contract cannot be signed. Copies of the Trading Licenses should be submitted to the Chief Engineer, Water Resources Department, Meghalaya, Shillong before the time of signing of contract.</p>	Districts of Meghalaya	Autonomous District Council Jurisdiction	East, West, South West Khasi Hills & Ri Bhoi	Khasi Hills Autonomous District Council	East & West Jaintia Hills	Jaintia Hills Autonomous District Council	East, West, South North & South West Garo Hills	Garo Hills Autonomous District Council
Districts of Meghalaya	Autonomous District Council Jurisdiction								
East, West, South West Khasi Hills & Ri Bhoi	Khasi Hills Autonomous District Council								
East & West Jaintia Hills	Jaintia Hills Autonomous District Council								
East, West, South North & South West Garo Hills	Garo Hills Autonomous District Council								

Section III. Evaluation and Qualification Criteria

This Section contains all the criteria that the Purchaser shall use to evaluate a bid and qualify the Bidders. in accordance with ITB 31, ITB 32 and ITB 34, no other factors, methods or criteria shall be used.

TECHNICAL PART

1. Qualification (ITB 32)

1.1 Qualification Criteria (ITB 32.1)

3. Qualification Criteria (ITB 32.1)

The Purchaser shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

I- Financial Capability

The Bidder shall furnish documentary evidence that it meets the following financial requirement(s):

A) In case of individual Bidder

- i) Capacity to have a cash flow - The Bidder must provide a letter from a reputed bank stating the availability of liquid assets and/or credit facilities exclusively for this Contract only, of no less than **INR 775 Lakhs or equivalent to US\$ 1.19 Million**.
- ii) The Minimum required annual turnover in respect of supply, installation and commissioning of goods for the successful Bidder in any two of the last five (5) years shall be of **INR 3800 Lakhs or its equivalent to US\$ 5.85 Million**. Period of 5 years shall be reckoned from 31st march of financial year preceding the year in which bid is published.
- iii) Further, bidder should be in continuous business of supplying and after sale services of products similar to that specified in the 'Schedule of requirement' during the last 5 years prior to date of bid submission.
- iv) Bidder shall furnish the legal status, place of registration and principal place of business of the company or firm or partnership, etc.;
- v) Details of experience and past performance on equipment offered and on those of similar nature within the past seven years (Prior to the date of bid submission) and details of current contracts in hand and other commitments (suggested Proforma given in Section IV).
- vi) The bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the supply of the required equipment within the specified time of completion after the meeting all their current commitments.
- vii) Reports on financial standing of the bidder such as profit and loss statements, balance sheets and auditor's report for the past three years, bankers certificate, etc.
- viii) A firm can submit only one bid in the same bidding process, either individually as a bidder or as a partner of a Joint Venture. A bidder who submits or participates in

more than one bid will cause all the bids in which the bidder has participated to be disqualified.

- ix) Should possess GST Registration.

B) In case of Joint Venture (JV)

- i) Capacity to have a cash flow: The Bidders must provide a letter from a reputed bank stating the availability of liquid assets and/or credit facilities exclusively for this Contract only, of no less than **INR 775 Lakhs or equivalent to US\$ 1.19 Million collectively**.
- ii) In case of JV, the Minimum required annual turnover in respect of supply, installation and commissioning of goods for the successful Bidder in any two of the last five (5) years shall be of **INR 3800 Lakhs or its equivalent to US\$ 5.85 Million** collectively. Period of 5 years shall be reckoned from 31st march of financial year preceding the year in which bid is published. The lead partner must have minimum annual turnover of **INR 2600 Lakhs** or its equivalent US\$ 4.0 millions in any two of the last five (5) years while other partner must have minimum annual turnover of **INR 1200 Lakhs or its equivalent US\$ 1.85 million** in any two of the last five (5) years
- iii) Further, one member of Joint Venture should be in continuous business of supplying and after sale services of products similar to that specified in the 'Schedule of requirement' during the last 5 years prior to date of bid submission while other member should be in continuous business of supplying and after sale services of products similar to that specified in the 'Schedule of requirement' at least 1 year prior to date of bid submission.
- iv) All members of Joint Venture shall furnish the legal status, place of registration and principal place of business of the company or firm or partnership, etc.;
- v) Details of experience and past performance of all members of Joint Venture on equipment offered and on those of similar nature within the past seven years (Prior to the date of bid submission) and details of current contracts in hand and other commitments (suggested Proforma given in Section IV).
- vi) The lead member of Joint Venture should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the supply of the required equipment within the specified time of completion after the meeting all their current commitments.
- vii) Responsibilities in respect of lead firm as well as each of the Joint Venture members shall be clearly indicated in the JV agreement;
- viii) The Joint Venture agreement shall not be cancelled or amended unilaterally without consent of the Purchaser and a statement to this effect should appear in the JV agreement;
- ix) Reports on financial standing of each JV members such as profit and loss statements, balance sheets and auditor's report for the past three years, banker's certificate, etc. shall be furnished along with the bid

- x) At least one member of Joint Venture should possess GST Registration.

II- Experience and Technical Capacity of Bidder

The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s):

i) Hydrological, Meteorological (ARS /AWLR /AWS) stations experience

A) In case of individual Bidder

The bidder must have supplied, tested and commissioned Hydro-Met (as given in the list table-1) stations with Satellite /GSM /GPRS based telemetry using equipment /sensors similar to the type specified in the “Section – VII Schedule of Requirements” to the extent of at least 50 stations (comprising of minimum 1 data logger and sensor at each station) in any two of the year during a period of last 7 years from the last date of submission of bid document and should be in use satisfactorily with no adverse report for at least one year.

B) In case of Joint Venture (JV)

JV partners must have supplied, tested and commissioned the Hydro-Met stations with Satellite /GSM /GPRS based telemetry using equipment /sensors similar to the type specified in the “Section – VII Schedule of Requirements” to the extent of at least 50 stations (comprising of minimum 1 data logger and sensor at each station) collectively in any two of the year during a period of last 7 years from the last date of submission of bid document. Out of which the one partner should have supplied, installed, commissioned and provided after sales service satisfactorily to the extent of at least minimum 35 stations (comprising of minimum 1 data logger and sensor at each station) in any two of the year during a period of last 7 years from the last date of submission of bid document and other partner should have supplied, installed, commissioned and provided after sales service satisfactorily to the extent of at least minimum 15 stations (comprising of minimum 1 data logger and sensor at each station) in any two of the year during a period of last 7 years from the last date of submission of bid document .

ii) Manufacturer Authorization for Hydro-Met equipment

If the bidder /JV partners is/are not the manufacturer of the hydro-met equipment (i.e. listed in table-1), the bidder/JV shall furnish a legally enforceable authorization from manufacturer in the prescribed Form [Section-IV] assuring full guarantee and warranty obligations as per GCC and SCC for the goods offered;

If the bidder or JV partner, himself is a manufacturer of the hydro-meteorological equipment (listed in Table-1), then a self-authorization suffices.

Further, bidder or JV partners should furnish the documentary evidence from the manufacturer of the hydro-meteorological equipment to establish that the manufacturer has manufactured and supplied the quantity of the hydro-meteorological equipment as per Table-1 below in any two of the year during a period of last 7 years from the last date of submission of bid document.

Table-1 Compliance for equipment manufacturer

S No	Item	Total quantity to be supplied as per schedule of requirement	Minimum number of required quantity in any two of last seven years
1	Automatic Rain gauge Sensor (ARG)	156	78
2	Radar Water Level Sensor	159	80
3	Air Temperature and Humidity Sensor	37	19
4	Wind Speed and Direction Sensor	37	19
5	Atmospheric Pressure Sensor	37	19
6	Solar Radiation Sensor	37	19
7	Pan Evaporimeter System	9	5
8	Snow Precipitation gauge RTDAS Station	3	5
9	Snow Pillow System	3	5
10	Data loggers with Satellite / GSM / GPRS	258	129
11	INSAT transmitter	258	129
12	GPRS / GSM modem	258	129

III- The bidder should have after sales support in the region preferably at Shillong, Kohima, Agartala. If bidder does not have any after sales support office at the time of bidding, he shall require to establish the same within one month after successful award of contract

IV- Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or record of poor performance such as, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.

FINANCIAL PART

2. Margin of Preference (ITB 37)-Not Applicable

3. Evaluation (ITB 31, 32, and 34)

3.1. Evaluation Criteria (ITB 34.5)

The Purchaser shall use the criteria and methodologies listed in this Section to evaluate Bids. By applying the criteria and methodologies, the Purchaser shall determine the substantially responsive lowest-evaluated bid.

The Purchaser's evaluation of a bid will take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14.8, cost of comprehensive AMC for 2 years after 5years warranty & Operation and Maintenance period. The amount of comprehensive AMC for 2 years shall be computed to Net Present Value by applying a discount factor of 10%.

3.2. Multiple Contracts (ITB 34.3)

The Purchaser shall award 7 contracts to the single responsive bidder that offers the lowest evaluated price for all seven lots combined together and meets the post-qualification criteria (this Section III, Sub-Section ITB 32.1 Post-Qualification Requirements)

The Successful bidder shall have to sign seven separate Contracts for individual Lot as mentioned below:

Lot No.	Name of State	Works	Authorized person for Signing of Contract	Address of Consignees
1.	Nagaland	Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern State of Nagaland under National Hydrology Project (NHP)	Chief Engineer Irrigation & Flood Control Department	Chief Engineer, irrigation & Flood Control Department, Nagaland Below Civil Sectt., Kohima-797001
2.	Manipur	Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern State of Manipur under National Hydrology Project (NHP)	Chief Engineer (Nodal Officer), Water resources Department, Manipur	Office of the Chief Engineer, water Resources Department, Khuyathong, Imphal West, Manipur

3.	Meghalaya	Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern State of Meghalaya under National Hydrology Project (NHP)	Chief Engineer, Water Resources Department, Meghalaya	Cleve Colony, Shillong - 793003,
4.	Mizoram	Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern State of Mizoram under National Hydrology Project (NHP)	Chief Engineer, Irrigation & Water Resources Department	New Secretariat, Capital Complex, Aizwal, Mizoram
5.	Sikkim	Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern State of Sikkim under National Hydrology Project (NHP)	Assistant Engineer Hydrology	SPMU Office, National Hydrology Project, Water Resources & River Development Deptt, Sokeythang, East Sikkim- 737102
6.	Arunachal Pradesh	Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern State of Arunachal Pradesh under National Hydrology Project (NHP)	Executive Engineer, North Eastern Inv. Div.-III, CWC	P B.No.-144, Village-Chimpu, Itanagar - 791 111, Arunachal Pradesh
7.	Tripura	Supply, Installation, Testing, Commissioning and Maintenance of Real Time Data Acquisition System (RTDAS) of North Eastern State of Tripura under National Hydrology Project (NHP)	Chief Engineer. (Nodal Officer) PWD (WR), Govt of Tripura	Chief Engineer, PWD (WR), Kunjaban. Agartala, West Tripura

3.3. Alternative Bids (ITB 13.1)

Not applicable

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4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported*	199
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1A. Letter of Bid – Technical Part

[The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.]

Note: All italicized text is for use in preparing these form and shall be deleted from the final products.

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]**

ICB No.: **[insert number of bidding process]**

Invitation for Bid No.: **[insert identification]**

Alternative No.: **[insert identification No if this is a Bid for an alternative]**

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

We, the undersigned Bidder, hereby submit our Bid, in two parts, namely:

- (a) the Technical Part, and
- (b) the Financial Part.

In submitting our Bid, we make the following declarations:

1. We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8) _____ *[insert the number and issuing date of each Addenda]*;
2. We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
3. We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4.6;
4. 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: ***[insert a brief description of the Goods and Related Services]***;
5. Our bid shall be valid for a period of ***[specify the number of calendar days]*** days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
6. If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;

7. We are not participating, as a Bidder or as a subcontractor or as a Joint Venture member,, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;
8. We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by a member of the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Purchaser's country laws or official regulations or pursuant to a decision of the United Nations Security Council;
9. We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;¹
10. 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;
11. We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive;
12. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption;
13. We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act 1988."; and
14. We, the JV consisting of M/s,M/s, and M/s shall be liable jointly and severely for the execution of the contract in accordance with the stipulated terms and conditions. *[delete if the Bidder is not a JV]*

Name of the Bidder* **[insert complete name of person signing the Bid]**

Name of the person duly authorized to sign the Bid on behalf of the Bidder** **[insert complete name of person duly authorized to sign the Bid]**

Title of the person signing the Bid **[insert complete title of the person signing the Bid]**

Signature of the person named above **[insert signature of person whose name and capacity are shown above]**

¹*Bidder to use as appropriate*² In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

Date signed **_****[insert date of signing]** day of **[insert month]**, **[insert year]**

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

1B. LETTER OF BID - FINANCIAL PART

[The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.]

Note: All italicized text is for use in preparing these form and shall be deleted from the final products.

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]*

NCB No.: *[insert number of bidding process]*

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

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned Bidder, hereby submit the second part of our Bid, the Financial Part. In submitting our Financial Part we make the following additional declarations:

- (a) Our bid shall be valid for the period of time specified in ITB Sub-Clause 18.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 22, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (b) The total price of our Bid, excluding any discounts offered in item (c) below, is:
- (c) The discounts offered and the methodology for their application are:
 - (i) The discounts offered are: ***[Specify in detail each discount offered.]***
 - (ii) The exact method of calculations to determine the net price after application of discounts is shown below:***[Specify in detail the method that shall be used to apply the discounts];Discounts.***
- (d) 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.”)

- (e) 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.

Name of the Bidder* ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder** ***[insert complete name of person duly authorized to sign the Bid]***

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

2A. 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]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

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1. Bidder's Legal Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member: <i>[insert legal name of each member 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/fax numbers]</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> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <i>(JVs should confirm to the requirements indicated in para 4 (c) of Section III – Evaluation Criteria).</i> <input type="checkbox"/> In case of Government-owned enterprise or institution, in accordance with ITB 4.5 documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not dependent agency of the Purchaser
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

2B. Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture].

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

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Legal Name: <i>[insert Bidder's legal name]</i>
2. Bidder's JV Member's Legal Name: <i>[insert JV's Member legal name]</i>
3. Bidder's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Bidder's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Bidder's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
6. Bidder's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.5.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

3. Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

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3. Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported (inclusive of 5years onsite warranty)

(Group C bids, goods to be imported) Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1.	Automatic Rain Gauge (ARG) Station							
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	9 Nos				
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	9 Nos				
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	9 Nos				
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	9 Nos				
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	9 Nos				
1(f)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6months from date of signing of contract</i>	9 Nos				

1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	9 Nos				
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	9 Nos				
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	9 Nos				
2.	Automatic Water Level Recorder (AWLR) Radar type + Automatic Rain Gauge Station							
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	11 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	11 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos				
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	32 Nos				
2(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	32 Nos				
2(d)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	32 Nos				
2(e)	Satellite Antenna with accessories cable etc as per		6 months from date of signing	32 Nos				

	technical specifications		<i>of contract</i>					
2(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	32 Nos				
2(g)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	32 Nos				
2(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>6 months from date of signing of contract</i>	32 Nos				
2(i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	32 Nos				
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		<i>6 months from date of signing of contract</i>	32 Nos				
3	<u>Automated Weather station (AWS)</u>							
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification		<i>6 months from date of signing</i>	02 Nos				

	which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		<i>of contract</i>					
3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	06 Nos				
3(h)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	06 Nos				
3(i)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	06 Nos				
3 (k)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations							
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size		<i>6 months from date of signing of contract</i>	1 Nos.				

	color printer as per technical specifications							
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.				
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.				
Total Price (A)								

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

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4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported* (inclusive of 5years onsite warranty)

(Group C bids, Goods already imported) Currencies in accordance with ITB 15										Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____	
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii), [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
1.	Automatic Rain Gauge (ARG) Station										
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	9 Nos							
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	9 Nos							
1(c)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	9 Nos							
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	9 Nos							

1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	9 Nos							
1(f)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	9 Nos							
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	9 Nos							
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	9 Nos							
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	9 Nos							
2.	Automatic Water Level Recorder (AWLR) Radar type + Automatic Rain Gauge Station										
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	11 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	11 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos							
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	32 Nos							

2(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	32 Nos							
2(d)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	32 Nos							
2(e)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	32 Nos							
2(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	32 Nos							
2(g)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	32 Nos							
2(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	32 Nos							
2(i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	32 Nos							
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	32 Nos							
3	<u>Automated Weather station (AWS)</u>										
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							

3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	02 Nos							
3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	06 Nos							
3(h)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	06 Nos							
3(i)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	06 Nos							
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	06 Nos							
3 (k)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	06 Nos							
3 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	06 Nos							
3(m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	06 Nos							
3 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	06 Nos							

4. Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations											
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.							
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.							
										Total Bid Price (B)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

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5. Price Schedule: Goods Manufactured in the Purchaser's Country (inclusive of 5years onsite warranty)

Purchaser's Country _____			(Group A and B bids) Currencies in accordance with ITB 15				Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii)	Total Price per line item (Col. 6+7)
1. Automatic Rain Gauge (ARG) Station									
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	9 Nos						
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	9 Nos						
1(c)	INSAT transmitter with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	9 Nos						
1(d)	Satellite Antenna with accessories cable etc as per technical specifications	<i>6 months from date of signing of contract</i>	9 Nos						
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	9 Nos						
1(f)	Solar panel with all connectors cables and conduit as per technical specifications	<i>6months from date of signing of contract</i>	9 Nos						

1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	9 Nos						
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	9 Nos						
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	9 Nos						
2. Automatic Water Level Recorder (AWLR) Radar type + Automatic Rain Gauge Station									
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	11 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	11 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	10 Nos						
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	32 Nos						
2(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	32 Nos						
2(d)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	32 Nos						
2(e)	Satellite Antenna with accessories cable etc as per	6 months from date of signing	32 Nos						

	technical specifications	<i>of contract</i>							
2(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	32 Nos						
2(g)	Solar panel with all connectors cables and conduit as per technical specifications	<i>6 months from date of signing of contract</i>	32 Nos						
2(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	<i>6 months from date of signing of contract</i>	32 Nos						
2(i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	<i>6 months from date of signing of contract</i>	32 Nos						
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	<i>6 months from date of signing of contract</i>	32 Nos						
3	<u>Automated Weather station (AWS)</u>								
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3(f)	Automated Pan Evaporimeter equipment set with	<i>6 months from date of signing</i>	02 Nos						

	necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	<i>of contract</i>							
3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	06 Nos						
3(h)	INSAT transmitter with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	06 Nos						
3(i)	Satellite Antenna with accessories cable etc as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	06 Nos						
3 (k)	Solar panel with all connectors cables and conduit as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3(m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
3 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	<i>6 months from date of signing of contract</i>	06 Nos						
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations								
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	<i>6 months from date of signing of contract</i>	1 Nos.						
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size	<i>6 months from date of signing</i>	1 Nos.						

	color printer as per technical specifications	<i>of contract</i>							
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	<i>6 months from date of signing of contract</i>	1 Nos.						
4(d)	42" LED Display System as per technical specifications	<i>6 months from date of signing of contract</i>	1 Nos.						
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	<i>6 months from date of signing of contract</i>	1 Nos.						
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	<i>6 months from date of signing of contract</i>	1 Nos.						
								Total Price [C]	

Name of Bidder [*insert complete name of Bidder*] Signature of Bidder [*signature of person signing the Bid*] Date [*insert date*]

Lot-I -- Nagaland

6. PRICE and Completion Schedule - Related Services

		Currencies in accordance with ITB 15			Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____	
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser’s country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
S-1.	Automatic Rain Gauge (ARG) Station					
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		12 months from date of signing of contract	9 Nos		
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		12 months from date of signing of contract	9 Nos		
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		12 months from date of signing of contract	9 Nos		
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		12 months from date of signing of contract	9 Nos		
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		12 months from date of signing of contract	9 Nos		
S-1(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications		12 months from date of signing of contract	9 Nos		

	for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.					
S-2.	Automatic Water Level Recorder (AWLR) Radar type + Automatic Rain Gauge (ARG)					
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	10 Nos		
S-2(b)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	32 Nos		
S-2(c)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	32 Nos		
S-2(d)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	32 Nos		
S-2(e)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	32 Nos		
S-2(f)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	32 Nos		
S-2(g)	Installation of Chain-link Fencing (as per site condition)		<i>12 months from date</i>	32 Nos		

	along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>of signing of contract</i>			
S-3	<u>Automated Weather station (AWS)</u>					
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.		<i>12 months from date of signing of contract</i>	02 Nos		
S-3(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		

S-3(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-3(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	06 Nos		
S-4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations					
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at		Continuous activity for five years after successful	01 Lot		

	designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.		commissioning and final acceptance certificate of RTDAS			
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser		Continuous activity for two years after five years O&M and warranty period	Year 1 after expiry of O&M and warranty period of 5 years		
				Year 2 after expiry of O&M and warranty period of 5 years		
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.		Continuous activity	8 trainings		
			Total Price D			
			GST			
			Total Price			

	Total Bid Price (A+B+C+D) Rs		
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Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-II -- Manipur

3. Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported (inclusive of 5years onsite warranty)

(Group C bids, goods to be imported) Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1.	Automatic Rain Gauge (ARG) Station							
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	12 Nos				
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	12 Nos				
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	12 Nos				
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	12 Nos				
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	12 Nos				
1(f)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	12 Nos				

1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	12 Nos				
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	12 Nos				
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	12 Nos				
2. Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station								
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	11 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos				
2(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	17 Nos				
2(c)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	17 Nos				
2(d)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	17 Nos				
2(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	17 Nos				
2(f)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	17 Nos				
2(g)	Battery, charger regulator with all interconnecting		6 months from	17 Nos				

	connectors, cables for DCP as per technical specifications		<i>date of signing of contract</i>					
2(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	17 Nos				
2(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		<i>6 months from date of signing of contract</i>	17 Nos				
3	<u>Automated Weather station (AWS)</u>							
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	02 Nos				
3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	06 Nos				
3(h)	INSAT transmitter with all accessories as per		<i>6 months from date of signing</i>	06 Nos				

	technical specifications.		<i>of contract</i>					
3(i)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	06 Nos				
3(k)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3(l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
3 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		<i>6 months from date of signing of contract</i>	06 Nos				
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations							
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				

4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.				
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.				
Total Price (A)								

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Lot-II -- Manipur

4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported* (inclusive of 5years onsite warranty)

(Group C bids, Goods already imported) Currencies in accordance with ITB 15										Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____	
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii), [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
1.	Automatic Rain Gauge (ARG) Station										
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	12 Nos							
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	12 Nos							
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	12 Nos							
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	12 Nos							
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	12 Nos							

1(f)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	12 Nos							
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	12 Nos							
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	12 Nos							
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	12 Nos							
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station										
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	11 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
2(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	17 Nos							
2(c)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	17 Nos							
2(d)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	17 Nos							
2(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	17 Nos							

2(f)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	17 Nos							
2(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	17 Nos							
2(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	17 Nos							
2(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	17 Nos							
3	<u>Automated Weather station (AWS)</u>										
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	02 Nos							

3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	06 Nos							
3(h)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	06 Nos							
3(i)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	06 Nos							
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	06 Nos							
3(k)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	06 Nos							
3(l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	06 Nos							
3 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	06 Nos							
3 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	06 Nos							
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations										
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		6 months from date of signing of contract	1 Nos.							

4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.							
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.							
										Total Bid Price (B)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-II -- Manipur

5. Price Schedule: Goods Manufactured in the Purchaser's Country (inclusive of 5years onsite warranty)

Purchaser's Country _____				(Group A and B bids) Currencies in accordance with ITB 15			Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
1. Automatic Rain Gauge (ARG) Station									
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	12 Nos						
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	12 Nos						
1(c)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	12 Nos						
1(d)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	12 Nos						
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	12 Nos						
1(f)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	12 Nos						

1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	12 Nos						
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	12 Nos						
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	12 Nos						
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station								
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	11 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	06 Nos						
2(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	17 Nos						
2(c)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	17 Nos						
2(d)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	17 Nos						
2(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	17 Nos						
2(f)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	17 Nos						

2(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	17 Nos						
2(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	17 Nos						
2(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	17 Nos						
3	<u>Automated Weather station (AWS)</u>								
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	06 Nos						
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	06 Nos						
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	06 Nos						
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	06 Nos						
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	06 Nos						
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	02 Nos						
3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	06 Nos						

3(h)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	06 Nos						
3(i)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	06 Nos						
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	06 Nos						
3(k)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	06 Nos						
3(l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	06 Nos						
3 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	06 Nos						
3 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	6 months from date of signing of contract	06 Nos						
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations								
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(d)	42" LED Display System as per technical specifications	6 months from date of signing of contract	1 Nos.						

4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	<i>6 months from date of signing of contract</i>	1 Nos.						
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	<i>6 months from date of signing of contract</i>	1 Nos.						
								Total Price [C]	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-II -- Manipur

6. PRICE and Completion Schedule - Related Services

Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
S-1.	Automatic Rain Gauge (ARG) Station					
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	12 Nos		
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	12 Nos		
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	12 Nos		
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	12 Nos		
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	12 Nos		
S-1(f)	Installation of Chain-link Fencing (as per site condition)		<i>12 months from date of signing of contract</i>	12 Nos		

	along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.					
S-2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station					
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	17 Nos		
S-2(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	17 Nos		
S-2(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	17 Nos		
S-2(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	17 Nos		
S-2(f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction		<i>12 months from date of signing of contract</i>	6 Nos		
S-2(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	17 Nos		

S-3	<u>Automated Weather station (AWS)</u>
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications
S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications
S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications
S-3(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.
S-3(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.
S-3(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications
S-3(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications
S-3(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrester with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to

	mount DCP, sensor mount complete as per technical specifications					
S-3(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		12 months from date of signing of contract	06 Nos		
S-4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations					
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		12 months from date of signing of contract	1 Nos.		
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		12 months from date of signing of contract	1 Nos.		
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be		Continuous activity for five years after successful commissioning and final acceptance certificate of RTDAS	01 Lot		

	borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.					
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser		Continuous activity <i>for two years</i> after five years <i>O&M and</i> warranty period	Year 1 after expiry of O&M and warranty period of 5 years		
				Year 2 after expiry of O&M and warranty period of 5 years		
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.		Continuous activity	8 trainings		
			Total D			
			GST			
			Total Price			
			Total Bid Price (A+B+C+D) Rs			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-III -- Meghalaya

3. Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported (inclusive of 5years onsite warranty)

(Group C bids, goods to be imported) Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP <i>[insert place of destination]</i> in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge							
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	10 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	14 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos				
1(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	25 Nos				

1(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	25 Nos				
1(d)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	25 Nos				
1(e)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	25 Nos				
1(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	25 Nos				
1(g)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	25 Nos				
1(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	25 Nos				
1(i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	25 Nos				
1(j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	25 Nos				
2	<u>Automated Weather station (AWS)</u>							
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				
2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				
2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				

2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos				
2 (g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	05 nos				
2(h)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	05 nos				
2(i)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	05 nos				
2(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	05 nos				
2(h)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	05 Nos				
2(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	05 Nos				
2(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	05 nos				
2 (k)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	05 nos				

3.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations							
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
3(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.				
3(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.				
Total Price (A)								

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Lot-III -- Meghalaya

4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported* (inclusive of 5years onsite warranty)

(Group C bids, Goods already imported) Currencies in accordance with ITB 15										Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____	
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii), [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
1.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge										
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	10 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	14 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos							

1(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	25 Nos							
1(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	25 Nos							
1(d)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	25 Nos							
1(e)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	25 Nos							
1(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	25 Nos							
1(g)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	25 Nos							
1(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	25 Nos							
1(i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	25 Nos							
1(j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	25 Nos							
2	<u>Automated Weather station (AWS)</u>										
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							

2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos							
2 (g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	05 nos							
2(h)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	05 nos							
2(i)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	05 nos							
2(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	05 nos							
2(h)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	05 Nos							
2(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	05 Nos							

2(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	05 nos							
2 (k)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	05 nos							
3.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations										
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(d)	42" LED Display System as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		6 months from date of signing of contract	1 Nos.							
3(f)	GSM & GPRS data receiving system with all ancillary equipment as per technical specifications.		6 months from date of signing of contract	1 Nos.							
										Total Bid Price (B)	

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

Lot-III -- Meghalaya

5. Price Schedule: Goods Manufactured in the Purchaser's Country (inclusive of 5years onsite warranty)

Purchaser's Country _____			(Group A and B bids) Currencies in accordance with ITB 15				Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
1.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge								
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	10 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	14 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	1 Nos						
1(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	25 Nos						

1(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	25 Nos						
1(d)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	25 Nos						
1(e)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	25 Nos						
1(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	25 Nos						
1(g)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	25 Nos						
1(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	25 Nos						
1(i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	25 Nos						
1(j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	25 Nos						
2	<u>Automated Weather station (AWS)</u>								
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						

2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	01 Nos						
2 (g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	05 nos						
2(h)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	05 nos						
2(i)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	05 nos						
2(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	05 nos						
2(h)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	05 Nos						
2(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	05 Nos						

2(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	05 nos						
2 (k)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	6 months from date of signing of contract	05 nos						
3. Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations									
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	6 months from date of signing of contract	1 Nos.						
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	6 months from date of signing of contract	1 Nos.						
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	6 months from date of signing of contract	1 Nos.						
3(d)	42" LED Display System as per technical specifications	6 months from date of signing of contract	1 Nos.						
3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	6 months from date of signing of contract	1 Nos.						
3(f)	GSM & GPRS data receiving system with all ancillary equipment as per technical specifications.	6 months from date of signing of contract	1 Nos.						
								Total Price [C]	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-III -- Meghalaya

6. PRICE and Completion Schedule - Related Services

Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
S-1.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge					
S-1(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	10 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	14 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	01 Nos		
S-1(b)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	25 Nos		
S-1(c)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	25 Nos		
S-1(d)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical		<i>12 months from date of signing of contract</i>	25 Nos		

	specifications					
S-1(e)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	25 Nos		
S-1(f)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	25 Nos		
S-1 (g)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction		<i>12 months from date of signing of contract</i>	7 No.		
S-1(h)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	25 Nos		
S-2	<u>Automated Weather station (AWS)</u>					
S-2(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		

S-2(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.		<i>12 months from date of signing of contract</i>	01 Nos		
S-2(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
S-2(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	06 Nos		
S-3.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations					
S-3(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary		<i>12 months from date of signing of contract</i>	1 Nos.		

	accessories as per technical specifications					
S-3(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.		Continuous activity for five years after successful commissioning and final acceptance certificate of RTDAS	01 Lot		
S-5.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser		Continuous activity <i>for two years</i> after five years <i>O&M and</i> warranty period	Year 1 after expiry of O&M and warranty period of 5 years		
				Year 2 after expiry of O&M and warranty period of 5 years		
S-6.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation,		Continuous	8 trainings		

	maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.		activity			
			Total D			
			GST			
			Total Price			
			Total Bid Price (A+B+C+D) Rs			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-IV -- Mizoram

3. Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported (inclusive of 5years onsite warranty)

(Group C bids, goods to be imported) Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1.	Automatic Rain Gauge (ARG) Station							
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	27 Nos				
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.			27 Nos				
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	27 Nos				
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	27 Nos				
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	27 Nos				
1(f)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	27 Nos				

1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	27 Nos				
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	27 Nos				
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	27 Nos				
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station							
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	08 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 70m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos				
2(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	16 Nos				
2(c)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	16 Nos				

2(d)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	16 Nos				
2(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	16 Nos				
2(f)	Solar panel with all connectors cables and conduit as per technical specifications		4 months from date of signing of contract	16 Nos				
2(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		4 months from date of signing of contract	16 Nos				
2 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	16 Nos				
2 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	16 Nos				
3	<u>Automated Weather station (AWS)</u>							
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos				
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos				
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos				
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos				
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos				

3(f)	Soil Moisture Sensor and necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				
3(g)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	02 Nos				
3 (h)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	10 Nos				
3(i)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	10 Nos				
3(j)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	10 Nos				
3(k)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	10 Nos				
3(l)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	10 Nos				
3(m)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	10 Nos				
3(n)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	10 Nos				
3 (m)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	10 Nos				
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote							

	RTDAS Stations							
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.				
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.				
							Total Price (A)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Lot-IV -- Mizoram

4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported* (inclusive of 5years onsite warranty)

(Group C bids, Goods already imported) Currencies in accordance with ITB 15											Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii), [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
1.	Automatic Rain Gauge (ARG) Station										
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	27 Nos							
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	27 Nos							
1(c)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	27 Nos							
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	27 Nos							

1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	27 Nos							
1(f)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	27 Nos							
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	27 Nos							
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	27 Nos							
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	27 Nos							
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station										
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	06 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	08 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 70m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos							

2(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	16 Nos							
2(c)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	16 Nos							
2(d)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	16 Nos							
2(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	16 Nos							
2(f)	Solar panel with all connectors cables and conduit as per technical specifications		4 months from date of signing of contract	16 Nos							
2(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		4 months from date of signing of contract	16 Nos							
2 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	16 Nos							
2 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	16 Nos							
3	<u>Automated Weather station (AWS)</u>										
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos							
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos							
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos							

3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos							
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	10 Nos							
3(f)	Soil Moisture Sensor and necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
3(g)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	02 Nos							
3 (h)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	10 Nos							
3(i)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	10 Nos							
3(j)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	10 Nos							
3(k)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	10 Nos							
3(l)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	10 Nos							
3(m)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	10 Nos							
3(n)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	10 Nos							

3 (m)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	10 Nos							
4. Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations											
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(d)	42" LED Display System as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		6 months from date of signing of contract	1 Nos.							
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		6 months from date of signing of contract	1 Nos.							
										Total Bid Price (B)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-IV -- Mizoram

5. Price Schedule: Goods Manufactured in the Purchaser's Country (inclusive of 5years onsite warranty)

Purchaser's Country _____			(Group A and B bids) Currencies in accordance with ITB 15				Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
1. Automatic Rain Gauge (ARG) Station									
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	27 Nos						
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	27 Nos						
1(c)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	27 Nos						
1(d)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	27 Nos						
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	27 Nos						
1(f)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	27 Nos						

1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	27 Nos						
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	27 Nos						
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	27 Nos						
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station								
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	01 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	06 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	08 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 70m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	01 Nos						
2(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	16 Nos						
2(c)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	16 Nos						
2(d)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	16 Nos						

2(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	16 Nos						
2(f)	Solar panel with all connectors cables and conduit as per technical specifications	4 months from date of signing of contract	16 Nos						
2(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	4 months from date of signing of contract	16 Nos						
2 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	16 Nos						
2 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	16 Nos						
3	<u>Automated Weather station (AWS)</u>								
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	10 Nos						
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	10 Nos						
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	10 Nos						
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	10 Nos						
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	10 Nos						
3(f)	Soil Moisture Sensor and necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						

3(g)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	02 Nos						
3(h)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	10 Nos						
3(i)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	10 Nos						
3(j)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	10 Nos						
3(k)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	10 Nos						
3(l)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	10 Nos						
3(m)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	10 Nos						
3(n)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	10 Nos						
3(m)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	6 months from date of signing of contract	10 Nos						
4. Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations									
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	6 months from date of signing of contract	1 Nos.						

4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	<i>6 months from date of signing of contract</i>	1 Nos.						
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	<i>6 months from date of signing of contract</i>	1 Nos.						
4(d)	42" LED Display System as per technical specifications	<i>6 months from date of signing of contract</i>	1 Nos.						
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	<i>6 months from date of signing of contract</i>	1 Nos.						
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	<i>6 months from date of signing of contract</i>	1 Nos.						
								Total Price [C]	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-IV -- Mizoram

6. PRICE and Completion Schedule - Related Services

Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
S-1.	Automatic Rain Gauge (ARG) Station					
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	27 Nos		
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	27 Nos		
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	27 Nos		
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	27 Nos		
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	27 Nos		
S-1(f)	Installation of Chain-link Fencing (as per site condition)		<i>12 months from date of signing of contract</i>	27 Nos		

	along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.					
S-2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station					
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	01 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	06 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	08 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 70m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	01 Nos		
S-2(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	16 Nos		
S-2(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	16 Nos		
S-2(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	16 Nos		
S-2(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	16 Nos		

S-2(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		12 months from date of signing of contract	16 Nos		
S-3	<u>Automated Weather station (AWS)</u>					
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		12 months from date of signing of contract	10 Nos		
S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		12 months from date of signing of contract	10 Nos		
S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		12 months from date of signing of contract	10 Nos		
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		12 months from date of signing of contract	10 Nos		
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications		12 months from date of signing of contract	10 Nos		
S-3(f)	Installation testing & Commissioning of Soil Moisture Sensor and necessary hardware as per technical specifications		12 months from date of signing of contract	05 Nos		
S-3(g)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.		12 months from date of signing of contract	02 Nos		
S-3(h)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		12 months from date of signing of contract	10 Nos		
S-3(i)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		12 months from date of signing of contract	10 Nos		
S-3(j)	Installation testing & Commissioning of Battery, charger		12 months from date	10 Nos		

	regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>of signing of contract</i>			
S- 3(k)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	10 Nos		
S-3(l)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	10 Nos		
S-4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations					
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of		Continuous activity for five years after	01 Lot		

	Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.		successful commissioning and final acceptance certificate of RTDAS			
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser		Continuous activity <i>for two years</i> after five years <i>O&M and</i> warranty period	Year 1 after expiry of O&M and warranty period of 5 years		
				Year 2 after expiry of O&M and warranty period of 5 years		
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.		Continuous activity	8 trainings		
			Total D			
			GST			
			Total Price			
			Total Bid Price (A+B+C+D) Rs			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-V -- Sikkim

3. Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported
(inclusive of 5years onsite warranty)

(Group C bids, goods to be imported) Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [insert place of destination] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1.	Automatic Water Level Recorder (AWLR) - Radar type							
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	01 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	07 Nos				
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
1(b)	Data Logger with 2 AI sensor input type with all		<i>6 months from date of signing</i>	13 Nos				

	accessories as per technical specifications.		<i>of contract</i>					
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	13 Nos				
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	13 Nos				
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	13 Nos				
1(f)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	13 Nos				
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>6 months from date of signing of contract</i>	13 Nos				
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	13 Nos				
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		<i>6 months from date of signing of contract</i>	13 Nos				
2	<u>Automated Weather station (AWS)</u>							
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				

2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos				
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos				
2(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	05 Nos				
2(h)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	05 Nos				
2(i)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	05 Nos				
2(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	05 Nos				
2 (k)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	05 Nos				
2 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	05 Nos				
2 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	05 Nos				
2 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	05 Nos				

3	Snow Pillow (Snow-water Equivalent (SWE)) Stations							
3(a)	Automated Snow Pillow station complete with fittings, Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	03 Nos				
3(b)	Snow precipitation (liquid and solid) sensor with Antifreeze solution, cable Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	03 Nos				
3(c)	Snow Depth sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	03 Nos				
3(d)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	03 Nos				
3(e)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	03 Nos				
3(f)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	03 Nos				
4(g)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	03 Nos				
3(h)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	03 Nos				
3 (i)	Solar panel with all connectors cables and conduit as per technical specifications		<i>4 months from date of signing of contract</i>	03 Nos				
3 (j)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>4 months from date of signing of contract</i>	03 Nos				
3 (k)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	03 Nos				

3 (l)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 7 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	03 Nos				
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations							
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		6 months from date of signing of contract	1 Nos.				
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		6 months from date of signing of contract	1 Nos.				
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		6 months from date of signing of contract	1 Nos.				
4(d)	42" LED Display System as per technical specifications		6 months from date of signing of contract	1 Nos.				
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		6 months from date of signing of contract	1 Nos.				
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		6 months from date of signing of contract	1 Nos.				
							Total Price (A)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Lot-V -- Sikkim

4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported* (inclusive of 5years onsite warranty)

(Group C bids, Goods already imported) Currencies in accordance with ITB 15								Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____			
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii), [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
1.	Automatic Water Level Recorder (AWLR) - Radar type										
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	07 Nos							
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							

1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	13 Nos							
1(c)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	13 Nos							
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	13 Nos							
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	13 Nos							
1(f)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	13 Nos							
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	13 Nos							
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	13 Nos							
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	13 Nos							
2	<u>Automated Weather station (AWS)</u>										
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							

2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	01 Nos							
2(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	05 Nos							
2(h)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	05 Nos							
2(i)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	05 Nos							
2(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	05 Nos							
2 (k)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	05 Nos							
2 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	05 Nos							
2 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	05 Nos							
2 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightning arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	05 Nos							

3 Snow Pillow (Snow-water Equivalent (SWE)) Stations											
3(a)	Automated Snow Pillow station complete with fittings, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	03 Nos							
3(b)	Snow precipitation (liquid and solid) sensor with Antifreeze solution, cable Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	03 Nos							
3(c)	Snow Depth sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	03 Nos							
3(d)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	03 Nos							
3(e)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	03 Nos							
3(f)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	03 Nos							
4(g)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	03 Nos							
3(h)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	03 Nos							
3 (i)	Solar panel with all connectors cables and conduit as per technical specifications		4 months from date of signing of contract	03 Nos							
3 (j)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		4 months from date of signing of contract	03 Nos							
3 (k)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	03 Nos							

3 (l)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 7 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		6 months from date of signing of contract	03 Nos							
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations										
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(d)	42" LED Display System as per technical specifications		6 months from date of signing of contract	1 Nos.							
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		6 months from date of signing of contract	1 Nos.							
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		6 months from date of signing of contract	1 Nos.							
										Total Bid Price (B)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-V -- Sikkim

5. Price Schedule: Goods Manufactured in the Purchaser's Country (inclusive of 5years onsite warranty)

Purchaser's Country _____				(Group A and B bids) Currencies in accordance with ITB 15			Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii)	Total Price per line item (Col. 6+7)
1. Automatic Water Level Recorder (AWLR) - Radar type									
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	01 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	07 Nos						
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	05 Nos						

1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	13 Nos						
1(c)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	13 Nos						
1(d)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	13 Nos						
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	13 Nos						
1(f)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	13 Nos						
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	13 Nos						
1(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	13 Nos						
1(i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	13 Nos						
2	<u>Automated Weather station (AWS)</u>								
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						

2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	01 Nos						
2(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						
2(h)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						
2(i)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	05 Nos						
2(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						
2 (k)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	05 Nos						
2 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	05 Nos						
2 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical	6 months from date of signing of	05 Nos						

	specifications	<i>contract</i>							
2 (n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	<i>6 months from date of signing of contract</i>	05 Nos						
3	Snow Pillow (Snow-water Equivalent (SWE)) Stations								
3(a)	Automated Snow Pillow station complete with fittings, Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	03 Nos						
3(b)	Snow precipitation (liquid and solid) sensor with Antifreeze solution, cable Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	03 Nos						
3(c)	Snow Depth sensor and cable set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	03 Nos						
3(d)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	03 Nos						
3(e)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	03 Nos						
3(f)	INSAT transmitter with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	03 Nos						
3(g)	Satellite Antenna with accessories cable etc as per technical specifications	<i>6 months from date of signing of contract</i>	03 Nos						
3(h)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	03 Nos						
3 (i)	Solar panel with all connectors cables and conduit as per technical specifications	<i>4 months from date of signing of contract</i>	03 Nos						

3 (j)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	4 months from date of signing of contract	03 Nos						
3 (k)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	03 Nos						
3 (l)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 7 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	6 months from date of signing of contract	03 Nos						
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations								
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(d)	42" LED Display System as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	6 months from date of signing of contract	1 Nos.						
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	6 months from date of signing of contract	1 Nos.						
								Total Price [C]	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-V -- Sikkim**6 PRICE and Completion Schedule - Related Services**

Currencies in accordance with ITB 15						Date: _____
						ICB No: _____
						Alternative No: _____
						Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
S-1.	Automatic Water Level Recorder (AWLR) - Radar type					
S-1(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	01 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	07 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	13 Nos		
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	13 Nos		
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	13 Nos		

S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	13 Nos		
S-1 (f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction		<i>12 months from date of signing of contract</i>	06 No.		
S-1(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	13 Nos		
S-2	<u>Automated Weather station (AWS)</u>					
S-2(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.		<i>12 months from date of signing of contract</i>	01 Nos		

S-2(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-2(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	05 Nos		
S-3	Snow Pillow (Snow-water Equivalent (SWE)) Stations					
S-3(a)	Installation testing & Commissioning of Automated Snow Pillow station complete with fittings, Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	03 Nos		
S-3(b)	Installation testing & Commissioning of Snow precipitation (liquid and solid) sensor with Antifreeze solution, cable Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	03 Nos		
S-3(c)	Installation testing & Commissioning of Snow Depth sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	03 Nos		
S-3(d)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	03 Nos		

S-3(e)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		12 months from date of signing of contract	03 Nos		
S-3(f)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		12 months from date of signing of contract	03 Nos		
S-3(g)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		12 months from date of signing of contract	03 Nos		
S-3(h)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		12 months from date of signing of contract	03 Nos		
S-3(i)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		12 months from date of signing of contract	03 Nos		
S-4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations					
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications		12 months from date of signing of contract	1 Nos.		
S-4(e)	Installation testing & Commissioning of High speed		12 months from date	1 Nos.		

	synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>of signing of contract</i>			
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.		Continuous activity for five years after successful commissioning and final acceptance certificate of RTDAS	01 Lot		
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser		Continuous activity <i>for two years</i> after five years <i>O&M and</i> warranty period	Year 1 after expiry of O&M and warranty period of 5 years		
				Year 2 after expiry of O&M and warranty period of 5 years		
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection,		Continuous activity	8 trainings		

	Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.					
			Total D			
			GST			
			Total Price			
			Total Bid Price (A+B+C+D) Rs			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-VI -- Arunachal Pradesh

3. Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported (inclusive of 5years onsite warranty)

(Group C bids, goods to be imported) Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1.	Automatic Water Level Recorder (AWLR)							
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	05 Nos				
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	05 Nos				
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	05 Nos				
1 (f)	Solar panel with all connectors cables and conduit		<i>6 months from date of signing</i>	05 Nos				

	as per technical specifications		<i>of contract</i>					
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
1 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
2.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge							
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	40 Nos				
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	40 Nos				
2(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	40 Nos				
2(d)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	40 Nos				
2(e)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	40 Nos				
2(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	40 Nos				
2 (g)	Solar panel with all connectors cables and conduit		<i>6 months from date of signing</i>	40 Nos				

	as per technical specifications		<i>of contract</i>					
2 (h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>6 months from date of signing of contract</i>	40 Nos				
2 (i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	40 Nos				
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		<i>6 months from date of signing of contract</i>	40 Nos				
3	<u>Automated Weather station (AWS)</u>							
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	01 Nos				
3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing</i>	05 Nos				

			<i>of contract</i>					
3(h)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	05 Nos				
3(i)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	05 Nos				
3 (k)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
3 9n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos				
4	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations							
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical		<i>6 months from date of signing</i>	1 Nos.				

	specifications		<i>of contract</i>					
4(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.				
4(e)	High speed synchronous internet connection (min. 8 mbps upload and download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.				
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.				
Total Price (A)								

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Lot-VI -- Arunachal Pradesh

**4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported*
(inclusive of 5years onsite warranty)**

(Group C bids, Goods already imported) Currencies in accordance with ITB 15											Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii), [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
1.	Automatic Water Level Recorder (AWLR)										
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos							
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	05 Nos							
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	05 Nos							
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	05 Nos							

1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	05 Nos							
1 (f)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	05 Nos							
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	05 Nos							
1 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	05 Nos							
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	05 Nos							
2.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge										
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	40 Nos							
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	40 Nos							
2(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	40 Nos							
2(d)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	40 Nos							
2(e)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	40 Nos							

2(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	40 Nos							
2 (g)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	40 Nos							
2 (h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	40 Nos							
2 (i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	40 Nos							
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	40 Nos							
3	<u>Automated Weather station (AWS)</u>										
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications		6 months from date of signing of contract	05 Nos							

[illegible]

4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(d)	42" LED Display System as per technical specifications		<i>6 months from date of signing of contract</i>	1 Nos.							
4(e)	High speed synchronous internet connection (min. 8 mbps upload and download) for five years.		<i>6 months from date of signing of contract</i>	1 Nos.							
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.							
										Total Bid Price (B)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-VI -- Arunachal Pradesh

5. Price Schedule: Goods Manufactured in the Purchaser's Country

(inclusive of 5years onsite warranty)

Purchaser's Country _____				(Group A and B bids) Currencies in accordance with ITB 15			Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
1. Automatic Water Level Recorder (AWLR)									
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						
1(c)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						
1(d)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	05 Nos						
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						

1 (f)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	05 Nos						
1(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	05 Nos						
1 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	05 Nos						
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	05 Nos						
2. Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge									
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	40 Nos						
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	40 Nos						
2(c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	40 Nos						
2(d)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	40 Nos						
2(e)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	40 Nos						
2(f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	40 Nos						
2 (g)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	40 Nos						

2 (h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	40 Nos						
2 (i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	40 Nos						
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	40 Nos						
3 <u>Automated Weather station (AWS)</u>									
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	05 Nos						
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	6 months from date of signing of contract	01 Nos						
3(g)	Data Logger with 8 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						

3(h)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						
3(i)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	05 Nos						
3(j)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	05 Nos						
3 (k)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	05 Nos						
3 (l)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	05 Nos						
3 (m)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	05 Nos						
3 9n)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables 10 meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	6 months from date of signing of contract	05 Nos						
4	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations								
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		1 Nos.						
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	6 months from date of signing of contract	1 Nos.						
4(d)	42" LED Display System as per technical specifications	6 months from date of signing of contract	1 Nos.						

4(e)	High speed synchronous internet connection (min. 8 mbps upload and download) for five years.	<i>6 months from date of signing of contract</i>	1 Nos.						
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	<i>6 months from date of signing of contract</i>	1 Nos.						
								Total Price [C]	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-VI -- Arunachal Pradesh

6. PRICE and Completion Schedule - Related Services

Currencies in accordance with ITB 15				Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
S-1.	Automatic Water Level Recorder (AWLR)					
S-1(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	05 Nos		
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-1 (f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the		<i>12 months from date of signing of contract</i>	01 Nos		

	cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction					
S-1(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		12 months from date of signing of contract	05 Nos		
S-2.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge (ARG)					
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications		12 months from date of signing of contract	40 Nos		
S-2(b)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		12 months from date of signing of contract	40 Nos		
S-2(c)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		12 months from date of signing of contract	40 Nos		
S-2(d)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		12 months from date of signing of contract	40 Nos		
S-2(e)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		12 months from date of signing of contract	40 Nos		
S-2(f)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		12 months from date of signing of contract	40 Nos		
S-2 (g)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction		12 months from date of signing of contract	16 Nos		
S-2(h)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for		12 months from date of signing of contract	40 Nos		

	external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.					
S-3	Automated Weather station (AWS)					
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.		<i>12 months from date of signing of contract</i>	01 Nos		
S-3(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	05 Nos		
S-3(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for		<i>12 months from date of signing of contract</i>	05 Nos		

	cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications					
S-3(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	05 Nos		
S-4	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations					
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>12 months from date of signing of contract</i>			
S-5	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser.		Continuous activity for five years after successful commissioning and final acceptance certificate of RTDAS	01 Lot		

	Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.					
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser		Continuous activity <i>for two years</i> after five years <i>O&M and</i> warranty period	Year 1 after expiry of O&M and warranty period of 5 years		
				Year 2 after expiry of O&M and warranty period of 5 years		
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.		Continuous activity	8 trainings		
			Total D			
			GST			
			Total Price			
			Total Bid Price (A+B+C+D) Rs			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-VII -- Tripura

3. Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported (inclusive of 5years onsite warranty)

(Group C bids, goods to be imported) Currencies in accordance with ITB 15						Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1.	Automatic Rain Gauge (ARG) Station							
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	11 Nos				
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	11 Nos				
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	11 Nos				
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	11 Nos				
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	11 Nos				
1 (F)	Solar panel with all connectors cables and conduit as per technical specifications		<i>6 months from date of signing of contract</i>	11 Nos				

1 (g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	11 Nos				
1 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	11 Nos				
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	11 Nos				
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station							
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	07 Nos				
2 (b)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	04 Nos				
2 (c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	11 Nos				
2 (d)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	11 Nos				
2 (e)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	11 Nos				
2 (f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	11 Nos				
2(g)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	11 Nos				

2(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	11 Nos				
2 (i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	11 Nos				
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	11 Nos				
3.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations							
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		6 months from date of signing of contract	1 Nos.				
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		6 months from date of signing of contract	1 Nos.				
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		6 months from date of signing of contract	1 Nos.				
3(d)	42" LED Display System as per technical specifications		6 months from date of signing of contract	1 Nos.				
3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		6 months from date of signing of contract	1 Nos.				
3(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		6 months from date of signing of contract	1 Nos.				
							Total Price (A)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Lot-VII -- Tripura

4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported* (inclusive of 5years onsite warranty)

(Group C bids, Goods already imported) Currencies in accordance with ITB 15										Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____	
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii), [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	GST and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
1.	Automatic Rain Gauge (ARG) Station										
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>6 months from date of signing of contract</i>	11 Nos							
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	11 Nos							
1(c)	INSAT transmitter with all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	11 Nos							
1(d)	Satellite Antenna with accessories cable etc as per technical specifications		<i>6 months from date of signing of contract</i>	11 Nos							
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		<i>6 months from date of signing of contract</i>	11 Nos							

1 (F)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	11 Nos							
1 (g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	11 Nos							
1 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	11 Nos							
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	11 Nos							
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station										
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	07 Nos							
2 (b)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		6 months from date of signing of contract	04 Nos							
2 (c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.		6 months from date of signing of contract	11 Nos							
2 (d)	INSAT transmitter with all accessories as per technical specifications.		6 months from date of signing of contract	11 Nos							
2 (e)	Satellite Antenna with accessories cable etc as per technical specifications		6 months from date of signing of contract	11 Nos							
2 (f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.		6 months from date of signing of contract	11 Nos							

2(g)	Solar panel with all connectors cables and conduit as per technical specifications		6 months from date of signing of contract	11 Nos							
2(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		6 months from date of signing of contract	11 Nos							
2 (i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications		6 months from date of signing of contract	11 Nos							
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications		6 months from date of signing of contract	11 Nos							
3.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations										
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(d)	42" LED Display System as per technical specifications		6 months from date of signing of contract	1 Nos.							
3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		6 months from date of signing of contract	1 Nos.							

3(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>6 months from date of signing of contract</i>	1 Nos.							
										Total Bid Price (B)	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-VII -- Tripura

5. Price Schedule: Goods Manufactured in the Purchaser's Country (inclusive of 5years onsite warranty)

Purchaser's Country _____				(Group A and B bids) Currencies in accordance with ITB 15			Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____		
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item [including Excise Duty if any] (Col. 4×5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	GST and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
1. Automatic Rain Gauge (ARG) Station									
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	<i>6 months from date of signing of contract</i>	11 Nos						
1(b)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	11 Nos						
1(c)	INSAT transmitter with all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	11 Nos						
1(d)	Satellite Antenna with accessories cable etc as per technical specifications	<i>6 months from date of signing of contract</i>	11 Nos						
1(e)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	<i>6 months from date of signing of contract</i>	11 Nos						

1 (F)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	11 Nos						
1 (g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	11 Nos						
1 (h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	11 Nos						
1 (i)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	11 Nos						
2. Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station									
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	07 Nos						
2 (b)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	6 months from date of signing of contract	04 Nos						
2 (c)	Data Logger with 2 AI sensor input type with all accessories as per technical specifications.	6 months from date of signing of contract	11 Nos						
2 (d)	INSAT transmitter with all accessories as per technical specifications.	6 months from date of signing of contract	11 Nos						
2 (e)	Satellite Antenna with accessories cable etc as per technical specifications	6 months from date of signing of contract	11 Nos						

2 (f)	GSM & GPRS modem with antenna and all accessories as per technical specifications.	6 months from date of signing of contract	11 Nos						
2(g)	Solar panel with all connectors cables and conduit as per technical specifications	6 months from date of signing of contract	11 Nos						
2(h)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	6 months from date of signing of contract	11 Nos						
2 (i)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking facility and other fitting and fixtures complete as per technical specifications	6 months from date of signing of contract	11 Nos						
2 (j)	Other ancillary equipment, fittings required for mounting, earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor complete as per technical specifications	6 months from date of signing of contract	11 Nos						
3. Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations									
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	6 months from date of signing of contract	1 Nos.						
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	6 months from date of signing of contract	1 Nos.						
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	6 months from date of signing of contract	1 Nos.						
3(d)	42" LED Display System as per technical specifications	6 months from date of signing of contract	1 Nos.						

3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	6 months from date of signing of contract	1 Nos.						
3(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	6 months from date of signing of contract	1 Nos.						
								Total Price [C]	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Lot-VII -- Tripura

6. PRICE and Completion Schedule - Related Services

Currencies in accordance with ITB 15				Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____		
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
S-1.	Automatic Rain Gauge (ARG) Station					
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	11 Nos		
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
S-1(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	11 Nos		

S-2.	Automatic Water Level Recorder (AWLR) - Radar type					
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	07 Nos		
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications		<i>12 months from date of signing of contract</i>	04 Nos		
S-2(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.		<i>12 months from date of signing of contract</i>	11 Nos		
S-2(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
S-2(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
S-2(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications		<i>12 months from date of signing of contract</i>	11 Nos		
S-2 (f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction		<i>12 months from date of signing of contract</i>	02 No.		
S-2(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.		<i>12 months from date of signing of contract</i>	11 Nos		
S-3.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations					
S-3(a)	Installation testing & Commissioning of Server along with		<i>12 months from date</i>	1 Nos.		

	server rack, Monitor and 3 KVA online UPS as per technical specifications		<i>of signing of contract</i>			
S-3(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-3(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.		<i>12 months from date of signing of contract</i>	1 Nos.		
S-4.	<p>Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser.</p> <p>Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.</p>		Continuous activity for five years after successful commissioning and final acceptance certificate of RTDAS	01 Lot		
S-5.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost		Continuous activity <i>for two years</i> after five years <i>O&M and</i> warranty period	Year 1 after expiry of O&M and warranty period of 5 years		
				Year 2 after expiry of O&M		

	of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser			and warranty period of 5 years		
S-6.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.		Continuous activity	8 trainings		
			Total D			
			GST			
			Total Price			
			Total Bid Price (A+B+C+D) Rs			

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

4. BID SECURITY FORM

From: (Bidder)

.....
.....
.....

To:

Executive Engineer,
Middle Brahmaputra Division,
Central Water Commission,
Government of India,
Adabari, Guwahati, Assam, India

Sir,

1. We have deposited Bid security of Rs..... (Rupees
..... only)
(a) Through debit to our credit card No..... issued by valid up
to.....;
(b) Direct debit to our current/savings Account No. in Bank
.....Branch on.....;
(c) Over the counter payment to central pooling account of Government of Karnataka,
the details of which are as follows:
(i) Axis Bank (Name of the branch)
(ii) Method of remittance and its details

OR

- (d) We have deposited Bid Security for an amount of Rs..... in the form of a
certified cheque, demand draft, letter of credit or a bank guarantee from a
Nationalized/Scheduled Bank in India the details of which are as follows:
(i) BG/CC/DD Number and date:
(ii) Name & Branch of issuing Bank

We agree that the Bid Security deposited by us as detailed above, may be forfeited by the
Purchaser in accordance to ITB Clause 21.11

Signature and Name of Bidder

Date:

Note: To be completed and submitted / uploaded as a part of the Bid.

5. Form of Bid Security

(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated. Insert Bank's Name, and Address of Issuing Branch or Office]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Purchaser to insert its name and address]*

IFB No.: *[Purchaser to insert reference number for the Invitation for Bids]*

Alternative No.: *[Insert identification No if this is a Bid for an alternative]*

Date:*[Insert date of issue]*

BID GUARANTEE No.:*[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of _____ *[insert name of Contract]* under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *[insert amount in figures expressed in the currency of the Purchaser's Country or the equivalent amount in an international freely convertible currency]*, (_____ *[insert amount in words]*) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the bidding process; or (ii) forty-five days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Note:

- (i) *The Bid Security of a JV must define as "bidder" all JV members and list them in the following manner:*

'a joint venture consisting of ".....", ".....", ".....".

- (ii) *If the institution issuing the security is located outside the Purchaser's country, it shall have a correspondent financial institution located in the purchaser's country, to make it enforceable.*

6. Manufacturer's Authorization

[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. The Bidder shall include it in its bid, if so indicated in the BDS.]

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

IFB No.: *[insert reference number of the Invitation for Bids]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name 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 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

We as a manufacturer of *[insert type of goods manufactured]* confirm to provide the spare & service support for a minimum period of 10 years after commissioning

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]*

7. Declaration Regarding Tax/Duty Exemption for Materials

(Name of the Project)

Bid No.

Description of item to be supplied

(Information for issue of certificate for claiming Tax/Duty exemption. Government Order/
Circular Number under which tax/duty Exemption is being sought:)

(Bidder's Name and Address):

**To
(Name of Purchaser)**

.....

Dear Sir:

1. We confirm that we are solely responsible for obtaining tax/duty benefit which we have considered in our bid and in case of failure to receive such benefits for reasons whatsoever, the Purchaser will not compensate us.
2. We are furnishing below the information required by the Purchaser for issue of necessary certificate in terms of the Government of India's relevant Notifications.

(A)	(i)	Value of import content of supply to be made by the Bidder: (Breakup of list of items to be imported with value attached)	* Rs. _____ (exchange rate on US\$ = Rs. _____)
(B)	(i)	Name of the sub-contractor, if any, and whose name is to be included in the main Contract:	_____ _____
	(ii)	Description, quantity and value of the goods to be supplied by the above sub-contractor:	Description _____ Quantity _____ Value (Rs.) _____
	(iii)	Value of import content of supply to be made by the sub-contractor: (Breakup of list of items to be imported with value attached.)	Rs. _____ (exchange rate on US\$ = Rs. _____)

*(The requirements listed above are as per
Current notifications. These may be modified,
as necessary, in terms of the rules in force)*

(Signature) _____

(Printed Name) _____

(Designation) _____

(Common Seal) _____

** Please attach details item-wise with cost, if there are more than one items.*

8. Performa FOR PERFORMANCE Statement

[Please see ITB Clause 36.2 and Section III-
Evaluation and Qualification Criteria]

Proforma for Performance Statement (for a period of last three/five years)

Bid No. _____ Date of opening _____ Time _____ Hours

Name of the Firm _____

<u>Order placed by (full address of Purchaser)</u>	<u>Order No. and date</u>	<u>Description and quantity of ordered equipment</u>	<u>Value of order</u>	<u>Date of completion of delivery</u>		<u>Remarks indicating reasons for late delivery, if any</u>	<u>Has the equipment been satisfactorily functioning? (Attach a certificate from the Purchaser/Consignee)</u>
				As per contract	Actual		
1	2	3	4	5	6	7	8

Signature and seal of the Bidder _____

9. Breakup of EXW price as required for determining eligibility for Domestic preference

EXW Price.....

Serial No	Item	Cost
1	Local labor	
2	Cost of Raw materials procured from within India (list attached)	
3	Cost of Components from within India(list attached)	
4	Total	
5	Cost of labor, raw materials, and components form within India as a percentage of the EXW Price	

Attach detailed list of (a) raw materials, and (b) components from within India indicating cost of each

Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Non-Consulting Services in Bank-Financed Procurement

In reference to ITB 4.7 and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7(a) and 5.1: None

Under ITB 4.7(b) and 5.1: None

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011.

“Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.² In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;³
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;⁴
 - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;⁵
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;⁶
 - (v) "obstructive practice" is:
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to

² In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

³ For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

⁴ For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

⁵ For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

⁶ For the purpose of this sub-paragraph, “*party*” refers to a participant in the procurement process or contract execution.

investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

- (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,⁷ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated⁸;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

⁷ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

⁸ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

PART 2 – Supply Requirements

Section VII. Schedule of Requirements

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1. List of Goods and Delivery Schedule & Related Services and Completion Schedule

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LOT-I -- NAGALAND

A. List of Goods and Delivery Schedule

Line Item N°	Description of Goods	Quant ity	Physic al unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1.	Automatic Rain Gauge (ARG) Station						
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	9	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	9	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(c)	Solar panel with all connectors cables and conduit as per technical specifications	9	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	9	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	9	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
2.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge RTDAS Station						
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	11	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	

	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	11	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	32	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(c)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	32	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(d)	Solar panel with all connectors cables and conduit as per technical specifications	32	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(e)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	32	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(f)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	32	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3	Automated Weather station (AWS)						
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(b)	Air Temperature & Relative Humidity sensor,	06	Nos	<i>At respective Locations</i>	<i>2 months from</i>	<i>6 months from</i>	

	cable with Radiation shield, Equipment set necessary hardware as per technical specifications			<i>as decided by engineer in-charge/as per list of locations</i>	<i>date of signing of contract</i>	<i>date of signing of contract</i>	
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	02	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(g)	Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(h)	Solar panel with all connectors cables and conduit as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, 10meter tower with guy rope to mount DCP,	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

	sensor mount complete as per technical specifications						
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations						
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(d)	42" LED Display System as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

Lot-I -- Nagaland**B. List of Related Services [ITB Clause 14.8(b)] and Completion Schedule**

Service	Description of Service	Quantity¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
S-1.	Automatic Rain Gauge (ARG) Station				
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	9	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	9	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	9	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	9	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	9	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	9	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge RTDAS Station				
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(b)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	32	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(c)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	32	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(d)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	32	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(e)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	32	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(f)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	32	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	32	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3	Automated Weather station (AWS)				
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.	02	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(h)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations				

S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-5.	<p>Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser.</p> <p>Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.</p>	01	Lot		5years after successful commissioning and final acceptance certificate of RTDAS

S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser	1	Year		Year 1 after expiry of O & M and warranty period of 5 years
		1	Year		Year 2 after expiry of O & M and warranty period of 5 years and first year of AMC
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.	8	Nos		Continuous activity

LOT-II -- MANIPUR

A. LIST OF GOODS AND DELIVERY SCHEDULE

Line Item N°	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1.	Automatic Rain Gauge (ARG) Station						
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	12	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	12	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(c)	Solar panel with all connectors cables and conduit as per technical specifications	12	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	12	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	12	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station						
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per	11	Nos	At respective Locations as decided by engineer in-charge/as per list of	2 months from date of signing of contract	6 months from date of signing of contract	

	technical specifications			<i>locations</i>			
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	17	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(c)	Solar panel with all connectors cables and conduit as per technical specifications	17	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	17	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	17	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3	Automated Weather station (AWS)						
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	02	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(g)	Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(h)	Solar panel with all connectors cables and conduit as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	06	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations						
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer</i>	<i>2 months from date of signing</i>	<i>6 months from date of signing</i>	

				<i>in-charge/as per list of locations</i>	<i>of contract</i>	<i>of contract</i>	
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(d)	42" LED Display System as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

LOT-II-- MANIPUR**B. LIST OF RELATED SERVICES [ITB CLAUSE 14.8(B)] AND COMPLETION SCHEDULE**

Service	Description of Service	Quantity ₁	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
S-1.	Automatic Rain Gauge (ARG) Station				
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	12	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	12	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	12	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	12	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	12	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	12	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station				
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range	06	Nos	North Eastern region as per table in Schedule of	12 months from date of signing of

	with all necessary hardware as per technical specifications			Requirement.	<i>contract</i>
S-2(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	17	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	17	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	17	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	17	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2 (f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	17	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3	Automated Weather station (AWS)				
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and	06	Nos	North Eastern region as	<i>12 months from</i>

	cable set necessary hardware as per technical specifications			per table in Schedule of Requirement.	<i>date of signing of contract</i>
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.	02	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
4	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations				
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.	01	Lot		5years after successful commissioning and final acceptance certificate of RTDAS
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser	1	Year		Year 1 after expiry of O & M and warranty period of 5 years
		1	Year		Year 2 after expiry of O & M and warranty period of 5 years and first year of AMC
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger	8	Nos		Continuous activity

	configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.				
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LOT-III -- MEGHALAYA

A. LIST OF GOODS AND DELIVERY SCHEDULE

Line Item N°	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge RTDAS Station						
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	10	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	14	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	1	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	25	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(c)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	25	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(d)	Solar panel with all connectors cables and conduit as per technical specifications	25	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(e)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	25	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	

1(f)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightning arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	25	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2	Automated Weather station (AWS)						
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(g)	Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

2(h)	Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations						
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(d)	42" LED Display System as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

3(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
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LOT-III -- MEGHALAYA**B. LIST OF RELATED SERVICES [ITB CLAUSE 14.8(B)] AND COMPLETION SCHEDULE**

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
S-1.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge RTDAS Station				
S-1(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	14	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(b)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	25	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(c)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	25	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(d)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	25	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(e)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	25	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(f)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	25	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1 (g)	Installation of Triangular Tower (10m/7m) height with foundation	07	Nos	North Eastern region as	<i>12 months from</i>

	block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction			per table in Schedule of Requirement.	<i>date of signing of contract</i>
S-1(h)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	25	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2	Automated Weather station (AWS)				
S-2(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-2(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations				
S-2(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in	01	Lot		5years after successful

	<p>Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser.</p> <p>Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.</p>				commissioning and final acceptance certificate of RTDAS
S-5.	<p>Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser</p>	1	Year		Year 1 after expiry of O & M and warranty period of 5 years
		1	Year		Year 2 after expiry of O & M and warranty period of 5 years and first year of AMC
S-6.	<p>Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.</p>	8	Nos		Continuous activity

LOT-IV -- MIZORAM**A. LIST OF GOODS AND DELIVERY SCHEDULE**

Line Item N°	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1.	Automatic Rain Gauge (ARG) Station						
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	27	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	27	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(c)	Solar panel with all connectors cables and conduit as per technical specifications	27	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	27	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	27	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station						
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	01	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
	Automated Water Level Recorder (non-contact-	06	Nos	At respective Locations	2 months from	6 months from	

	RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications			<i>as decided by engineer in-charge/as per list of locations</i>	<i>date of signing of contract</i>	<i>date of signing of contract</i>	
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	08	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 70m range with all necessary hardware as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	16	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(c)	Solar panel with all connectors cables and conduit as per technical specifications	16	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	16	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	16	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3	<u>Automated Weather station (AWS)</u>						
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set	10	Nos	<i>At respective Locations as decided by engineer</i>	<i>2 months from date of signing of</i>	<i>6 months from date of signing</i>	

	necessary hardware as per technical specifications			<i>in-charge/as per list of locations</i>	<i>contract</i>	<i>of contract</i>	
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(f)	Soil Moisture Sensor and necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(g)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	02	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(h)	Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(i)	Solar panel with all connectors cables and conduit as per technical specifications	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(j)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	10	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(k)	NEMA4X or Equivalent Enclosure box to suit	10	Nos	<i>At respective Locations</i>	<i>2 months from</i>	<i>6 months from</i>	

	master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications			<i>as decided by engineer in-charge/as per list of locations</i>	<i>date of signing of contract</i>	<i>date of signing of contract</i>	
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations						
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(d)	42" LED Display System as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

LOT-IV -- MIZORAM**B. LIST OF RELATED SERVICES [ITB CLAUSE 14.8(B)] AND COMPLETION SCHEDULE**

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
S-1.	Automatic Rain Gauge (ARG) Station				
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	27	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	27	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	27	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	27	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	27	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	27	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station				
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having	06	Nos	North Eastern region as per table in Schedule of	12 months from date of signing of

	20m range with all necessary hardware as per technical specifications			Requirement.	<i>contract</i>
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	08	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 70m range with all necessary hardware as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	16	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	16	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	16	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	16	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	06	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3	Automated Weather station (AWS)				
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical	10	Nos	North Eastern region as per table in Schedule of	<i>12 months from date of signing of</i>

	specifications			Requirement.	contract
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(f)	Installation testing & Commissioning of Soil Moisture Sensor and necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(g)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.	02	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(h)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	10	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(i)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(j)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S- 3(k)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	10	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(l)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	10	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
4	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations				

S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.	01	Lot		5years after successful commissioning and final acceptance certificate of RTDAS
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data	1	Year		Year 1 after expiry of O & M and warranty period of 5 years

	Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser				
		1	Year		Year 2 after expiry of O & M and warranty period of 5 years and first year of AMC
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.	8	Nos		Continuous activity

LOT-V -- SIKKIM**A. LIST OF GOODS AND DELIVERY SCHEDULE**

Line Item N°	Description of Goods	Quant ity	Physic al unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder’s offered Delivery date [to be provided by the bidder]
1.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station						
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15 m range with all necessary hardware as per technical specifications	01	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20 m range with all necessary hardware as per technical specifications	07	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35 m range with all necessary hardware as per technical specifications	05	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	13	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(c)	Solar panel with all connectors cables and conduit as per technical specifications	13	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	13	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthling, lightening arrestor with all connectors, cables and conduit for cables,	13	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	

	mast to mount DCP, sensor mount complete as per technical specifications						
2	Automated Weather station (AWS)						
2(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(g)	Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(h)	Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

2(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3	Snow Pillow (Snow-water Equivalent (SWE)) Stations						
3(a)	Automated Snow Pillow station complete with fittings, Equipment set necessary hardware as per technical specifications	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(b)	Snow precipitation (liquid and solid) sensor with Antifreeze solution, cable Equipment set necessary hardware as per technical specifications	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(c)	Snow Depth sensor and cable set necessary hardware as per technical specifications	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(d)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(e)	Data Logger with 8 AI sensor input (snow bound) type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(f)	Solar panel with all connectors cables and conduit as per technical specifications	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

3(g)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(h)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, 7-meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	03	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations						
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(d)	42" LED Display System as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

LOT-V -- SIKKIM

B. LIST OF RELATED SERVICES [ITB CLAUSE 14.8(B)] AND COMPLETION SCHEDULE

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
S-1.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station				
S-1(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15 m range with all necessary hardware as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20 m range with all necessary hardware as per technical specifications	07	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35 m range with all necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	13	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	13	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	13	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	13	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1 (f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction	06	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-1(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	13	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2	<u>Automated Weather station (AWS)</u>				
S-2(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-2(g)	Installation testing & Commissioning of Data Logger with 8 AI	05	Nos	North Eastern region as	12 months from

	sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.			per table in Schedule of Requirement.	<i>date of signing of contract</i>
S-2(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
3	Snow Pillow (Snow-water Equivalent(SWE))Stations				
S-3(a)	Installation testing & Commissioning of Automated Snow Pillow station complete with fittings, Equipment set necessary hardware as per technical specifications	03	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(b)	Installation testing & Commissioning of Snow precipitation (liquid and solid) sensor with Antifreeze solution, cable Equipment set necessary hardware as per technical specifications	03	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(c)	Installation testing & Commissioning of Snow Depth sensor and cable set necessary hardware as per technical specifications	03	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(d)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	03	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(e)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as	03	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

	per technical specifications.				
S-3(f)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	03	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(g)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	03	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(h)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	03	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4.	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations				
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in	01	Lot		5years after successful

	<p>Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser.</p> <p>Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.</p>				commissioning and final acceptance certificate of RTDAS
S-6.	<p>Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser</p>	1	Year		Year 1 after expiry of O & M and warranty period of 5 years
		1	Year		Year 2 after expiry of O & M and warranty period of 5 years and first year of AMC
S-7.	<p>Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.</p>	8	Nos		Continuous activity

LOT-VI -- ARUNACHAL PRADESH
A. LIST OF GOODS AND DELIVERY SCHEDULE

Line Item N°	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station						
1(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	05	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	05	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(c)	Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	05	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
2.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge RTDAS Station						
2 (a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having	40	Nos	At respective Locations as decided by engineer	2 months from date of signing of	6 months from date of signing	

	35m range with all necessary hardware as per technical specifications			<i>in-charge/as per list of locations</i>	<i>contract</i>	<i>of contract</i>	
2(b)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	40	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(c)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	40	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(d)	Solar panel with all connectors cables and conduit as per technical specifications	40	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(e)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	40	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(f)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	40	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3.	Automated Weather station (AWS)						
3(a)	Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(b)	Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(c)	Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

				<i>locations</i>			
3(d)	Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(e)	Solar Radiation sensor and cable set necessary hardware as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(f)	Automated Pan Evaporimeter equipment set with necessary hardware as per technical specification which is to be integrated with Automatic Weather Station sensor and cable set necessary hardware as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(g)	Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(h)	Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(i)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(j)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	05	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4.	Set of Data Center Equipment at State Data Center to collect and store the data received from proposed remote RTDAS Stations						
4(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer</i>	<i>2 months from date of signing of</i>	<i>6 months from date of signing</i>	

				<i>in-charge/as per list of locations</i>	<i>contract</i>	<i>of contract</i>	
4(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(d)	42" LED Display System as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
4(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

LOT-VI -- ARUNACHAL PRADESH**B. LIST OF RELATED SERVICES [ITB CLAUSE 14.8(B)] AND COMPLETION SCHEDULE**

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
S-1.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station				
S-1(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1 (f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-2.	Automatic Water Level Recorder (AWLR) - Radar type + Automatic Rain Gauge RTDAS Station				
S-2 (a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	40	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(b)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	40	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(c)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	40	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(d)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	40	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(e)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	40	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(f)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	40	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(g)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction	16	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(h)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	40	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3	Automated Weather station (AWS)				
S-3(a)	Installation testing & Commissioning of Automated Tipping bucket Rain Gauge sensor Equipment set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-3(b)	Installation testing & Commissioning of Air Temperature & Relative Humidity sensor, cable with Radiation shield, Equipment set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(c)	Installation testing & Commissioning of Wind speed & wind direction sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(d)	Installation testing & Commissioning of Atmospheric Pressure sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(e)	Installation testing & Commissioning of Solar Radiation sensor and cable set necessary hardware as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(f)	Installation testing & Commissioning of Automated Pan Evaporimeter set with necessary hardware as per technical specifications which is to be integrated with Automatic Weather Station.	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(g)	Installation testing & Commissioning of Data Logger with 8 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(h)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(i)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(j)	Installation, Testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, Installation of 10meter tower with guy rope to mount DCP, sensor mount complete as per technical specifications	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(k)	Installation of Chain-Link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	05	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

4	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations				
S-4(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-5.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.	01	Lot		5years after successful commissioning and final acceptance certificate of RTDAS
S-6.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with	1	Year		Year 1 after expiry of O & M

	Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser				and warranty period of 5 years
		1	Year		Year 2 after expiry of O & M and warranty period of 5 years and first year of AMC
S-7.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.	8	Nos		Continuous activity

LOT-VII -- TRIPURA

A. LIST OF GOODS AND DELIVERY SCHEDULE

Line Item N°	Description of Goods	Quantity	Physical unit	Final (Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1.	Automatic Rain Gauge (ARG) Station						
1(a)	Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	11	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	11	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(c)	Solar panel with all connectors cables and conduit as per technical specifications	11	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	11	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
1(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	11	Nos	At respective Locations as decided by engineer in-charge/as per list of locations	2 months from date of signing of contract	6 months from date of signing of contract	
2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station						
2(a)	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 15m range with all necessary hardware as per	07	Nos	At respective Locations as decided by engineer in-charge/as per list of	2 months from date of signing of contract	6 months from date of signing of contract	

	technical specifications			<i>locations</i>			
	Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 20m range with all necessary hardware as per technical specifications	04	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(b)	Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	11	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(c)	Solar panel with all connectors cables and conduit as per technical specifications	11	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(d)	Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	11	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
2(e)	NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	11	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations						
3(a)	Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(b)	IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(c)	Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

				<i>locations</i>			
3(d)	42" LED Display System as per technical specifications	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(e)	High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	
3(f)	GSM & GPRS data receiving system with all ancillary equipment.as per technical specifications.	01	Nos	<i>At respective Locations as decided by engineer in-charge/as per list of locations</i>	<i>2 months from date of signing of contract</i>	<i>6 months from date of signing of contract</i>	

LOT-VII -- TRIPURA**B. LIST OF RELATED SERVICES [ITB CLAUSE 14.8(B)] AND COMPLETION SCHEDULE**

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
S-1.	Automatic Rain Gauge (ARG) Station				
S-1(a)	Installation testing & Commissioning of Automated Rainfall Stations (ARG) Equipment set necessary hardware as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-1(f)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2.	Automatic Water Level Recorder (AWLR) - Radar type RTDAS Station				
S-2(a)	Installation testing & Commissioning of Automated Water Level Recorder (non-contact-RADAR) for River/ Canals/ Reservoirs having 35m range with all necessary hardware as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-2(b)	Installation testing & Commissioning of Data Logger with 2 AI sensor input type, with INSAT, GSM & GPRS based telemetry, Antenna including all necessary equipment for data transmission as per technical specifications.	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(c)	Installation testing & Commissioning of Solar panel with all connectors cables and conduit as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(d)	Installation testing & Commissioning of Battery, charger regulator with all interconnecting connectors, cables for DCP as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(e)	Installation testing & Commissioning of NEMA4X or Equivalent Enclosure box to suit master unit equipment with locking, other ancillary equipment, fittings earthing, lightening arrestor with all connectors, cables and conduit for cables, mast to mount DCP, sensor mount complete as per technical specifications	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2 (f)	Installation of Triangular Tower (10m/7m) height with foundation block including a suitable cantilever arm for mounting of Radar Type Water Level Sensor. Length of the cantilever should be decided by as per site condition so that the radar beam should not interfere any obstruction	02	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-2(g)	Installation of Chain-link Fencing (as per site condition) along with lockable gates as per technical specifications for external protection of Sensors and DCP at RTDAS stations as mentioned in Schedule of Requirements.	11	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3	Set of Data Center Equipment at State Data Center (SDC) to collect and store the data received from proposed remote RTDAS Stations				
S-3(a)	Installation testing & Commissioning of Server along with server rack, Monitor and 3 KVA online UPS as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(b)	Installation testing & Commissioning of IT Hardware which includes required Static IP, Router, Switches, firewall system and A3 Size color printer as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>
S-3(c)	Installation testing & Commissioning of Computer Node (Workstation) along with Monitor and necessary accessories as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	<i>12 months from date of signing of contract</i>

S-3(d)	Installation testing & Commissioning of 42" LED Display System as per technical specifications	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(e)	Installation testing & Commissioning of High speed synchronous internet connection (min. 8 mbps upload and 8 mbps download) for five years.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-3(f)	Installation testing & Commissioning of GSM & GPRS data receiving system with all ancillary equipment as per technical specifications.	01	Nos	North Eastern region as per table in Schedule of Requirement.	12 months from date of signing of contract
S-4.	Operation & Maintenance during Five Years Comprehensive Warranty for entire RTDAS with Telemetry system as specified in Schedule of Requirement along with accessories, installed at designated locations specified under this contract and Data Center equipments after final acceptance of RTDAS systems. This includes replacement of material/ goods & consumable as & when required at bidders cost. The cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser. Minimum One Service Engineer shall be placed at State Data Center for Operation of RTDAS system with Telemetry for entire warranty period of 5 years.	01	Lot		5years after successful commissioning and final acceptance certificate of RTDAS
S-5.	Operation & maintenance during Comprehensive AMC after completion of Warranty period for entire RTDAS system with Telemetry as per schedule of Requirement along with all accessories, installed at designated locations specified under this contract and Data Center equipments after completion of 5 years warranty period. This includes the cost of Communication for GSM & GPRS telemetry for data transmission shall be borne by bidder. The license fee as applicable for DOT for INSAT transmission shall be borne by purchaser	1	Year		Year 1 after expiry of O & M and warranty period of 5 years
		1	Year		Year 2 after expiry of O & M and warranty period of 5 years and first year of AMC
S-6.	Training of the purchaser's personnel at the supplier's plant and/or/onsite in assembly, startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data	8	Nos		Continuous activity

	retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies as per technical specification.				
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Consignees are:

Lot No.	State	Name of Consignees	Address of Consignees
1	Nagaland	Chief Engineer Irrigation & Flood Control Department	Chief Engineer, irrigation & Flood Control Department, Nagaland Below Civil Sectt., Kohima-797001
2	Manipur	Chief Engineer (Nodal Officer), Water resources Department, Manipur	Office of the Chief Engineer, water Resources Department, Khuyathong, Imphal West, Manipur
3	Meghalaya	Chief Engineer, Water Resources Department, Meghalaya	Cleve Colony, Shillong - 793003,
4	Mizoram	Chief Engineer, Irrigation & Water Resources Department	New Secretariat, Capital Complex, Aizwal, Mizoram
5	Sikkim	Assistant Engineer Hydrology	SPMU Office, National Hydrology Project, Water Resources & River Development Deptt, Sokeythang .East Sikkim- 737102
6	Arunachal Pradesh	Executive Engineer, North Eastern Inv. Div.-III, CWC	P B.No.-144, Village-Chimpu, Itanagar - 791 111, Arunachal Pradesh
7	Tripura	Chief Engineer. (Nodal Officer) PWD (WR),Govt of Tripura	Chief Engineer, PWD(WR), Kunjaban. Agartala, West Tripura

**Details of Hydro-meteorological Equipments to be installed in
North Eastern States of India**

Lot-1 (Nagaland)

A. Automatic Raingauge Stations

Sl. No.	Name of the Station	Location	Latitude	Longitude
1	New HeadQtr Peren Stn	DC complex	25.522372	93.725528
2	EE, IFC Office Stn	Mokokchung	26.321477	94.512154
3	EE, IFC Office Stn	DC Complex, Mon	26.721308	95.029583
4	EE, IFC Office Stn	Zunheboto	26.014122	94.524169
5	EE, IFC Office Stn	Longleng Town	26.492114	94.806962
6	EE, IFC Office Stn	Kiphire Town	25.883000	94.786455
7	EE, IFC Office Stn	DC Complex Tuensang	26.234383	94.813072
8	EE, IFC Office Stn	Circuit House Phek	25.704892	94.462357
9	EE, IFC Office Stn	Bus Stand, Wokha	26.101645	94.257948

B. AWLR Stations +Automatic Raingauge Stations

1	Dzuza G & D Stn	Niland Bridge, Hozukhe,	25.905471	93.967834
2	Chathe G & D Stn	Patkai Bridge, Chumukedima	25.796432	93.801103
3	Khova G & D Stn	Chumu-Shokhuvi Bridge	25.781004	93.727168
4	Langlong G & D Stn	Dhansiripar Bridge, Kiyeto	25.807641	93.637819
5	Dhansiri G & D Stn	New Bridge, Dimapur Town	25.912669	93.743323
6	Mangleu G & D Stn	Jalukie-A Bridge	25.605742	93.686976
7	Tapi G & D Stn	Mon-Aboi Bridge	26.636877	94.980851
8	Lapa (Tizit) G & D Stn	Tizit Town-Village Bridge	26.922428	95.052625
9	Dikhu G & D Stn	Naganimora Town Bridge	26.793819	94.809128
10	Shingphang (Yongmon) G & D Stn	Yongmon-Aopao Bridge	26.553086	94.8907
11	Tsuong G & D Stn	Longnak Jn Bridge	26.468630	94.379393
12	Dikhu G & D Stn	Mokokchung- Chare Bridge	26.254458	94.529004
13	Luyong (Milak) G & D Stn	Tuli Town Bridge	26.668729	94.640021
14	Chubi G & D Stn	Aliba-New Mangmetong Bridge	26.361164	94.403139
15	Baghty G & D Stn	Baghty-Sanis Bridge	26.245805	94.198673
16	Nro G & D Stn	Hanku Bridge	25.993744	94.057601
17	Dzü-ü G & D Stn	Chakhabama Bridge	25.655356	94.186916
18	Seidzu G & D Stn	Runguzou Bridge	25.663516	94.218402
19	Nzhu G & D Stn	Remesenyu Bridge	25.931789	94.130355

20	Tizu G & D Stn	Meluri Akash Bridge	25.640336	94.585372
21	Tsusuru G & D Stn	Phek-Tsusu Bridge	25.756214	94.475431
22	Tizu G & D Stn	Zunheboto-Aghunato Bridge	26.038417	94.575508
23	Tita G & D Stn	Seyechong-Aghunato Bridge	25.969187	94.633826
24	Seidzu G & D Stn	Pughuboto-Ghathashi Bridge	25.874558	94.318955
25	Tape G & D Stn	Longmatra-Kiphire Bridge	25.842323	94.786864
26	Zungki G & D Stn	Yayi Bridge	26.033535	94.845559
27	Langnyu G & D Stn	Noklak-Pangsha Bridge	26.258194	95.084355
28	Mangleu G & D Stn	Doyapur-Beisumpuikam Bridge	25.699516	93.549638
29	Meguiki G & D Stn	Tenning-Ntuma Bridge	25.201694	93.599442
30	Tizu G & D Stn	New Longmatra-Likhimro Bridge	25.807148	94.776717
31	Tsurang G & D Stn	Longtho Bridge	26.503495	94.366088
32	Tiru G & D Stn	Tiru Village Bridge	26.865720	94.901719
C. AWS				
1	4 th Mile Meteorological Stn	EE, Invn Cell Office	25.869379	93.765090
2	Jalukie Meteorological Stn	SDO IFC Office,	25.653805	93.666494
3	Tizit Valley	SDO IFC Office, Tizit	26.904830	95.073891
4	Longnak Valley Meteorological Stn	Canning Factory, Longnak	26.445173	94.381511
5	Baghty Meteorological Stn	DAO Office, Baghty	26.249218	94.198967
6	New Capital Complex Kohima Stn	CE, Office(IFC)	25.707654	94.108494

Note: Actual site location may slightly vary from above, it will be decided in consultation with Engineer-in-charge during installation of RTDAS equipments.

Lot-2 (Manipur)**A. Automatic Raingauge Stations**

Sl. No.	Name of the Station	Location	Latitude	Longitude
1	MAO	All the instruments will be stationed in Govt. Institution campus or police stations.	25.507222	94.133333
2	KHUGA DAM		24.273333	93.677500
3	LITAN		24.941389	94.212500
4	TAMENLONG	Additional protective measures (wired fencing) are Required for all the sites	24.987778	93.495000
5	CHANDEL		24.326111	94.000000
6	KANGLATOMBI		24.966667	93.881111
7	LAMPHEL		24.812500	93.912500
8	THOUBAL		24.644167	93.998611
9	MOIRANG		24.500278	93.769722
10	SAIKUL		25.057500	94.029444
11	KAMJONG		24.856667	94.513333

B. AWLR Stations

1	DOLAITHABI BARRAGE	Additional protective measures are required for solar panel in all the sites.	24.988889	94.023889
2	U/S of KHUGA DAM		24.191111	93.650833
3	U/S OF ITHAI BARRAGE		24.433056	93.847778
4	KONGBA RIVER		24.784167	93.960000
5	IMPHAL RIVER		24.884167	93.918333
6	THOUBAL DAM		24.824167	94.141389
7	U/S OF IRIL RIVER		24.869722	94.019167
8	LILONG		24.720556	94.941111
9	SINGDA DAM		24.881944	93.805000
10	KANGPOKPI		25.152222	93.969722
11	ARONG RIVER		24.628056	94.011944
12	KOUPHUM DAM		24.666111	93.530556
13	BARAK RIVER		24.771389	93.360000
14	IRANG RIVER U/S BARAK CONFLUENCE		24.530278	93.213056
15	KHELAKHONG		24.604722	93.927222
16	CHAKPI RIVER		24.267222	93.970556
17	NAMBUL AT IMPHAL ENTRANCE		24.806667	93.933333

D. AWS

1	THOUBAL DAM	All the instruments will be stationed in Govt. Institution campus or police stations.	24.824722	94.142222
2	MOREH		24.251667	94.301111
3	SINGDA DAM		24.881944	93.805000
4	KANGKOKPI	Additional protective Measures (wired fencing) are Required for all the sites	25.152778	93.970000
5	KOUPHUM DAM		24.666111	93.530556
6	DOLAITHABI BARRAGE		25.007500	94.025833

Note: Actual site location may slightly vary from above, it will be decided in consultation with Engineer-in-charge during installation of RTDAS equipments.

Lot-3 (Meghalaya)**A. AWLR Stations + Automatic Raingauge Station**

Sl. No.	Name of the Station	Location	Latitude	Longitude
1	Umtynngar River	Wahumiew bridge, Laitlyngkot, East Khasi Hills District	25.46663889	91.84311111
2	Umngi River	Umngi Demthroin, East Khasi Hills District	25.39875000	91.55477778
3	Umiam River	Amdubighat-Amjong, PO Umsiang Ribhoi District	26.05793889	92.26417222
4	Khri River	Kyrshai, West Khasi Hills District	25.83018	91.343
5	Wahblei River	Riangna, West Khasi Hills District	25.43157222	90.98960000
6	Tyrsung River	Aradonga, West Khasi Hills District	25.83473917	91.17129861
7	Rilang River	12 Km from Mawkyrwat, headquarter of South West Khasi Hills District	25.39572	91.43631
8	Myntang River	Nartiang, West Jaintia Hills District	25.56510833	92.20935556
9	Umiurem River	Shangpung, West Jaintia Hills District	25.46958056	92.35854722
10	Myntdu River	Jowai, West Jaintia Hills District	25.43893333	92.21962778
11	Apha River	Pyrtakuna village, East Jaintia Hills District	25.07197	92.37913
12	Simsang River	Warima, Williamnagar, East Garo Hills District	25.49881	90.60206
13	Rongit Stream	Chijanggittim, Rongjeng, East Garo Hills District	25.65091	90.8088
14	Simsang River	Baghmara South Garo Hills District	25.21000000	90.63722222
15	Ganol River	Garobadha, South West Garo Hills District	25.57912778	90.01539722
16	Daru River	Ampati, South West Garo Hills District	25.46610833	89.94568333
17	Damring River	Resubelpira, North Garo Hills District	25.89846	90.61771
18	Manda River	Wageasi, North Garo Hills District	25.83651944	90.78261111
19	Didram River	Bajengdoba, North Garo Hills District	25.8969	90.50808
20	Ringgi River	Chibinang, Tikrikilla Block, West Garo Hills District	25.86253	90.08348
21	Diti River	Tikrikilla, Tikrikilla Block	25.95143	90.21518
22	Ajar River	Lashkarpara, Tikrikilla Block, West Garo Hills District	25.95219	90.23698
23	Galwang River	Haldibari, Selsella Block, West Garo Hills District	25.70735000	90.00415000
24	Bakla River	Kujikura, Dalu Block, West Garo Hills District	25.22794	90.21705
25	Bugai River	Rimrangpara, Dalu Block, West	25.31962	90.28767

		Garohills District		
B. AUTOMATIC WEATHER STATION				
1.	AWS in the office of BDO, Saipung Block	Saipung, East Jaintia Hills District (Kopili Dikisim Watershed)	25.34501944	92.61883611
2.	AWS in Horticulture farm, Fruit Garden	Fruit Garden, Shilong, East Khasi Hills District (Umiam Watershed)	25.56349444	91.8974
3.	AWS in the office of E.E(WR) Nongstoin	Nongstoin, West Khasi Hills District (Kynchiang Kynshi Watershed)	25.526815	91.280224
4.	AWS in the office of BDO, Gambegre Block	Damalgre, South West Garo Hills District (Ganol Watershed)	25.51935278	90.09525556
5.	AWS in the office of E.E.(WR) Resubelpara	Resubelpara, North Garo Hills District (Krishnai Watershed)	25.89798056	90.64217222

Note: Actual site location may slightly vary from above, it will be decided in consultation with Engineer-in-charge during installation of RTDAS equipments.

Lot-4 (Mizoram)**A. Automatic Raingauge Stations**

Sl. No.	Name of the Station	Location	Latitude	Longitude
1.	Buhchangphai	Kolasib	24°20'9.87"N	92°39'33.08"E
2.	North Hlimen	Kolasib	24°13'55.67"N	92°48'20.88"E
3.	Mualvum	Kolasib	24° 1'31.17"N	92°40'3.68"E
4.	Kawtethawveng	Mamit	23°52'9.44"N	92°22'27.20"E
5.	Tuipuibari	Mamit	23°42'32.58"N	92°19'37.37"E
6.	Phuldungsei	Mamit	23°28'40.77"N	92°25'11.30"E
7.	Tawipui South	Lunglei	22°40'7.97"N	92°51'2.00"E
8.	Haulawng	Lunglei	23° 2'59.40"N	92°46'18.50"E
9.	Thingsai	Lunglei	22°55'55.76"N	93° 4'57.36"E
10.	Bunghmun	Lunglei	23°10'58.07"N	92°29'7.50"E
11.	Lungsen	Lunglei	22°52'19.57"N	92°35'18.53"E
12.	Darlawn	Aizawl	24° 1'12.70"N	92°55'36.85"E
13.	Phullen	Aizawl	23°50'55.79"N	93° 2'35.59"E
14.	Saitual	Aizawl	23°42'0.12"N	92°57'56.12"E
15.	Aibawk	Aizawl	23°33'47.02"N	92°42'32.02"E
16.	Sialsuk	Aizawl	23°23'40.62"N	92°44'48.21"E
17.	Teikhang	Champhai	23°56'53.07"N	93°18'23.36"E
18.	Hnahlan	Champhai	23°41'56.99"N	93°22'53.15"E
19.	Khawhai	Champhai	23°22'51.13"N	93° 7'43.70"E
20.	Vaphai	Champhai	23° 8'38.51"N	93°19'42.23"E
21.	Chhingchhip	Serchhip	23°27'51.76"N	92°51'16.35"E
22.	North Vanlaiphai	Serchhip	23° 7'29.38"N	93° 3'21.80"E
23.	Vawmbuk	Lawngtlai	22°35'49.36"N	93° 4'42.04"E
24.	Vaseitlang	Lawngtlai	22°23'11.22"N	92°36'58.32"E
25.	Vathuampui	Lawngtlai	22°14'3.96"N	92°41'6.34"E
26.	Zawngling	Saiha	22°16'1.74"N	93° 2'41.88"E
27.	Lungpuk	Saiha	22° 4'16.18"N	92°54'40.63"E

B. AWLR Stations

1	Tuirini	Seling	23°40'55.89"N	92°53'8.63"E
2	Tuirial	Tuirial	23°43'7.46"N	92°47'58.29"E
3	Tlawng	Aizawl	23°48'12.67"N	92°37'41.77"E
4	Tuivawl	Aizawl	23°38'43.18"N	93° 1'58.10"E
5	Tuipui	Champhai	23°27'0.15"N	93°15'37.73"E
6	Chemlui	Kolasib	24°20'40.09"N	92°46'2.33"E
7	Tuichawng	Lawgtlai	22°37'7.41"N	92°38'47.24"E
8	Ngengpui	Lawgtlai	22°30'27.01"N	92°46'38.61"E

9	Phairuang	Lunglei	22°49'26.91"N	92°38'30.77"E
10	Marpara	Lunglei	23°15'57.59"N	92°25'27.74"E
11	De Lui, Putlungasih	Lunglei	22°56'58.59"N	92°36'42.31"E
12	Tut	Seling	23°46'13.73"N	92°31'16.71"E
13	Teirei	Darlak	23°54'23.53"N	92°25'10.08"E
14	Kawlchaw	Saiha	22°23'54.17"N	92°57'36.63"E
15	Tuichang	Serchhip	23°13'28.27"N	92°56'1.16"E
16	Mat	Serchhip	23°18'53.82"N	92°48'31.77"E
C.AWS				
1.	Chemphai (Agri.Farm)	Kolasib	24°20'1.53"N	92°44'35.68"E
2.	Zawlnuam(Irri. Complex)	Mamit	24° 8'2.04"N	92°20'12.95"E
3.	West Phaileng	Mamit	23°41'53.73"N	92°29'21.11"E
4.	Ngopa	Champhai	23°53'25.12"N	93°12'41.72"E
5.	Champhai (Irri. Complex)	Champhai	23°28'53.05"N	93°18'54.11"E
6.	Serchhip (Mat Zawl)	Serchhip	23°18'22.04"N	92°48'35.75"E
7.	Lunglei(Hrangchalkawn Irri. Complex)	Lunglei	22°51'6.28"N	92°47'48.36"E
8.	Kau Valley(Zawlpui)	Lunglei	23° 2'13.37"N	92°34'54.36"E
9.	Sangau	Lawngtlai	22°44'18.35"N	93° 2'59.02"E
10.	Phura(Palak Valley)	Saiha	22°13'55.52"N	92°54'35.10"E

Note: Actual site location may slightly vary from above, it will be decided in consultation with Engineer-in-charge during installation of RTDAS equipments.

Lot-5 (Sikkim)**A. AUTOMATIC WEATHER STATION WITH AUTOMATIC RAINGAUGE STATIONS**

Sl. No.	Name of the Station	Location	Latitude	Longitude
1.	Mining Area: Rangpo		27°10'54"N	88°30'50"E
2.	Dac, Mangan		27°29'54"N	88°32'09"E
3.	Gyalshing Dist HQ		27°17'20"N	88°14'44"E
4.	Namchi Dist HQ		27°10'02"N	88°21'59"E
5.	State WRI Data Centre, Sokeythang		27°19'28"N	88°36'09"E

B. AWLR STATIONS

1.	Teesta: Makha Bridge		27.321944	88.466944
2.	Teesta(tributary):Tung Bridge		27.549722	88.645
3.	Rangit:Legship Bridge		27.281111	88.276111
4.	Dikchu Khola Dam		27.400556	88.587222
5.	Between Rangpo Dam and Gati Power House		27.221972	88.689547
6.	After GATI Dam: Rongli Bridge		27.203333	88.698889
7.	Rongni Chu River Near 32 No. Bazaar		27.261661	88.556969
8.	Gangtok Water Supply:Reteychu		27.397778	88.666389
9.	Lagyep bridge near Ranipool		27.290461	88.595647
10.	Rorathang bridge		27.195564	88.608478
11.	Bridge to Manpari Basti		27.231389	88.491522
12.	Mamring bridge		27.177786	88.514475
13.	Akkar Bridge		27.133169	88.278911

C. SNOW PILLOW

1.	YUMTHANG: Forest Guest House		27°48'12"N	88°42'10"E
2.	Lachen: Dak Bungalow/Dzumsa House		27°43'51"N	88°33'00"E
3.	Sherathang:Trade Mart Area		27°23'08"N	88°48'28"E

Note: Actual site location may slightly vary from above, it will be decided in consultation with Engineer-in-charge during installation of RTDAS equipments.

Lot-6 (Arunachal Pradesh)

A. AWLR Stations

Sl. No.	Name of the Station	Location	Latitude	Longitude
1.	Basarnallo	50 mtr U/S of proposed RCC Bridge	27° 2'57.96"N	93°21'34.94"E
2.	Waing	500m U/S of confluence of point	27° 38.486"N	93° 2.323"E
3.	Pabeng	500 m D/S of confluence of point	27° 38.110"N	93° 2.372"E
4.	Doimuk Bridge Point	400 mtr D/S of the RCC bridge	27° 8'5.70"N	93°45'21.18"E
5.	Sagalee	Near Karoi Colony	27°14'38.76"N	93°29'31.74"E
6.	Bizari	5.0 to 6.0 km away from Dambuk	28°16'0.99"N	95°33'2.34"E
7.	Roing	Under the Roing-Anini RCC Bridge	28° 9'30.57"N	95°50'47.12"E
8.	Dambuk	On BOMJIR Bridge	28° 9'31.20"N	95°40'3.78"E
9.	Zero	On RCC bridge HONG-HAPULI road	27°33'21.10"N	93°49'58.42"E
10.	Kamla	Near confluence of PEIN and Kamla River	27°45'33.48"N	94° 0'32.02"E
11.	Parsi Parlo	750 D/S of confluence of Parsi & Parlo rivers	27°59'38.96"N	93°31'19.05"E
12.	Nyopin	bellow 1st bridge on Panyu	27°44'39.36"N	93°22'54.42"E
13.	Laaying	300 Mtr D/S of confluence of Panyu and Kumey River	27°48'25.81"N	93°33'20.57"E
14.	Nari	near by village new Seren	27°44'7.80"N	94°51'24.63"E
15.	Mebo (HQ)	400 Mtr D/S of confluence of SIRUM and SIKU River	28° 9'4.64"N	95°22'46.46"E
16.	Siiyet	2Km D/s of confluence	28°30'36.42"N	95°10'36.78"E
17.	Darak	BRTF RCC Bridge on Aalo-Mechuka Road	28° 12.146"N	94° 42.770"E
18.	Aalo	bellow DARKA bridge on river Sipu	28° 7'52.32"N	94°47'37.56"E
19.	Basar	On Steel bridge at KIDI and NYODU village	27°58'57.66"N	94°40'17.52"E
20.	Likabali	Bellow Suji bridge (near police check gate)	27°40'9.08"N	94°41'19.92"E
21.	Tai	Tai village on Basar-Daporijo road	28° 0'16.20"N	94°31'56.10"E
22.	Sippi	D/S of Sippy Hydro Electric Tail race	28° 3'44.71"N	94° 9'46.43"E
23.	Manga	500 Mtr U/S of confluence of Subonsiri and Manga River	28° 6'1.14"N	94° 8'39.54"E
24.	Seba	Near Seba village	27°14'1.96"N	93° 2'15.31"E
25.	Bemang	bellow under construction RCC bridge connecting RIANG village & LIA village	27°31'58.02"N	92°55'23.22"E
26.	Sijosa	U/S of Assam _ Arunachal border	26°56'50.40"N	92°59'40.80"E
27.	Noroma	bellow Hanging bridge (Nomora – BALISO road	26°56'59.72"N	93°11'16.18"E
28.	Tenga	bellow Tenga RCC Bridge To	27°12'44.52"N	92°27'41.58"E

		Singchung		
29.	Kalakthang	Bellow RCC (GREF) at Lawer Denzi (GREF camp)	27° 5'2.52"N	92° 6'36.60"E
30.	Nafra	Suspensio n bridge,Nakku village	27°22'24.08"N	92°31'56.30"E
31.	Dirang village	Munna camp Bridge.	27°20'31.64"N	92°16'34.09"E
32.	Zemithang	Brokenthang village	27°43'44.70"N	91°43'0.24"E
33.	Lumla	Namsari village	27°30'6.57"N	91°41'12.11"E
34.	Kamlang Brdge point	Lohit	27°45'22.07"N	96°21'31.64"E
35.	Tissa Camp	Tirap	26°54'46.55"N	95°21'53.29"E
36.	Kanubari	Tirap	27° 2'3.01"N	95°11'43.16"E
37.	Changlang	Changlang	27° 7'58.33"N	95°44'3.30"E
38.	Deomali	Tirap	27°12'2.24"N	95°27'31.24"E
39.	Tengapani Bridge point	Namsai	27°46'39.44"N	95°57'0.02"E
40.	Danglat	Lohit	27°54'35.95"N	96° 5'50.90"E
41.	Miao	East Siang	27°23'22.00"N	96° 6'56.17"E
42.	Old Deka	East Siang	27°41'55.88"N	94°58'9.03"E
43.	Dollungmukh	Papumpare	27°32'34.47"N	94°15'22.41"E
44.	Kamin	Lower Subansiri	27°19'51.38"N	93°58'48.66"E
45.	Yayali	Papumpare	27° 26.632"N	93° 42.045"E
B.	Automatic Weather Station (AWS)			
1.	Tai	Tai village on Basar-Daporijo road	28° 0'16.20"N	94°31'56.10"E
2.	Manga	500 Mtr U/S of confluence of Subonsiri and Manga River	28° 6'1.14"N	94° 8'39.54"E
3.	Dirang village	Munna camp Bridge.	27°20'31.64"N	92°16'34.09"E
4.	Changlang	Changlang	27° 7'58.33"N	95°44'3.30"E
5.	Danglat	Lohit	27°54'35.95"N	96° 5'50.90"E
<p>Note: Actual site location may slightly vary from above, it will be decided in consultation with Engineer-in-charge during installation of RTDAS equipments.</p>				

Lot-7 (Tripura)

A. Automatic Raingauge Stations

Sl. No.	Name of the Station	Location	Latitude	Longitude
1	Bridge near Birendranagar	Howra	23.816389	91.438056
2	Bidyasagar (bridge)	Howra	23.822500	91.296944
3	RCC Bridge at Teliamura Bus Stand	Khowai	23.843889	91.638333
4	Bridge at Badar Mukam, Udaipur	Gomati	23.537778	91.505278
5	RCC Bridge at Amarpur	Gomati	23.535833	91.636389
6	Rail Bridge at Ambasa	Dhalai	23.928333	91.850833
7	Manughat (bridge)	Manu	23.994722	91.989722
8	Near IOCL Office, Dharmanagar	Kakri	24.373611	92.175000
9	Near Bishalgarh Bazzar	Burima	23.674167	91.282500
10	Pecharthal (bridge)	Deo	24.186944	92.100278
11	Surya Sen Setu, Jolaibari RCC Bridge	Muhuri	23.233611	91.612500

B. AWLR Stations

1	Bridge near Birendranagar	Howra	23.816389	91.438056
2	Bidyasagar (bridge)	Howra	23.822500	91.296944
3	RCC Bridge at Teliamura Bus Stand	Khowai	23.843889	91.638333
4	Bridge at Badar Mukam, Udaipur	Gomati	23.537778	91.505278
5	RCC Bridge at Amarpur	Gomati	23.535833	91.636389
6	Rail Bridge at Ambasa	Dhalai	23.928333	91.850833

7	Manughat (bridge)	Manu	23.994722	91.989722
8	Near IOCL Office, Dharmanagar	Kakri	24.373611	92.175000
9	Near Bishalgarh Bazzar	Burima	23.674167	91.282500
10	Pecharthal (bridge)	Deo	24.186944	92.100278
11	Surya Sen Setu, Jolaibari RCC Bridge	Muhuri	23.233611	91.612500

Note: Actual site location may slightly vary from above, it will be decided in consultation with Engineer-in-charge during installation of RTDAS equipments.

2. Technical Specifications

1.0 General

Real Time Hydro-Met data acquisition network which will be implemented under this project provides key data required for forecasting Inflows into the Basin and other related activities. A Real Time Data Acquisition System (**RTDAS**) will consist of a telemetry network of rainfall and water levels along rivers/reservoirs which will be installed to provide inputs to the **RTDAS**. The concept of implementation on which the present technical specifications and special conditions are based intends to combine the advantages of modern Data Loggers, data storage, processing and data communication technologies with the requirements of high availability and sustainability required by such an important project. Preference will be given to robust, reliable technology. The real-time data acquisition system networks have the greatest possible reliability, thus minimizing the maintenance to the extent possible.

The sensors based rainfall and gauge site should be combined within a single station which will eliminate the costs of **INSAT, GSM & GPRS** communication and the recurring costs associated with these devices. This specifically means that it is encouraged to combine data from multiple stations through the use of wired or wireless technology to minimize the number of **INSAT, GSM & GPRS** data transmission systems.

To minimize corrective maintenance and to increase the performance of the monitoring network, a well-organized preventative maintenance plan is highly recommended. The preventative maintenance is required for all system components as well as the infrastructure in place to house the electronic data collection components. A strong maintenance plan will be the foundation for sustaining the North Eastern states monitoring network operation over the expected lifetime of the technology, which is considered to be minimum 10 years.

The Technical Specifications consists of the installation of the real time data acquisition system for North Eastern States includes the design, manufacture, factory testing, deliver to site, installation (including the associated interface wiring/termination), knowledge transfers and other accessories, commissioning and site acceptance testing, supply of mandatory spares, training and documentation.

2.0 Design Principles

The following basic principles have been applied to the design of the real time hydrologic data acquisition system network for the North Eastern States.

- Installation of Automatic Water Level Recording Station (AWLR) with non-contact radar Sensors which will have the primary function of measuring water levels at the installed locations (Rivers / Reservoirs)
- Installation of Automatic Rain gauge (ARG) station with Tipping Bucket Rainfall sensor which will have the primary function of measuring hourly and daily accumulated rainfall at the installed locations. The rain gauge will be installed as per the WMO guidelines
- Installation of Automatic Weather Station (AWS) with Rain gauge Sensors which will have the primary function of measuring meteorological data at the installed locations
- Installation of Snow Pillow (Snow water Equivalent (SWE)) Station with Snow precipitation (liquid and solid), snow depth and air temperature which will have the primary function of measuring snow parameters with Snow water Equivalent at the installed location.

- Recoded data at field stations will be transmitted through INSAT to Earth Receiving Stations (ERS) at New Delhi/ Jaipur / Burla and from ERS to e-SWIS, then via internet and e-SWIS cloud data will be transmitted to North Eastern State Data Centres at Gangtok, Shillong, Aizwal, Itanagar, Agartala, Kohima, Imphal. And facility of GSM & GPRS data communication shall be provided for data transmission to data North Eastern State modelling centers & e-SWIS at Delhi.
- Stations or sensors in close proximity to each other will be combined to reduce the number of reporting stations. This is especially important to save the recurring **INSAT, GSM & GPRS** charges.

3.0 Scope of Work

- 1) Complete supply, installation, testing, commissioning of remote stations including civil works, sensors, data logger, software, hardware and ancillaries equipment, solar panel, mounting poles, masts, cables and tethers, electrical and network cabling, lightening arresters etc. complete.
- 2) Technical design, supply, installation, testing, commissioning of the real time hydrological data collection network and establish data communications using **INSAT** between the remote stations and the Earth Receiving Station at New Delhi/ Jaipur / Burla and GSM / GPRS between remote station to the dedicated computer provided at Data Center or at e-SWIS server. This includes, but is not limited to acquiring service, and maintaining all aspects of the service during the warranty period as well as the maintenance period.
- 3) Establish a GSM & GPRS receiving system along with all required data resection arrangement at modelling centers to collect GSM & GPRS data. This shall include a required hardware & computer that will support the reception of the GSM & GPRS Data stream This consists of acquiring all hardware and software, installation, configuration.
- 4) Providing server with 5 years data backup facility (8 TB), 42" LED display, 3 KVA online UPS and computer node with UPS at each North Eastern State data centres located at Gangtok, Shillong, Aizwal, Itanagar, Agartala, Kohima, Imphal that will support the reception of **GSM, GPRS & INSAT** data collection.
- 5) Assure the collection, storage/backup and seamless flow of Real Time Data from all types of automated sensors to ERS at New Delhi and SDC /modelling centers.
- 6) Perform on-site assembly, start-up of the supplied goods.
- 7) Complete commissioning integration, testing & organization of the whole system. Bidder is responsible for, interfaces between the sensors and the DCP, DCP and transmission equipment and that between ERS, modelling centers & e-SWIS software, and ensure compatible data format as per bid document and trouble free operation of system.
- 8) Provide operation & maintenance services during Five (5) year warranty period and two year AMC period to commence immediately after the expiry of warranty period to include all components at the remote stations as well as all newly acquired equipment in the data center. The **AMC** must be comprehensive without any exclusion except from physical damage or force majeure will be permitted.

- 9) Provide installation and maintenance reports as required by the Purchaser and any delay is not acceptable in time schedule provided by supplier.
- 10) Supply on-site spares to repair any part of the remote stations upon determination of malfunction or failure. This includes, but is not limited to, DCP, sensors, batteries, solar panel and other accessories etc. required in seamless operation of the real time data acquisition system
- 11) Supply detailed operation and maintenance manual for each component in the system and compile Knowledge and working supply type Manual for training purpose (including multimedia training kits).
- 12) Provide classroom and field training to the sufficient number of North Eastern states personnel on the data acquisition system. This includes operation and maintenance procedures. Training will also occur at selected field locations as selected by the Purchaser. This includes startup, operation, maintenance and/or repair of the supplied goods. Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing maintenance requirements and procedure for equipment configuration, installation, site testing and commissioning including training kit containing course material in soft and hard copies.
- 13) Onsite Calibration and validation of the installed system and shall continue during the entire Warranty and **AMC** period.
- 14) All selected sites should conform to the extent practical to **WMO** guidelines. The purchaser will be responsible for obtaining permission to use property. River stage Reservoir Stage and weather data will be logged every 1 hour and transmit data based on a schedule set in the data logger (e.g. once an hour) and/or in case of GSM/GPRS communication the data transmission on an event (e.g. a measurement reaching programmed threshold values).
- 15) To provide necessary facility to generate daily report of RTDAS data at specified time and in the specified format as prescribed by purchaser.
- 16) The remote stations shall store the data for at least one year.
- 17) Bidder shall Supply a detailed operation and maintenance manual for each appropriate unit of supplied goods and compile Knowledge and working supply type Manual for training purpose (including multimedia training kits).
- 18) A guarantee by the manufacturer that all equipment being provided will have maintenance & Spare support for a minimum of ten years from the date of issuance of final acceptance certificate by engineer in charge including Warranty and Operation & Maintenance period.

4.0 General Features/ Specifications

- i. It is imperative that all instrumentation, other equipment shall operate effectively with the DCP's and the DCP's in turn shall operate effectively with the satellite equipment and other systems of ERS. In addition, the input/output protocols of individual items of equipment (AWLR, ARG, AWS, Snow Pillow etc., DCP's, solar power

arrangements, etc.) shall interface accurately. For this purpose, the interfaces between the sensors and the DCP, DCP and transmission equipment and that between ERS and modeling centers are ensured to be compatible and trouble free.

- ii. The specific electrical, electronic and mechanical design parameters mentioned in case of individual sensors are indicative of a typical design and variations therein can be considered provided the output, resolution accuracy and ruggedness against environment are not compromised in any manner. In such cases where the supplier proposes to deviate from the specifications a full technical justification shall be provided. The Purchaser is not bound to accept such justification.
- iii. It shall be the Suppliers responsibility to ensure that the installation is robust and shall continue to work in extreme weather conditions.
- iv. Reliability of operation during normal and extreme weather conditions is imperative.
- v. The sensors and all accessories and facilities shall be fully compatible with the data acquisition and transmission system. The sensors and DCP's shall form a complete automated data acquisition storage and transmission system.
- vi. In case of any of the sensors, the equipment is supplied with certain optional features which are required to be ordered separately and are not included as a part of the offer; the same shall be clearly mentioned in the bid along with the functions of such features. The purchaser shall be provided with all necessary information which shall enable him to take an informed decision at the time of entering into the contract as to the ordering any such feature or otherwise.
- vii. The Bidder shall enclose technical literature with photograph in respect of all the sensors being quoted. The features which are mentioned in the literature but are not being quoted as a part of the current system shall be clearly brought out in the bid. In the event of failure of the Bidder to explicitly mention any such exclusion, it shall be taken as inclusion of all features mentioned in the bid as a part of the supply and the Bidder shall have to provide all such features/ accessories without claim of extra cost to the purchaser.
- viii. Although all accessories and fixtures required for installation of the equipment & their specifications have been specified in technical specifications however, bidder shall ensure the satisfactory performance & functioning of RTDAS system complete, for this if any accessory or item s are required that shall be provided by bidder, the cost towards that deemed to be included in the cost tendered by the bidder, no extra cost shall be paid to the bidder on this account.
- ix. Bidders shall give general layout of all the installations including all civil works for types of stations and materials including that for the equipment at the time of bidding. Afterwards, the successful Bidder shall furnish the details of all the mounting arrangements. including civil works. Indian Standard codes of practice shall be followed for all civil works and mounting arrangements.
- x. The security arrangement provisions for sensors installed in the open ground like chain-link fencing, locking etc. shall also be provided by the Bidder.
- xi. Security of installed equipments against theft and vandalism will be the responsibility of the Bidder till successful installation, commissioning, two stages of site acceptance testing.
- xii. All fixings shall be non-corrodible.

- xiii. The Bidder has to specify how the calibration will be carried out and has to use his own calibration equipment during the period of warranty and AMC.
- xiv. Ensure that all software licenses and maintenance agreements are in the name of Purchaser and should seek full support and updates for such software for the duration of the **Warranty and AMC Period**. Also all the software licenses should be valid for the design life of the system, that is 10 years from date of commissioning.

5.0 EQUIPMENT ARRANGEMENT AT REMOTE STATIONS

5.1 Automated Water Level Recorder(AWLR) for River /Reservoir:

The Automatic Water Level Recorder (AWLR) station shall be equipped with all necessary equipment's and peripherals including the following

- i. Data Collection Platform (DCP) mounted inside an enclosure which will house the following items.
 - Data Logger with INSAT, GSM & GPRS Transmitter with built-in display.
 - Battery for power requirements.
 - Pre-wiring and configuration.
 - Solar panel charger regulator.
 - Antenna (INSAT, GPS, GSM/GPRS) & required accessories
- ii. Automatic Water Level Recorder (AWLR) station will have Non-contact Radar type water level sensor with all fittings, accessories and cables.
- iii. At selected stations, installation of Tipping Bucket Rainfall sensor with all fittings, accessories and cables. The rain gauge will be installed as per the WMO guidelines. Rain gauge data shall be integrated with the AWLR /AWS datalogger and transmit.
- iv. Mast /tripod to mount DCP at the site (alternatively, where walled enclosure or tower is available, same can be mounted on the same).
- v. Mast /tripod for solar panel & INSAT antenna (provided locally by the Bidder).
- vi. Mast can be shared with the DCP mast also.
- vii. Conduit for cables GI Flexible conduits and HDPE pipe conduits.
- viii. Civil works for mast (provided locally by the Bidder).
- ix. Chain-link fencing (5m * 5m * 2m height) and gate with lock if required(provided locally by the Bidder)
- x. Power cables with cable conduits.
- xi. Grounding and lightning protection (provided locally by the Bidder)
- xii. All necessary hardware required for the system to operate properly.

5.2. Automatic Rain Gauge (ARG) Station

The Automatic Rain Gauge (ARG) stations shall be equipped with all necessary equipment's and peripherals including the following

- i. Data collection Platform (DCP) mounted inside an enclosure which will house the following items.
 - Data Logger with INSAT, GSM & GPRS Transmitter with built-in display.
 - Battery for power requirements.
 - Pre-wiring and configuration.
 - Solar panel charger regulator.
 - Antenna (GPS, INSAT and GSM/GPRS) & required accessories
- ii. Automatic Rain gauge station will have Tipping Bucket Rainfall sensor with all fittings, accessories and cables. The rain gauge will be installed as per the WMO guidelines
- iii. Mast / tripod to mount DCP at the site (alternatively, where walled enclosure or tower is available, same can be mounted on the same).
- iv. Mast /tripod for solar panel & INSAT antenna (provided locally by the Bidder).
- v. Mast can be shared with the DCP mast also.
- vi. Conduit for cables GI Flexible conduits and HDPE pipe conduits.
- vii. Civil works for mast (provided locally by the Bidder).
- viii. Chain-link Fencing (5m * 5m * 2m height) and gate with lock if required (provided locally by the Bidder)
- ix. Power cables with cable conduits.
- x. Grounding and lightning protection (provided locally by the Bidder)
- xi. All necessary hardware required for the system to operate properly.

5.3 Automatic Weather Stations (AWS):

The Automatic Weather Station (AWS) shall be equipped with all necessary equipment's and peripherals including the following:

- i. Data Collection Platform (DCP) mounted inside an enclosure which will house the following items.
 - Data Logger with INSAT, GSM/GPRS Transmitter with built-in display.
 - Battery for power requirements.
 - Pre-wiring and configuration.
 - Solar panel charger regulator.
 - Antenna (INSAT, GPS, GSM/GPRS) & required accessories

- ii. Installation of Rainfall, Wind Speed, Wind Direction, Air Temperature, Relative Humidity, Solar Radiation, Atmospheric Pressure Sensor with all fittings, accessories and cables.
- iii. At selected at stations, installation of Soil Moisture sensor with all fittings, accessories and cables. Soil Moisture sensor data shall be integrated with the AWS datalogger and transmit.
- iv. Triangular Tower of 10m height with guy rope support & required mounting hardware to mount DCP & required sensors as per WMO guidelines for meteorological equipment's. (provided locally by the Bidder)
- v. Tower can be shared with the DCP mast also
- vi. Conduit for cables GI Flexible conduits and HDPE pipe conduits.
- vii. Civil works for 10mts Tower and guy support (provided locally by the Bidder).
- viii. Chain-link fencing (10m X 10m X 2m) and gate with lock if required (provided locally by the Bidder)
- ix. Power cables with conduits.
- x. Grounding and lightning protection (provided locally by the Bidder)
- xi. All necessary hardware required for the system to operate properly.
- xii. The installation should be made as per WMO guidelines at standard height.

5.4 Snow Pillow (Snow-water Equivalent (SWE)) Stations

Snow water Equivalent (SWE) stations are common in areas where there is a significant contribution to runoff from the snow-melt process. The SWE is determined from 'snow pillows' which measure the weight of the snow pack resting above the snow pillow. The snow pillow measurement will be made from four stainless steel tanks plumbed together. These stations will also measure precipitation (liquid and solid), snow depth and air temperature and will be accompanied by an enclosure which will house the datalogger and electronics. The SWE stations will include sensors for precipitation (liquid and solid), temperature and snow depth. All the components Snow pillow (Snow water Equivalent (SWE)) stations should work in snow bound area having Ambient Temperature From -20 to +60⁰ C, Humidity of 5 to 100 % and Altitude 0 to 5000 meter

Snow-water equivalent stations will require a structure that will allow operation and maintenance during deep snow conditions. A typical structure would be tall enough such that the instrumentation enclosure would never be covered in snow, and that an access door above the height of maximum snow depth would be available for easy access without digging snow.

The Snow water Equivalent (SWE) station shall be equipped with all necessary equipment's and peripherals including the following:

- i. Data collection Platform (DCP) mounted inside an enclosure which will house the following items.

- Data Logger with INSAT, GSM/GPRS Transmitter with built-in display.
- Battery for power requirements.
- Pre-wiring and configuration.
- Solar panel charger regulator.
- Antenna (INSAT, GPS, GSM/GPRS) & required accessories
- ii. Installation of Air Temperature, Relative Humidity and Snow Depth sensor with all fittings, accessories and cables.
- iii. Installation of Snow precipitation (liquid and solid) with all fittings, accessories and cables. Snow precipitation should install on separate stable mast / platform, (provided locally by the Bidder).
- iv. Installation of Snow Pillow sensor with all fittings, accessories and cables. Snow pillow should install at least 2mts away from fencing. (provided locally by the Bidder).
- v. Triangular Tower of 7m height with guy rope support & required mounting hardware to mount DCP & required sensors as per WMO guidelines for meteorological equipment's.
- vi. Tower can be shared with the DCP mast also
- vii. Conduit for cables GI Flexible conduits and HDPE pipe conduits.
- viii. Civil works for Tower and guy support (provided locally by the Bidder).
- ix. Barbed wire Fencing (10m X 10m X 2m) and gate with lock if required (provided locally by the Bidder).
- x. Power cables with conduits.
- xi. Grounding and lightning protection (provided locally by the Bidder).
- xii. All necessary hardware required for the system to operate properly.
- xiii. The installation should be made as per IMD/WMO guidelines at standard height.

5.5 TELEMETRY

The data communications employed on RTDAS network will use INSAT and GSM / GPRS radio communications. Both telemetry systems should work simultaneously for redundancy. It will be the responsibility of the bidder to confirm radio path and mobile network coverage. The bidder will be ultimately responsible for establishing data communication at all sites.

The bidder will provide all civil works related to the installation of the antenna, including cabling, wiring and other such infrastructure.

5.5.1 STATE DATA CENTER (SDC)

The State data center (SDC) will receive INSAT data from ERS at New Delhi /Jaipur /Burla through Internet. The GSM/GPRS receiving station at SDC will receive GSM/GPRS data directly from remote stations. Both the type of data will be stored in the same data base server at SDC. Necessary equipments such as Server for GSM, GPRS data receiver, High End workstation / Computer system, 42 inch LED Display, etc. will be installed at State data centers.

The system shall be able to accept coded SMS messages from manually operated remote stations and as a back-up to the RTDAS systems. The components include GPRS communication system and workstation for data collection /application /storage backup for the collection, quality. This infrastructure includes all networking devices to connect the equipment via INTRANET to the Web. The space needed for SDC will be provided by the purchaser.

5.5.2 GSM &GPRS DATA COLLECTION STATION

- The GSM & GPRS data collection station shall be established at SDC /modelling center.
- The GSM & GPRS data collection station will be able to interrogate the DCPs based on a schedule of the State's choice and as implemented by the bidder.
- The GSM & GPRS Data Collection Station will also be able to receive data sent by the RTDAS stations whether the data is sent via SMS text or over GPRS internet connectivity.
- In case of failure of INSAT telemetry on RTDAS sites, the provision for polling the data by GPRS telemetry so that missing of data is avoided.
- The bidder will provide all civil works related to the installation of the antenna, including cabling, wiring and other such infrastructure required to operate the GSM &GPRS Data Collection Station.

5.6 INSTALLATION REQUIREMENTS FOR RTDAS

SITE PREPARATION AND INSTALLATION

1. The purchaser will provide details of the installation sites before the scheduled installation date to allow the Bidder to perform site inspection and construction of suitable structures before the installation of the hardware.
2. The location of antenna, sensors and related civil work will be decided in consultation with respective Engineer-in-charge depending on the site and river flow conditions.
3. The Bidder should complete the required works at the site for proper installation of the equipment before receipt of the equipment.
4. These are the basic guidelines for installation of RTDAS system however it may vary as per site conditions, in case of variation from installation guidelines stated below drawings shall be approved by engineer-in charge prior to the start of installation work.

SPECIFICATIONS FOR INSTALLATION

Automatic Rainfall Station

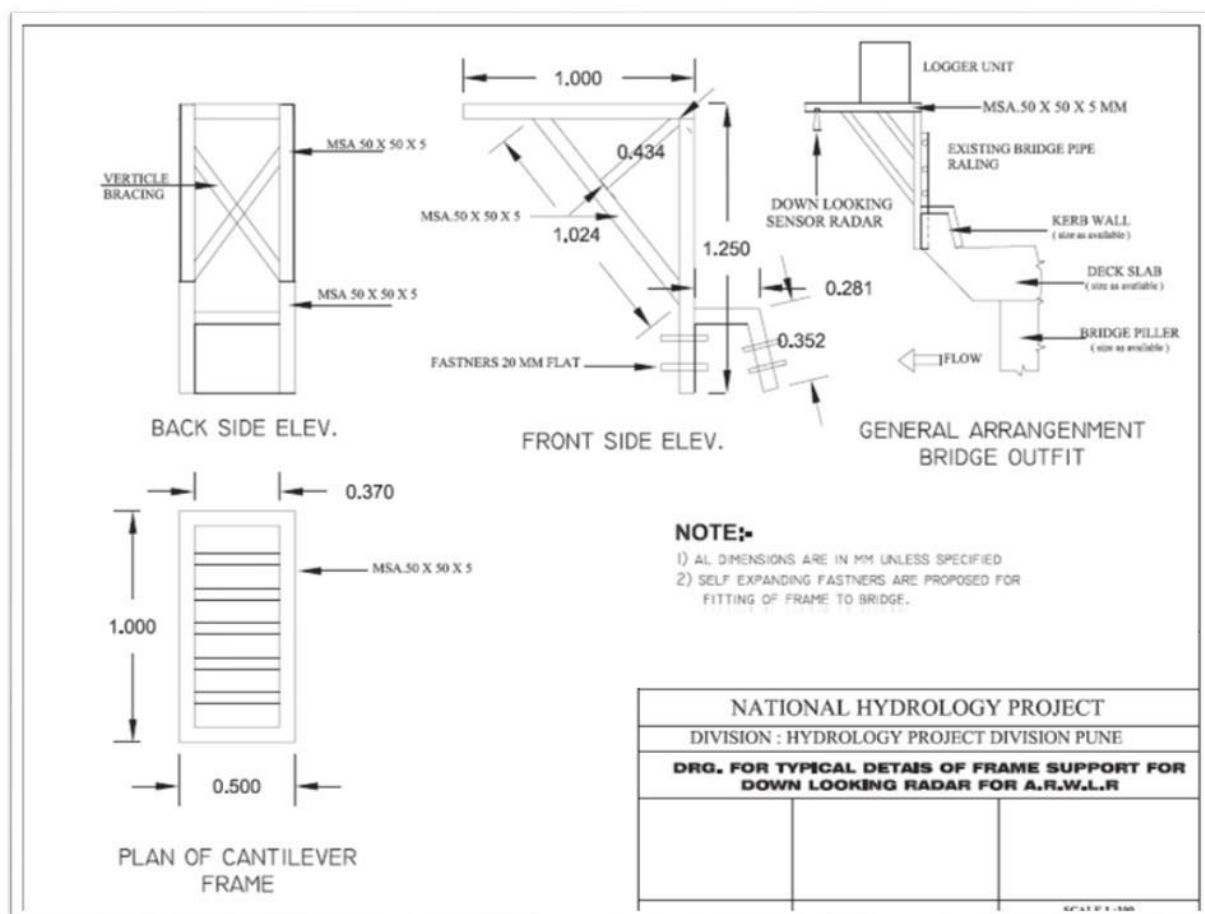
ARG stations will require a hardened enclosure on a structure (pipes, mast, and tower) to make the enclosure stable. The enclosure will be mounted 1.5 m above the ground. The rain gauge will be placed away from objects such that the rain gauge orifice is no closer than the 2 times the difference in height (top of the rain gauge to the top of the nearby objects) to other objects.

Automatic Weather Station

AWS stations will be placed in open fields and away from any obstructions which may disturb the measurements. WMO guidelines will be followed during the installation and precise site selection. The AWS stations will require a 10m tower. The hardened enclosure will be attached to the tower at 1.5 m about the ground. Then temperature/relative humidity will be mounted at 2 m above the ground and sufficiently away from any objects that may produce long wave radiation. The wind speed/direction sensor will be placed at the top of the 10 m tower. The rain gauge will be placed away from the tower, at least 3 m from the tower, and no closer than the 2 times the difference in height (top of the rain gauge to the top of the nearby objects) to other objects.

Automatic Water Level Recorder (AWLR) Sensors**SAFETY REQUIREMENTS**

- The sensor and its accessories should be protected from theft. The bidder is encouraged for minor modifications in installation of sensor and its accessories so as to minimize the chances of theft. Mortise lock is proposed to avoid theft. Due care must be taken while modifying the installations. In no case the basic principle and working of sensor is allowed to disturb.
- Radar sensors should be mounted such that they have a direct vertical shot to the water surface with no obstruction of their beams. Beam spread must be determined based on manufacturer's specification and the maximum expected distance to be measured at low flows. Consideration should be made in designing the mounting structure to allow for easy access to the instrument for maintenance
- Framework support to attach Radar sensor to Bridge/WSR Tower:-
- Framework support made of fabrication of M.S. Angle 50mm x 50mm x 5mm with gusset plate 8mm thick (0.85m x 0.3m) including welding, riveting, anticorrosive paint, colour etc. complete as per Fig



Specifications for Civil Works

Common Enclosure for Site

Area of the ARG and AWLR Station should be ideally 5m * 5m * 2m height. If a rare condition demands then even lesser area (5 m * 4 m) can be demarcated in consultation with officials.

Area for Automatic Weather Station (AWS) should be ideally 10m * 10m * 2m height, If a rare condition demands then even lesser area (8m * 8m) can be demarcated in consultation with officials

For Snow pillow Station the area should be ideally 10m * 10m * 2m height, If a rare condition demands then even lesser area (8m * 8m) can be demarcated in consultation with officials

The approach to the site should be made free of obstacles like bushes; trees etc. and a suitable cement path must be laid to approach the platform.

Following are the common specification for civil works for all the Telemetry sites.

Fencing for site

- The height of the fencing for the site must be 2 meters from the ground level.

- The fencing must be made over a cement foundation which is 230mm above ground level.
- Fencing angle should be of size 50mm x 50mm x 6mm and pre coated with red-oxide.
- The total length of the fencing angle should be 2.8 meters i.e. (2.0m above ground level + 0.8 m below ground level)
- Two MS angles must be used diagonally at each of the four corner angles of the site. The angles can be attached (with welding or the other appropriate means) from the middle of the existing corner angle to the ground. The depth of the support will remain the same as of main angle.
- The dimensions of the fencing angle foundation should be 450mm x 450mm (length X width) and at a depth of 800mm. The foundation should be square shaped. Distance between each fencing angle should be 1.5 to 2 meters.

Chain-link

- Dimensions of GI Chain-link: 2 inches x 2 inches and of Gauge: 10 (3 mm diameter).
- GI chain-link mesh must be stretched and welded/fixed properly on the fencing angles.
- A pipe or angle must be fixed on the upper part of the fencing to have a neat finishing and at the same time to avoid loosening of the fencing over a period of time.
- The chain-link fencing should be fastened with the help of screws fitted on the fencing angles. Alternately it may be welded neatly at four equidistant positions of 0.5 m each.

Gate

- Dimensions: 1 m X 2 m (Width x Height) with locking facility
- The gate must be fabricated by MS Angle whose dimensions should be minimum 40mm x 40mm x 6mm
- Suitable locking facility with 3 keys for safety purposes is mandatory. Standard locks should be used.
- Gate and MS Angle must be well painted with white / silver colour.
- Gate should have proper support of MS angles with additional support of crossed MS angles. Alternately gate should be fixed with the support of RCC pillars.

Rain gauge foundation:

- Rain gauge foundation must be of dimensions 450mm x 450mm (length x width) and 800mm deep.
- The rain gauge may be located so that it is at a minimum distance of 2 m away from obstructions on all four sides.

- The raised platform should be Nine inches above the ground level.
- The orphic rim of rain gauge should be 1.0 to 1.2 meters above ground level. In the case of flood prone areas the base plate on which the rain gauge is mounted should be placed 1.0 m above ground level. The location must be decided after discussion with Field Officer.

Mast Foundation

- Foundation Dimensions: 750mm X 750mm (length x width) and 1.2m deep. The raised platform of the foundation must be 300mm above the ground level.
- The height of the tower should be minimum 3 meters above raised platform.

Triangular Tower Foundation

- The triangular tower (10mts / 7mts) foundation must be of dimensions 900mm X 900mm (length x width) and 1.5m deep. The raised platform of the foundation must be 300mm above the ground level.
- Proper guy rope support (three Nos) with foundation (for 10mts Tower). The foundation for the Anchor Rod which holds the guy rope must be of dimensions 450mm X 600mm (length x width) at the ground level and min 1.2m deep
- The DCP, sensors and Antenna will be mounted on a 10-meter triangular tower, which should cater for fitments of assemblies for sensors, DCP, antenna and other accessories. The tower will have 2/3 sections of 3meter height and one top section of 1 meter height. The tower should be made of MS Pipe and should be light as well as robust enough to withstand weight of at least two persons (200 Kgs). This tower with complete accessories will be part of the supplies and will be galvanized to avoid rusting and long life in outdoor conditions.

Proportions for concrete foundations

- Concrete pillar foundations for the Mast / Tripod / tower, fencing angle should be made in the volumetric mixing proportions as follows:
- Concrete foundation : 1 (Cement) : 2 (Sand) : 4 (Metal)
- Fine plastering : 1(Cement) : 3 (Sand)
- Concrete Pillar must be cemented to achieve smooth finish above the ground level.
- After 8 hours, these foundations should be cured with water at least 3 times a day for four days.

Local Earthing

- Material required: Salt: 20 Kg; Charcoal: 20 Kg; Sand 100 Kg
- The lightning arrestor rod is made of copper which is mounted on the top most part of the Mast / Tripod /tower.

- It should be of thickness 12 mm and of one meter length with a connected copper wire of 6mm thickness (gauge). At the other end of copper wire is the Earthing rod of dimensions 15mm thickness and 1.8 meter length, which is buried into the ground.
- On the bottom of earthing rod, one copper plate of dimensions 300mm x 300mm should be connected to data logger enclosure should also be grounded with local earthing
- A pit of 4-5 feet depth, 2' X 2' wide at bottom (like a cone shaped pit) has to be dug.
- After leveling the bottom of the pit, uniform layer in the sequence of 6 inches of Salt + 6 inches Charcoal + 6 inches Sand is filled. Such sequence is repeated 3 times till the earth pit is filled to the top. The copper earthing rod is placed in the center of the pit. The pit is closed and leveled.

Painting

- The tower, fencing angles, chain-link fencing and gate should be properly painted every year to avoid rusting.
- All concrete foundations shall be painted using white cement paint every year

6.0 Technical Specification

6.1 Radar Type Water Level Sensor

Feature	Value
Site Conditions	
Ambient Temperature	From -5 to +60°C
Humidity	0 to 100 %
Altitude	0 to 2500 meter
Sensor	
Sensor Type	Microwave non-contact sensor
Range	15M / 20M / 40M / 50M
Resolution	3 mm or better
Accuracy	0.02 % FSO
Output Interface	SDI-12 / RS-485 / 4-20mA
Power Supply	To be powered by Solar Panel provided by bidder.
Beam angle	Less than 16 degree.
General Features	
Material	Corrosion Resistance (Stainless steel / Aluminum / PVC / UV stabilized ABS with metal casing)
Enclosure	The Sensor shall be easy to dismount and replace in the event of malfunction.
Tools	Complete tool kit for operation and routine maintenance
Manuals	Full Documentation and maintenance manual in English
Accessories	Sensor Mounting support, cables and other accessories as required
Protection	NEMA 4 or IP67
Horizontal Mounting/Installation Arrangements	Above FRL, Below a bridge girder wherever available otherwise horizontal cantilever arrangement from a mast/wall/pedestal
Radar Sensor should have inbuilt diagnostic feature & averaging function	

6.2 Automatic Weather Station Sensors

Feature	Value
Site Conditions	
Ambient Temperature	From -5 to +60 °C

Humidity	5 to 100 %
Altitude	0 to 2500 meter
Temperature Sensor	
Sensor Type	Platinum resistance or better or equivalent
Range	-5 to 60 Degree Celsius
Resolution	$\pm 0.1^{\circ}\text{C}$
Accuracy	Within $\pm 0.2^{\circ}\text{C}$ in the entire working range
Response Time	10 secs or lesser
Relative Humidity Sensor	
Sensor Type	Capacitive/ Solid State Humidity Sensor
Range	0 to 100 %
Resolution	0.1%
Accuracy	$\pm 3\%$ or better
Response time	10 secs or lesser
General	
Self-aspirated	To ensure continuous supply of air. Free from turbulence, water droplets and radiation
Power Supply	To be powered by solar power provided by bidder
Accessories	All accessories for mounting the instrument at ~1.5mts height above the ground level. e.g. special cross arm clamps or flag, if any shall be provided
Output Interface	SDI-12/ RS-485/ Analog
Wind Speed and Direction Sensor	
Sensor Type	Ultrasonic sensor (No moving Parts)
Range	0-60 m/s for speed and 0-360 degrees for direction or better
Resolution	0.1m/s for Speed; ± 1 degree for Direction
Accuracy	Wind speed $\pm 2\% \pm 0.1\text{m/s}$ (upto 20 m/s) and $\pm 3\%$ (for 20 to 60 m/s) Wind direction $\pm 5^{\circ}$ or better
Response time	Less than 1 second lag in operating range
Mounting	All accessories for mounting the instrument at 10mts height above the ground level e.g. special cross arm clamps or flag if any shall be provided.
Output Interface	SDI-12 / RS-232/ RS-485

Air Pressure Sensor	
Sensor Type	Temperature Compensated
Range	600 to 1100 hPa
Resolution	± 0.1 hPa
Accuracy	± 0.2 hPa
Power Supply	To be powered by solar power provided by bidder
Output Interface	SDI-12 / RS-232/ RS-485
Solar Radiation Sensor	
Sensor Type	Silicon Pyranometer
Threshold	120 W/m ² of solar irradiance
Methodology	Alternate shading of sensor to account for sky radiation or Sunshine duration shall be computed in datalogger
Spectral Range	400nm to 1100 nm
Range	0-2000 W/Square meter
Resolution	1 W/Square meter
Accuracy (Including Temperature Compensation)	3% or better
General Features	
Material	Corrosion Resistance Metal (Stainless steel / Aluminum or PVC)
Tools	Complete tool kit for operation and routine maintenance
Manuals	Full Documentation and maintenance manual in English
Accessories	All accessories for mounting the instrument at ~1.5mts height above the ground level e.g. special cross arm clamps or flag, if any, shall be provided.
Output Interface	SDI-12/RS-485/ 4-20 mA/ Analog

6.3 Soil moisture Sensor:

Feature	Value
Site Conditions	
Ambient Temperature	From -5 to +60°C
Humidity	0 to 100 %
Altitude	0 to 2500 meter
Soil Moisture	
Range	0 to 0.7 m ³ /m ³
Accuracy	± 0.03 m ³ /m ³

Resolution	Better than 0.01 m ³ /m ³
Soil calibrations	Generalised calibration for Mineral and Organic soil
Soil Temperature	
Range	0 to 40°C
Accuracy	± 0.5 °C
General Features	
Measurement Depth	30 cm below ground level
Power Supply	To be powered by solar power provided by bidder
Accessories	All accessories for installation of the instrument at desired level below the ground level shall be provided
Protection	IP68 or better, Sensor should be withstand long term burial under ground
Output Interface	SDI-12 / RS-485 / Analog

Soil Moisture Sensor for following sites of Package 4 (Mizoram)

1	Champhai (Irr. Complex)	Champhai	23°28'41.914"N	93°19'34.283"E
2	Chemphai (Agri.Farm)	Kolasib	24°19'31.109"N	92°44'36.468"E
3	Serchhip (Mat Zaw)	Serchhip	23°17'43.09"N	92°51'0.188"E
4	Phura(Palak Valley)	Saiha	22°13'7.14"N	92°56'52.969"E
5	Kau Valley(Zawlpui)	Lunglei	23°2'19.457"N	92°34'57.468"E

6.4 Automatic Rain Gauge

Feature	Value
Site Conditions	
Ambient Temperature	From -5 to +60 Degree C
Humidity	5 to 100 %
Altitude	0 to 2500 meter
Sensor	
Sensor Type	Tipping Bucket type with reed switch
Range	250 mm/h or better
Resolution	0.5 mm or better
Accuracy	2% or better, ± 2 mm
General Features	
Output Interface	SDI-12/ RS-485 / 4-20 mA/ Switching closure output

Power Supply	To be powered by Solar Panel provided by bidder with DCP
Material	Corrosion Resistance Metal (Stainless steel/ Aluminum)
Enclosure	NEMA 4 or IP65
Tools	Complete tool kit for operation and routine maintenance
Manuals	Full Documentation and maintenance manual in English
Accessories	Sensor Mounting support, cables and other accessories as required
Certification	IMD/WMO certification shall be provided
Note: Bidder shall provide spout filter and bird cage to prevent ingress of insects and debris And with Bubble Spirit Level and adjustable legs for horizontal alignment of tipping bucket mechanism	

6.5 Snow Station Sensors

Snow Pillow - Snow Water Equivalent (SWE)

Feature	Specification
Site Conditions	
Ambient Temperature	From -20 to +60°C
Humidity	5 to 100 %
Altitude	0 to 5500 meter
Snow Pillow	<ul style="list-style-type: none"> • For measurement of snow water equivalent • Consisting of liquid-filled pillow and pressure transducer (or, alternatively, a system consisting of a standpipe, float and shaft encoder) • Four snow pillow per station plumbed together • Total area min 7 m2 (80 sqft) • Tanks made from stainless steel by manufacture experienced with fabricating snow pillow tanks. • Antifreeze solution for filling snow pillow • Pipes and valve as required
Range	1000 mm water equivalent
Pressure measuring Accuracy	1% full scale (10mm)
General Features	
Output Interface	SDI-12/ RS-485 / 4-20 mA / Compatible with Data logger
Power Supply	12 V DC or switch rated for 12 VDC
Material	Corrosion Resistance Metal (Stainless steel or Aluminum)
Enclosure	NEMA 4

Tools	Complete tool kit for operation and routine maintenance
Manuals	Full Documentation and maintenance manual in English
Accessories	Sensor Mounting support, cables and other accessories as required

Snow Depth Sensor

Feature	Units
Site Conditions	
Ambient Temperature	From -20 to +60°C
Humidity	5 to 100 %
Altitude	2000 to 5000 meter
Sensor	
Sensor Type	Ultrasonic sensor/Laser based sensor
Range	0-10 meter
Resolution	1 mm or better
Accuracy	0.25 % of measuring distance
General Features	
Output Interface	SDI-12/ RS-485 / 4-20 mA / Compatible with Data logger
Power Supply	9-18 V DC
Material	Corrosion Resistance Metal (Stainless steel/ Aluminum or PVC)
Enclosure	NEMA 4
Tools	Complete tool kit for operation and routine maintenance
Manuals	Full Documentation and maintenance manual in English
Accessories	Sensor Mounting support, cables and other accessories as required

Snow Precipitation (Rain and Snow) Gauge Sensor

Feature	Value
Site Conditions	
Ambient Temperature	From -20 to +60°C
Humidity	5 to 100 %
Altitude	0 to 5000 meter
Sensor	
Sensor Type	Storage Gauge with Anti-freeze system without heating
Capacity	1000 mm minimum

Resolution	0.5 mm or better
Accuracy	2 % or better, ± 2 mm
General Features	
Output Interface	SDI-12/ RS-485 / 4-20 mA / Compatible with Data logger
Power Supply	12 V DC or switch rated for 12 VDC
Material	Corrosion Resistance Metal (Stainless steel or Aluminum)
Enclosure	NEMA 4
Tools	Complete tool kit for operation and routine maintenance
Manuals	Full Documentation and maintenance manual in English
Accessories	Sensor Mounting support, cables and other accessories as required

Air Temperature and Relative Humidity Sensor (for Snow Site):

Feature	Value
Site Conditions	
Ambient Temperature	From -40 to +60°C
Humidity	5 to 100 %
Altitude	0 to 5000 meter
Air Temperature Sensor	
Sensor Type	Platinum resistance or better or equivalent
Range	-40 to 60 Degree Celsius
Resolution	$\pm 0.1^\circ\text{C}$
Accuracy	Within $\pm 0.2^\circ\text{C}$ in the entire working range
Response Time	10 secs or lesser
Relative Humidity Sensor	
Sensor Type	Capacitive/ Solid State Humidity Sensor
Range	0 to 100 %
Resolution	0.1%
Accuracy	$\pm 3\%$ or better
Response time	10 secs or lesser
General	
Self-aspirated	To ensure continuous supply of air. Free from turbulence, water droplets and radiation
Power Supply	To be powered by solar power provided by bidder
Accessories	All accessories for mounting the instrument neat to Snow depth sensor e.g. special cross arm clamps or flag, if any shall be provided

Output Interface	SDI-12/ RS-485/ Analog
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6.6 Data Logger

Data Logger with 2 AI Sensor Input (For ARG / AWLR)

Feature	Value
Site Conditions	
Ambient Temperature	From -5to +50 Degree C
Humidity	5 to 100 %
Altitude	0 to 2500meter
Sensor Interface	
Analogue Inputs	2-Analogue Input Channels 4 to 20 mA, 100% over range withstand (Analog input channels are required in datalogger, if any sensor offered by bidder requires Analog interface to integration with datalogger)
SDI Port	One SDI-12 Interface port
Serial Port for sensor interface	RS-232/ RS-485 for sensor Interface
Pulse Input	1 Input for Rain Gauge impulse
Input - Output Interfaces	
Data Transfer	USB stick option for Data transfer
Port for Configuration	One Serial Port (RS-232) for communication with Laptop for programming
Port for Telemetry	2 Ports for Communication with Telemetry (GSM/ GPRS &INSAT) device. Both telemetry systems should work simultaneously for redundancy
Display Port	Port for connecting external display screen for data in running text
Computer Software	
Operating System	Windows software for system configuration / communication
Version	English language version
Licenses	All required licenses included
Analog to Digital Converter	
Resolution	16 bit or better
Conversion Accuracy	± 1 LSB
Sample intervals	1 Sec to 24 hours in 1 Sec increment (user scalable)
General Features	
Flash memory	Non-volatile Flash memory that can one store year of data and expandable

	upto a minimum of 1GB Via USB/SD Card
Resolution	A/D resolution ≥ 16 bit
Recording Interval	Individual recording intervals for each sensor/parameter
Firmware Operating System	Multi-tasking operating system - must log data and transmit at same time
Display	Inbuilt Digital Display for viewing current data and setting values
Power Supply	Shall be powered by Solar panel, to be provided by bidder with DCP, low current drain (quiescent ≤ 10.0 mA)
Battery Voltage	Monitoring of battery voltage level
Internal battery	Internal battery backup for clock, lithium battery, storage 2 years
Charge Controller	Internal or External
User Permissions	Different user levels, system of user rights / passwords, access restricted to unauthorized personnel
Internal clock	Internal clock with drift less than 1 second per Week
Keypad	For displaying or transferring data to memory stick, configuration of data logger and sensors
Real time clock	GPS synchronized & timing in IST format required
System integrity	System integrity check procedures
Enclosure	for wall-mounting in a shelter / enclosure with IP65 (NEMA 4 or equivalent) protection or better
Accessories	Serial cable + adaptor (if required) for notebook connection. All accessories (fixing units, etc.) as required
Tools	complete tool kit for installation and routine maintenance giving full detail (number of pieces and type)
Manuals	full documentation and maintenance instructions in English (1 copy per station).
GSM / GPRS MODEM	
Operating Temperature	From -5 to +60 Degree C
Performance	Data Reception availability of 95% or better
Form factor	The GSM /GPRS modem should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger
Specific Features	
Communication Direction	Utilize GPRS network for two-way connection with FTP, TCP/IP (INTERNET) connection and SMS
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event based transmission triggered by remote site

Power Saving	Ability to disable interrogation system in order to save power at remote site
Communication Protocol	Data transmission to execute HTTP Post or FTP, SMS to transmit data to the Data Center
Accessories	All associated equipment, including Antenna all cables and mounting hardware
Antenna features	
Frequency range	900 MHz: 824-960 MHz/1800MHz:1710-1880 MHz 4G and better
Impedance	50 ohms
VSWR	≤ 2.0
Radiation	Omni-directional
Operating temperature	-5 to + 60 degrees Celsius
Connector	SMA or suitable adaptable to GSM/GPRS modem
Cable length	As required

Data Logger with 8 AI Sensor Input (for AWS sites)

Feature	Value
Site Conditions	
Ambient Temperature	From -5 to +60°C
Humidity	5 to 100 %
Altitude	0 to 2500 meter
Sensor Interface	
Analogue Inputs	8-Analogue Input Channels 4 to 20 mA, 100% over range withstand (Analog input channels are required in datalogger, if any sensor offered by bidder requires Analog interface to integration with datalogger)
SDI Port	One SDI-12 Interface port
Serial Port for sensor interface	One RS-232 for sensor Interface One RS-485 for sensor Interface port
Pulse Input	1 Input for Rain Gauge impulse
Input - Output Interfaces	
Data Transfer	USB stick option for Data transfer
Port for Configuration	One Serial Port (RS-232) for communication with Laptop for programming
Port for Telemetry	2 Ports for Communication with Telemetry (GSM / GPRS and INSAT) device Both telemetry systems should work simultaneously for redundancy.
Display Port	Port for connecting external display screen for data in running text

Computer Software	
Operating System	Windows software for system configuration / communication
Version	English language version
Licenses	All required licenses included
Analog to Digital Converter	
Resolution	16 bit or better
Conversion Accuracy	± 1 LSB
Sample intervals	1 Sec to 24 hours in 1 Sec increment (user selectable)
General Features	
Flash memory	Non-volatile Flash memory that can one store year of data and expandable upto a minimum of 1GBVia USB/SD Card
Resolution	A/D resolution ≥ 16 bit
Recording Interval	Individual recording intervals for each sensor/parameter
Firmware Operating System	Multi-tasking operating system - must log data and transmit at same time
Display	Inbuilt Digital Display for viewing current data and setting values
Power Supply	Shall be powered by Solar panel, to be provided by bidder with DCP, low current drain (quiescent $\leq 10.0\text{mA}$)
Battery Voltage	Monitoring of battery voltage level
Internal battery	Internal battery backup for clock, lithium battery, storage 2 years
Charge Controller	Internal or External
User Permissions	Different user levels, system of user rights / passwords, access restricted to unauthorized personnel
Internal clock	Internal clock with drift less than 1 second per week
Keypad	For displaying or transferring data to memory stick, configuration of data logger and sensors
Real time clock	GPS synchronized & timing in IST format required
System integrity	System integrity check procedures
Enclosure	for wall-mounting in a shelter / enclosure with IP65 (NEMA 4 or equivalent) protection or better
Accessories	Serial cable + adaptor (if required) for notebook connection. All accessories (fixing units, etc.) as required
Tools	complete tool kit for installation and routine maintenance giving full detail (number of pieces and type)
Manuals	full documentation and maintenance instructions in English (1 copy per station).
GSM / GPRS MODEM	

Operating Temperature	From -5 to +60 Degree C
Performance	Data Reception availability of 95% or better
Form factor	The GSM /GPRS modem should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger
Specific Features	
Communication Direction	Utilize GPRS network for two-way connection with FTP, TCP/IP (INTERNET) connection and SMS
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event based transmission triggered by remote site
Power Saving	Ability to disable interrogation system in order to save power at remote site
Communication Protocol	Data transmission to execute HTTP Post or FTP, SMS to transmit data to the Data Center
Accessories	All associated equipment, including Antenna all cables and mounting hardware
Antenna features	
Frequency range	900 MHz: 824-960 MHz/1800MHz:1710-1880 MHz 4G and better
Impedance	50 ohms
VSWR	≤ 2.0
Radiation	Omni-directional
Operating temperature	-5 to + 60 °C
Connector	SMA or suitable adaptable to GSM/GPRS modem
Cable length	As required

Data Logger with 8 AI Sensor Input (for Snow Pillow Station)

Feature	Value
Site Conditions	
Ambient Temperature	From-20 to +60°C
Humidity	5 to 100 %
Altitude	0 to 5000 meter
Sensor Interface	
Analogue Inputs	8-Analogue Input Channels 4 to 20 mA, 100% over range withstand (Analog input channels are required in datalogger, if any sensor offered by

	bidder requires Analog interface to integration with datalogger)
SDI Port	One SDI-12 Interface port
Serial Port for sensor interface	One RS-232 for sensor Interface One RS-485 for sensor Interface port
Pulse Input	1 Input for Rain Gauge impulse
Input - Output Interfaces	
Data Transfer	USB stick option for Data transfer
Port for Configuration	One Serial Port (RS-232) for communication with Laptop for programming
Port for Telemetry	2 Ports for Communication with Telemetry (GSM / GPRS and INSAT) device Both telemetry systems should work simultaneously for redundancy.
Display Port	Port for connecting external display screen for data in running text
Computer Software	
Operating System	Windows software for system configuration / communication
Version	English language version
Licenses	All required licenses included
Analog to Digital Converter	
Resolution	16 bit or better
Conversion Accuracy	± 1 LSB
Sample intervals	1 Sec to 24 hours in 1 Sec increment (user selectable)
General Features	
Flash memory	Non-volatile Flash memory that can one store year of data and expandable upto a minimum of 1GBVia USB/SD Card
Resolution	A/D resolution ≥ 16 bit
Recording Interval	Individual recording intervals for each sensor/parameter
Firmware Operating System	Multi-tasking operating system - must log data and transmit at same time
Display	Inbuilt Digital Display for viewing current data and setting values
Power Supply	Shall be powered by Solar panel, to be provided by bidder with DCP, low current drain (quiescent ≤ 10.0 mA)
Battery Voltage	Monitoring of battery voltage level
Internal battery	Internal battery backup for clock, lithium battery, storage 2 years
Charge Controller	Internal or External
User Permissions	Different user levels, system of user rights / passwords, access restricted to unauthorized personnel

Internal clock	Internal clock with drift less than 1 second per week
Keypad	For displaying or transferring data to memory stick, configuration of data logger and sensors
Real time clock	GPS synchronized & timing in IST format required
System integrity	System integrity check procedures
Enclosure	for wall-mounting in a shelter / enclosure with IP65 (NEMA 4 or equivalent) protection or better
Accessories	Serial cable + adaptor (if required) for notebook connection. All accessories (fixing units, etc.) as required
Tools	complete tool kit for installation and routine maintenance giving full detail (number of pieces and type)
Manuals	full documentation and maintenance instructions in English (1 copy per station).
GSM / GPRS MODEM	
Operating Temperature	From -20 to +60 Degree C
Performance	Data Reception availability of 95% or better
Form factor	The GSM /GPRS modem should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger
Specific Features	
Communication Direction	Utilize GPRS network for two-way connection with FTP, TCP/IP (INTERNET) connection and SMS
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event based transmission triggered by remote site
Power Saving	Ability to disable interrogation system in order to save power at remote site
Communication Protocol	Data transmission to execute HTTP Post or FTP, SMS to transmit data to the Data Center
Accessories	All associated equipment, including Antenna all cables and mounting hardware
Antenna features	
Frequency range	900 MHz: 824-960 MHz/1800MHz:1710-1880 MHz 4G and better
Impedance	50 ohms
VSWR	≤ 2.0
Radiation	Omni-directional
Operating temperature	-20to + 60 degrees Celsius

Connector	SMA or suitable adaptable to GSM/GPRS modem
Cable length	As required

7.0 Data Collection Platform

7.1 Functional Requirement

- 1 The system shall automatically collect the observations from attached sensors, process and store them into its memory and transmit through GSM /GPRS communication link to central station as per the preprogrammed measurement interval, And also system shall transmit hourly basis data of every full hour IST to the ERS through satellite at preprogrammed transmission time
- 2 The DCP shall also continuously monitor the status of the instruments, power supply and communication. In the event of failure of an instrument or disruption of any of the power sources, an alarm shall be sent back to the ERS/modeling center.
- 3 The sensor's signal conditioning unit should be an integral part of the system.
- 4 The number of analog/ digital/ SDI-12 /RS-232 / RS-485 channels in the data logger must be compatible to the sensors being supplied and also for other battery monitoring systems.
- 5 The System shall have provision to easily include and change the following information in field as mandatory requirements:
 - Unique station identification code.
 - Time of observation and Transmission.
 - Sensor identification
 - Data transmission time for INSAT & GSM/ GPRS communication
 - Programmable Sensor data measurement interval
 - Configuration of Measurement, logging & GPRS/GSM data transmission interval
 - Gain, offset, Datum parameterization for all sensors
 - Configuration of FTP server & mobile number of data center.
- 6 Parameterization & configuration of RTDAS stations remotely through GPRS/ GSM communication also shall be available
- 7 The system shall have an integrated microprocessor based data acquisition and storage system having adequate hardware configuration and software support to serve as an interface between sensors and the communication link to perform tasks as stated below.
- 8 Providing necessary electrical power to the sensors and conversion of electrical output signals from the sensors into engineering value based on calibration information stored in the memory. Full compatibility with all types of sensors provided in the package shall be mandatory.
- 9 Storage of observed data along with time for all the parameters in the memory. Memory capacity to retain at least 365 days data is required. Data shall be available even if the

- power supply to the system has failed (RAM Backup battery) for one year.
- 10 The stored data shall be retrievable via serial port to a PC/ laptop or USB device. The downloaded data shall be provided in the prescribed format provided for GSM/GPRS in technical specifications
 - 11 Full compatibility with all types of sensors provided in the packages shall be mandatory.
 - 12 The system should be stand alone and all programming functions / setups to be carried out through system keypad and display independent of a PC / Laptop.
 - 13 The system should be capable of continuous updating of the values of sensed parameters and post processing the instantaneous values into average values over a specified period of time for transmission to the DCP with earth receiving station.
 - 14 Management of DCP transmitter to optimize the battery consumption.
 - 15 The system shall support the following functions:
 - Easy programming set up.
 - Multi-tasking capability.
 - User friendly software programming.
 - The system shall have self diagnostic facility and be capable of displaying station ID / sensor ID code and messages of the display panel for general identification of the fault. It should have facility to monitor these codes and other health status through an external laptop / PC.
 - Setup shall be organized in a tree of minus and sub minus. Protection of setup parameters and data through password should be supported by the system. In addition, the DCP shall support the manual entry of data through keyboard and its display.
 - Data including the setup and program files shall be transferrable from the system via. a serial port to PC and SD card or other suitable memory device and vice versa. The scripts / software for configuration of datalogger should be part of supply.
 - Facility for Pooling of data via GPRS shall available in data logger.
 - 16 The DCP shall be housed in a weather proof and temper proof housing of NEMA 4 type enclosure of steel or fiber glass.
 - 17 DCP Should be supplied with Software for configuration and troubleshooting
 - 18 The data logger shall be programmable locally in field via laptop / PC.
 - 19 The DCP shall be located in a place specified by the Engineer-in-charge at each site and shall be generally one meter above Highest Flood Level (HFL) attained at that site. The DCP at each site shall be located in such a way it is easily approachable even in floods.
 - 20 The surge operation in form of fuse or other appropriate device shall be provided for all interfaces to protect the data logger from the surges emanating from the sensor.
 - 21 The DCP shall have a provision to display, store and transmit the water level with respect to MSL or with respect to zero level/bed level (user selectable).
 - 22 The datalogger shall store data in memory, in case of GPRS/GSM communication failure.

The data shall be transferred automatically once GPRS/GSM communication is retained. This will ensure no data loss during no communication also.

- 23 The system shall provide a complete health status of the battery, transmitter and other components.

7.2 Technical Specification

7.2.1 INSAT Radio

Feature	Value
Operating Temperature	From -20 to +60 ° C
Environment Relative Humidity	0 to 100 %
Career Frequency	402 – 403 MHz
Carrier Settability	In steps of 100Hz from 402.0 MHz to 403.0 MHz
Modulator	PCM/BPSK
Data coding	NRZ (L)
Output Power	3-10 Watt user settable
Data Bit Rate	4.8 kbps
Frequency Stability	
a)Long Term	Transmit frequency inaccuracy including aging of oscillator should not exceed +-400Hz per year. Oscillators/synthesizer should have provision to adjust for the long term drift.
b) for temperature	±1ppm or better (-40 to +55 degree Celsius)
Signal Bandwidth	6.0 KHz maximum or better
Power Stability	±1dB
Spurious	-60dB or better
Harmonics	-40dB or better
Antenna cable	LMR 400 grade or better
Performance	Data Reception availability of 99% or better
Form factor	The Transmitter should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger
Operating Power	Switched 12V DC controlled by data logger
Yagi Antenna	
Polarization	LHCP or RHCP, switchable in field

Gain	Minimum 11 dbi or better
Center Frequency	402-403 MHz
Mounting	Proper mounting and Pointing arrangement for 360 degree azimuth and elevation adjustment
Operating Wind speed	250 kmph
Wind Survival	300 kmph
Material	Rust-proof and Oxidation-proof
Specific Features	
Satellite System	INSAT Radio System to be Used on the INSAT Satellite operated by ISRO
Certification	Certificate of acceptance required by ISRO and or IMD as part of the bid package
Accessories	All associated equipment, including GPS, GPS Antenna, INSAT Antenna, all cables and mounting hardware

8.0 Transmitter & Antenna

The INSAT transmitter should be an internal or external component of DCU. It should have necessary hardware and software to receive data from the datalogger and transmit in TDMA mode. The transmitter should have the capability to handle data transmission to the DRTs located on any of the INSAT series of satellites. The selection of frequency and mode of transmission shall be through software settings only. No hardware changes for switching from one satellite DRT to another are acceptable.

8.1 Antenna features

- i. The tenderer shall ensure compatibility of the antenna in the entire system and also ensure achievement of objectives given in the telemetry link calculations to be provided by the tenderer.
- ii. The antenna should not allow accumulation of rain water, there by degrading its performance.
- iii. The antenna shall have a proper mounting and pointing arrangement suitable for transmission to any one of INSAT satellites based DRTs (located anywhere in the geostationary arc from 45°E to 115°E longitude). The tenderer shall also provide suitable templates and fixtures/ tools for reorienting of the antenna towards any satellite by the field personnel as and when required.
- iv. Proper lightning and surge protection shall be provided to protect all the equipment connected to the antenna from atmospheric hazards. This arrangement shall be in addition to the general arrangement already covered under general scope of the work.
- v. Antenna to be designed with an optimum size so that it could be easily transported to remote and inaccessible places. Mounting of antenna should take care of Azimuth and Elevation changes. Systems have to operate in harsh and saline conditions and adaptable to tropical conditions.

- vi. The following technical features shall be supplied by the tenderer in addition to the technical information being provided by him as part of the Tender.

a.	Polarization	: LHCP and RHCP (Switchable in field)
b.	Gain	: Minimum 11 dBi or better
c.	Center frequency	: 402.50 MHz
d.	3dB Beam width	: 40°
e.	VSWR	: 1.2 : 1
f.	Impedance	: 50 ohms
g.	Axial Ratio	: To be specified by tenderer
h.	Operating wind speed	: 250 kmph
i.	Wind Survival	: 300 kmph
j.	Material	: Rust-proof and oxidation-proof for use in coastal and saline areas
k.	Connector type	: Compatible
l.	Mounting	: Should have engraved elevation angle marking
m.	Operating temperature	: -10°C to +55°C
n.	Operating Relative Humidity	: 0 to 100% RH
o.	Weight	: Light weight
p.	Size	: Small, portable
q.	Operating rain rate	: 100 mm/hr and water proof
r.	Mounting /Installation arrangements	Mounting shall be done on a mast with sufficient foundation and structural strength

9.0 INSAT Communication System

9.1 Time Division Multiple Access (TDMA) Scheme

Each TDMA type of transmitting system shall have a unique GPS synchronized time of transmission which must be stamped on the body of the system by the manufacturer. The burst data format is shown in Fig (1). However, CRC is added to the data frame and half rate convolution coded. It is then appended with CR & BTR preamble and UW and transmitted in TDMA mode. Burst duration is 186 milli sec.

The TDMA frame format is shown in Fig (2). TDMA technique is an open loop system with timing derived from GPS receiver which is part of RTDAS. TDMA frame duration is one hour. The one hour frame is divided into 2 time windows, each of 30 minute duration. Each RTDAS is assigned 1-second time slot in first 30-minute slot and the repeat transmission is after 30 minutes, which falls in the next time slot.

The one second frame is worked out taking into account the following details:

- 20 millisecond differential propagation delay over coverage area.

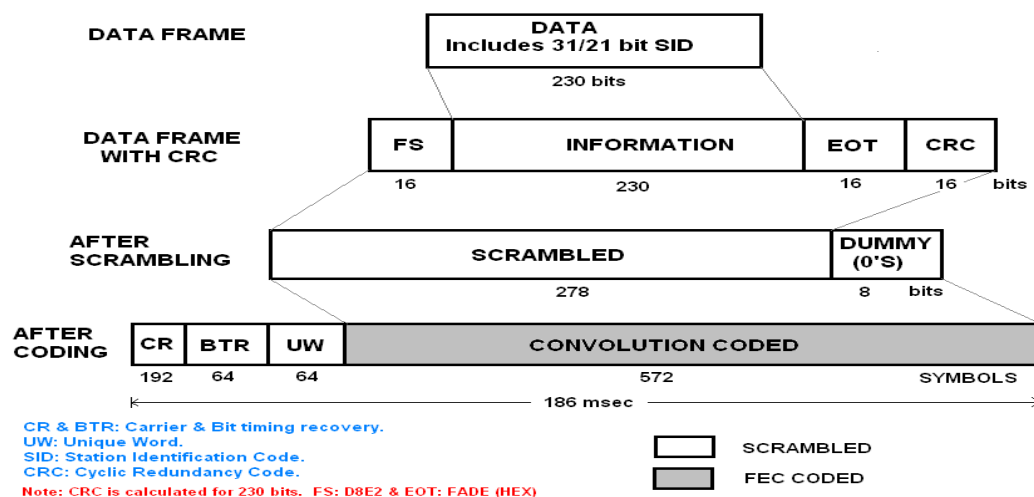
- RTC clock accuracy around 150 millisecond per day - GPS receiver updates RTC once every twenty four hours to conserve battery power of RTDAS.
- GPS receiver accuracy of less than 1 microsecond
- Guard time required in the present burst receiver at Hub station.

9.2 Features of ISRO TDMA transmission

Features of ISRO TDMA transmission scheme are provided for general guidance. However international norms applicable for TDMA may be followed.

- Total number of AWS that could be accommodated in a single carrier is 1800.
- By including CRC in the data frame, data validity could be ensured.
- With preserving BCH coding of SID, data quality could be checked and valid data retrieved even for the bad CRC.
- By preserving present SID (Station Identification Code) structure of IMD, SID for all users of DRT could be standardized. The SID consists of 21bits (9 bits for user type, 2 bits for priority, and 10 bits for Platform ID)
- With Forward error correction convolution coding, better data quality is ensured.
- With one repeat transmission, reliability of data reception is improved.

1	CRC CODE GENERATION	Polynomial; CRC-CCITT-16 $X^{16}+X^{12}+X^5+1$
2	DATA SCRAMBLING	Polynomial: $1+X^{-1}+X^{-15}$ Initial State: 6959 (Hex)
3	CONVOLUTION ENCODING	Convolution Coding ½ Rate, Constraint Length K=7 Polynomial: G1=133(Octal), G2=171(Octal)
4	HEADER DETAILS	CR: 192 Symbols (all '0's) BTR: 64 Symbols (all '1's) UW: 64 Symbols (07EA CDDA 4E2F 28C2 (Hex)) Note: UW transmitted with LSB first of every byte, starting from 07EA. (See Fig.1)
5	RF DATA ENCODING	Differential coding (NRZ-L) is done for the entire burst (Preamble and the convolution coded bits) before RF modulation.



(i)

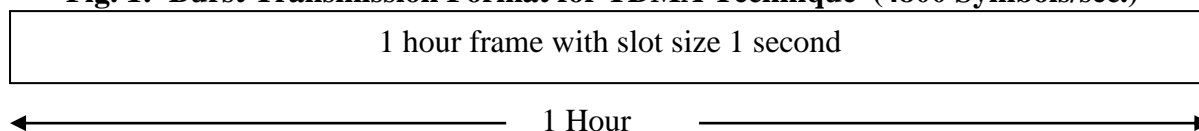
Fig. 1: Burst Transmission Format for TDMA Technique (4800 Symbols/sec.)**Fig. 2: TDMA Transmission Frame Format**

Fig.1 may be referred to. CRC is calculated for 262 bits which include FS and EOT. It is then scrambled. 1byte, all '0's is added with the scrambled bits, after which the entire bits are convolution coded. Preamble (CR, BTR and UW) is appended with the convolution coded bits. The resulting bits are then differential coded and transmitted.

The system should have flexibility to accommodate more number of carrier channels by suitable changes in the TDMA transmission scheme.

More details will be provided at the time of the design review meeting which will be held with the successful bidder. However, it should be ensured by the bidder that the system configuration is flexible and accommodate all offered sensors without any additional cost.

9.3 INSAT DRT Specifications

For the purpose of data transfer from field AWLR/AWS/ARG units to CWC Earth Receiving Station at Delhi/Burla/Jaipur the Data Relay Transponder (DRT) on the different INSAT / KALPANA-1 series of satellites shall be used and the specifications given below shall be treated as standard to be adhered by the offered telemetry system.

SATELLITE	KALPANA-1 74° E	INSAT-3A 83°E	INSAT-3D 82°E
RECEIVE FREQ. BAND	402.65 - 402.85Mhz	402.65 - 402.85Mhz	402.10 - 402.50Mhz
TRANSMIT FREQ. BAND	4500-4510Mhz band 4506.05Mhz	4500-4510Mhz band 4506.05Mhz	4500-4510Mhz band 4506.05Mhz

RECEIVE G/T	-19db/deg.K	-19db/deg.K	-19db/deg.K
MAX.EIRP	24dBW peak	24 dbW peak	24 dbW peak
C-BAND EIRP for RECEIVE FLUX DENSITY	2.0dBW for -146 dBW/m ²	2.0 dbW for -146 dBW/m ²	2.0 dbW for -146 dBW/m ²
REC.POLARI SATION	RHCP	LHCP	LHCP
TRANSMIT POL	LINEAR	LINEAR	LINEAR
FREQ.TRANS LATION ERROR	± 40Khz over life ± 6Khz over 1 month	± 40Khz over life ± 6Khz over 1 month	± 40Khz over life ± 6Khz over 1 month

Data Relay Transponder (DRT) onboard INSAT 3D will have a receiving frequency band of 402.3 MHz ± 200 KHz.

9.4 Channel Specifications for TDMA transmission format

Table below gives the present AWS / RTDAS parameters and their identification code used in the TDMA transmission format.

Sl.No.	Channel no.	Identification Code	Parameter
1	Cal1	C1:	Battery voltage (volts)
2	Cal2	C2:	Hourly rainfall
3	Cal3	C3:	Daily rainfall (rounded off to next higher integer). Reset at 08:00 IST
4	1	0000 (s00:)	Instantaneous sampled value of air temperature in deg C at the end of every full hour.
5	2.	1010 (s10:)	Snow Depth at end of every full hour
6	3	1011 (s11:)	Evaporation at end of every full hour
7	4	0100(s04:)	Wind speed (3 minute vector averaging prior to full hour).
8	5	0101(s05:)	Wind direction in degrees (3 minute vector

			averaging prior to full hour).
9	6	0110 (s06:)	Atmospheric pressure at end of every full hour
10	7	0111(s07:)	Instantaneous value of RH at the end of every full hour
11	8	1000 (s08:)	Water Level (Integer Part)
12	9	1001 (s09:)	Water Level (Decimal Part)
13	10	1110(s14:)	Duration of bright sunshine since last mid night. Reset to zero at mid night. (Global radiation will be transmitted in this slot instead of duration of sunshine.

9.5 GSM / GPRS Communication

Table below gives the GSM / GPRS data parameters and their identification code format which is required to transmit the data from datalogger to FTP server.

FORMAT:

&Station ID, Date and Time,MobileNumber,Battery,WaterLevel,HourlyRainfall,Dailyrainfall,Airtemperature,SnowDepth,Evaporation,Windspeed,Winddirection,Atmosphericpressure,Humidity,Sunshine Duration

Example Data String:

&738D1E76,07/01/18 10:00,9849556430,13.5,26.347,1.5,15.5,-11.4,--,187,1.2,256,936.7,56,125

Sl.No.	Channel no.	Parameter
1	Station ID	Start of String should be ‘&’ and Eight Characters Station ID provider by bidder
2	Date and Time	Measurement date and Time in DD/MM/YY HH:MM
3	Mobile Number	Mobile no of remote station SIM
4	Battery	Battery voltage at end of every full hour in Volts with 1 right digit
5	Water Level	Water level at end of every full hour in Mts. with 3 right digit
6	Hourly Rainfall	Hourly rainfall in mm. with 1 right digit
7	Daily rainfall	Daily rainfall (rounded off to next higher integer).in mm. with 1, right digit reset at 08:00 IST

8	Air Temperature	Instantaneous sampled value of air temperature in deg C with 1 right digit at the end of every full hour.
9	Snow Depth	Snow Depth at end of every full hour in Mts. with 3 right digit
10	Evaporation	Evaporation at end of every full hour in mm. with 0 right digit
11	Wind speed	Wind speed in knots with 1 right digit (3 minute vector averaging prior to full hour).
12	Wind direction	Wind direction in degrees with 0 right digit (3 minute vector averaging prior to full hour).
13	Atmospheric pressure	Atmospheric pressure at end of every full hour in hpa. with 1 right digit
14	Relative Humidity (RH)	Instantaneous value of RH at the end of every full hour in %. with 0 right digit
15	Solar Radiation / Sunshine Duration	Global Solar Radiation in W/m ² Or sunshine Duration since last mid night. Reset to zero at mid night In number of minutes. (Global radiation will be transmitted in this slot instead of duration of sunshine)

Note:

1. If any sensor is not connected then it should transmit '--' characters in place of the sensor value.
2. Attached format is indicative, recommended for standardised data acquisition for development of unified Water Information System. In case bidder deviates from this format then bidder shall be responsible for integration of the data in E-SWIS without any manual intervention.

10.0 Lightning Protection

The entire unit has to be adequately protected against lightning and build of static charges. The lightning rod should protrude 1 m above the highest point (Antenna) and should be placed in the center of the pole. The mast should be electrically grounded by following as per CPWD earthing procedures. As a part of the maintenance, the earthing equipment shall be inspected on a yearly basis for its conductivity and effectiveness. Such inspection shall be carried out in the pre-monsoon period and any faults noticed shall be rectified.

11.0 Earthing for Equipment

The electrical grounding for all other electronic and electrical equipment should be done by following standard CPWD procedure. The earthing for the equipments should be done

separately and should have a minimum distance of 2.5 meter from the earthing done for lightning rod. In no case both the earths should be done in the same earthing rod.

As a part of the maintenance, the earthing equipment shall be inspected on a yearly basis for its conductivity and effectiveness. Such inspection shall be carried out in the pre-monsoon period and any faults noticed shall be rectified.

12 SOLAR POWER SUPPLY WITH BATTERY BACKUP

12.1 Solar Power Supply

Solar Panel mounting hardware designed to allow a great variety of attachment methods and accommodate a variety of mounting surfaces. They may be used to mount a module on a horizontal or vertical surface, on surfaces at angles between horizontal and vertical and on metal or wooden poles. Attachment methods include bolts, lag bolts, u – bolt brackets and stainless steel hose clamps.

The Solar power supply shall be mounted on the roof of site buildings where existing. The Bidder shall supply a pole – mounted arrangement including a standard pole and necessary foundation and fixing arrangements.

The location of solar power installation shall be indicated by the concerned engineer – in – charge of each DCP.

In order to guard against frequent theft of solar panels the mounting device shall be so designed as to make the solar panel detachable as and when required. It is intended to store the solar panel during the night hours as well for longer durations in the non-monsoon period and the arrangement should be designed in such a way that the arrangement is sturdy and capable of handling frequent disconnecting and re connections.

The power supply shall primarily function through a set of sealed maintenance free rechargeable batteries capable of preventing deep discharge.

12.2 Batteries

The batteries required for the equipment above shall be maintenance free, rechargeable sealed batteries with the following features:

- Overcharge and deep discharge protection
- Leak-proof
- Easy handling – no special shipping container required
- Long service life
- Excellent recharge ability

One battery pack shall be provided for each DCP. The batteries pack provided shall have adequate capacity to sustain the maximum sized DCP configuration of sensors and telemetry equipment for a period of 15days of continuous operation at the frequency of one observation per hour per sensor and one transmission per hour on a 24-hourly basis. This capacity shall be available at the end of second year of continuous operation.

The necessary housing and configuration of the batteries shall be furnished in detail by the Bidder.

The battery pack shall also include arrangements of charging through a standard 220 V AC domestic power supply outlet and also from solar panels established as above. The normal supply to the DCP equipment shall be from battery pack only.

The power supply unit shall have audio and/or visual alarms for overcharging and deep discharging conditions. The charge level shall also be indicated on the front panel of the pack.

The sealed construction shall allow trouble-free, safe operation in any position. The battery case shall be high-impact, with sufficient resistance to shock, vibration, chemicals and heat.

14.3 Power Supply for DCP

The equipment offered should conform to the following technical specifications

Feature	Units
Battery	
Voltage	0 to 60 V
Type	Sealed maintenance free
Capacity	Based on site conditions and Telemetry method, power supply system to provide 15 days of power back up to all equipment's being powered up by the solar panel
Solar Panels	
Size	Based on site conditions and telemetry method, power supply system shall provide 15 days of backup to all equipment's being powered up by the solar panel
Mounts	The mounts should be sturdy in design; the solar panel should not move or rotate with wind. It should have provision to adjust direction and elevation during installation for optimal solar power generation.
Charger	Smart solar charger with protection
General	
The supplier should determine optimal size of solar panels and batteries, such that system should be operational for at least 15 days in the absence of charging	

1. SPECIFICATION FOR CABLING AND CONDUITS

- i. The term cable shall always include necessary type of connectors at both the ends for connecting between two equipment. The connectors shall be properly anchored with protective sheathing of the cable in such a way that the loads due to pulling and twisting shall be borne by the protective sheathing and the conductors shall not be subjected to any stress.
- ii. The connectors shall be so fixed on the individual components of the system that the metal/ plastic connector shall always transfer the loads due to pulling and twisting directly

to the protective body of the component and the internal interface cards/ connections shall not be subjected to any load.

- iii. Laying of necessary data and power supply cables for connecting various components and embedding them or protecting them with necessary conduits shall be carried out as per directions of engineer-in-charge.
- iv. Wherever the cables are to be laid indoors and the length of the individual cable run exceeds 1 meter, the cable shall be housed in a protective conduit made of electrical supply grade conduit of appropriate diameter and the conduit shall be fixed with the wall at a height not less than 1 meter above the floor surface. Whenever the indoor cable is required to cross the floor, it shall be housed in a HDPE pipe of 25mm internal diameter and the pipe shall be fixed to the floor with suitable protective covering to avoid tripping of personnel using the area or disturbance to the pipe due to such movement.
- v. Wherever cables are to run through open ground including the public road and pathways, the cable shall be armored /shielded and shall be water ingress proof up to static water pressure of 5 kg/cm². All joints made in cable shall also meet the water proofing criteria. In addition, the cable shall be protected by housing the same in 25 mm HDPE pipe/flexible metallic conduit embedded at a depth of not less than 1.0 meter below the ground surface with a warning brick on the same. A sketch of the cable layout with respect to the identifiable marks of the area shall be prepared and handed over to the Engineer-in-charge for each such cable run on completion of the work of cable laying operation.
- vi. The joints in the cable connecting between the sensor and data collection unit shall be avoided by measuring the appropriate length of the cable required and attaching the same in one piece. If the cable joints become necessary, prior permission of the Engineer-in-charge shall be obtained before executing the same. The joint fabricated through a splicing and jointing kit shall be stronger than the parent cable.
- vii. The cable carrying data and electrical AC power shall be housed separately in different conduits separated by adequate distance to prevent leakage currents. The data cables shall also be laid out in such a way that the data integrity is not compromised due to mutual interference.
- viii. Shielded (screened) cables shall be used for external Cabling The power and control cables shall be generally as per IS 8130/34. For these cables, equivalent IEC/IS specifications are also acceptable
 - All cables shall have stranded copper conductor of suitable cross section depending on load.
 - The Communication cable/power cable shall be of shielded, twisted pair type.

These are minimum requirements. Bidder is free to propose improved cabling technology

13. Data Processing Hardware at Data Centre

The purchaser will provide room at Data center equipped with requisite furniture etc. The purchaser will also provide a Local Area Network connecting the modeling center server with the other nodes on the network for analysis purposes.

The data collected at site from various DCPs will be stored and transmitted through INSAT telemetry every hour to ERS of CWC, New Delhi/ Jaipur /Burla. Also the GPRS & GSM data shall be simultaneously transmitted by DCP and shall be received by GPRS & GSM receiving station at State Data center Lucknow. Thereafter, both data shall be transmitted to e-SWIS software through internet for further processing in the form of reports /bulletins. The decoded and/or raw data along with reports /bulletins will be sent to Data Centre at North Eastern States through Internet and e-SWIS cloud. The necessary automated arrangement is to be made by Bidder.

The Bidder shall provide one high end server with online 3KVA UPS with power backup of 4 hour and one computer node at each North Eastern State Data Center at Gangtok, Shillong, Aizwal, Itanagar, Agartala, Kohima, Imphal. The all the consumables (including batteries) except cartridge papers shall be responsibility of the Bidder during the entire period of warranty and AMC.

Hardware at state data center shall be provided by bidder which will mainly comprise of following major item:

- a) Server with monitor for reception of INSAT and GSM/GPRS telemetry data and Data storage of 8TB for 5 years
- b) Computer Node (Workstation) with monitor for report generation for operator
- c) Necessary data switch, router and fire wall for maximum 8 mbps internet speed
- d) 3KVA online UPS with 4 hours backup time
- e) A3 Size Color printer
- f) 42" LED display

The minimum specification of server, computer node are as below:

13.1 Technical Specification:

- a) Server having two nos. of x86 64-bit processor (Intel Xeon E5-2620 v4),
- b) 64 GB DDRIII expandable to 256 GB,
- c) Integrated Graphics Controller,
- d) SAS RAID Controller supporting RAID 0, 1,
- e) 2*600 GB SAS Hot Swap HDD (10 K or higher RPM),
- f) Dual 1 Gbps Network port,
- g) DVD WRITE drive,
- h) 23" TCO 05 certified TFT Monitor,
- i) OEM Keyboard and OEM Mouse,

- j) Server Chassis having Redundant Hot Swappable Power Supply with 8 Hot Swap drive bays,
- k) Certification for Linux and Windows,
- l) Operating system: Windows Server (2012 or later)
- m) All required device drivers for System Configuration and Server Management Support including all accessories and operating window server software's, latest MS office software & firewall system, with Good antivirus etc.

13.2 Computer Node

Operating system	Windows 10 Home/Professional 64bit
Chipset	Intel H270 and above or equivalent
Processor	Intel® Core™ i7-6700T with Intel® HD Graphics 530 (2.8 GHz, up to 3.6 GHz, 8 MB cache, 4 cores) and above or equivalent
Memory, standard	8 GB DDR3L and above or equivalent (RAM)
Hard drive description	1 TB 7200 rpm SATA and above
Display	58.42 cm(23) diagonal WLED-backlit (1920 x 1080). Touch-enabled (optional)
Optical drive	DVD-Writer
Network interface	Integrated 10/100/1000 Gigabit Ethernet LAN
Wireless	802.11b/g/n (1x1) and Bluetooth® 4.0 combo (Optional)
Port	4 USB 2.0; 2 USB 3.0; 1 headphone/microphone combo
Pointing device	USB wired/wireless optical mouse
Keyboard	USB wired/wireless standard keyboard
Pre-installed software	Preinstalled MS Office Lifetime with Good antivirus is preferred.

13.3 Printers Specifications

A3 size color printer shall be procured for State data Center shall be procured from a reputed manufacturer.

- i. A 3 color printer
- ii. Functions: Print, Copy, Scan
- iii. Printing Up to 20 page/minute

- iv. Black & color printing: As fast as 9.5 sec per page
- v. Recommended monthly page volume: 250 to 2000
- vi. Processor speed: 600MHz
- vii. Connectivity: ePrint capability
- viii. Paper handling input, standard: 100 sheet input tray
- ix. Paper handling output, standard: 100-sheet face-down bin

13.4 Display Unit (LED)

All display units shall be from reputed manufacturers

- i. Screen Type : 42'' Screen LED
- ii. Display resolution: 1920 x 1080 or better
- iii. Colors: 256 colors
- iv. Interfaces: 1 x Ethernet (RJ45) (max. 12Mbit/s),HDMI port, USB port 1 x USB Multimedia card / SD card slot combined.
- v. Industrial Ethernet : 1 x Ethernet (RJ45)
- vi. Protocols: Protocol (Ethernet) TCP/IP
- vii. Image formats Supported: JPEG,JPS,MPO
- viii. Sound technology : Dolby digital

2. TRAINING AND DOCUMENTATION

The Bidder is required to provide an extensive training programme for the system. The training set forth in the following paragraphs is a minimum requirement and the bidder should propose any additional training that he considers critical for long term success of the system operations.

The Bidder is expected to provide an outline or table indicating the contents of each of the required courses. The table shall describe the specific topics to be covered for each day of the training period.

The Bidder is responsible for the salaries of the training instructors and all training materials. The costs of travel, transportation and per diem for the trainees shall be borne by the Purchaser.

Training shall be provided by the bidder in several phases. The training shall include both classroom and field trainings and will be continued during all five years. The bidder is required to have hydro-meteorological equipment specialists.

The Bidder shall provide trainings as training modules to each North Eastern State as part of the Tender given as under:

S. No.	Description	Numbers of training	Number of Participants per session

1	User Training Course for senior management. (one day)	3 (1 before/during commissioning and 2 during warranty and AMC)to each North Eastern State	15
2	Operation and Maintenance course (3 days). Course topics will include sensor calibration, data logger configuration, data downloading, data retrieval, collection, Trouble shooting, processing, maintenance requirements, and procedures for equipment configuration, installation, site testing and commissioning, .	5 (2 before /during commissioning and 3 during warranty and AMC)to each North Eastern State	30

All aspects of the electrical, instrumentation and telemetry equipment being supplied shall be covered in the courses and full documentation shall be provided. The documentation and kits shall be got approved from purchaser in advance. The course shall provide detail documentation and shall ensure that the purchaser's personnel shall be able to modify settings/ parameters without reference back to the Supplier. The places / sites where this training will be decided later by the purchaser.

- 14.2 TA/ DA of the trainees shall be borne by the purchaser.
- 14.3 Training kit containing course material in soft as well as hard copy shall be provided by the Bidder.
- 14.4 All logistical arrangement such as projector, training space etc. for training is to be made by purchaser.

3. PREVENTIVE MAINTENANCE

The bidder shall be responsible for operation and maintenance of all stations /components of installations, commissioning, site acceptance and operation tests. All equipment maintenance cost, repairs, replacements and repairs to civil work shall be borne by the bidder during the warranty and AMC Period. The scope of O&M support would include all materials and services including replacement of components and consumables (batteries etc.), mandatory spare parts required to ensure smooth and sustainable operations of the entire system. The bidder shall provide monthly maintenance reports during the course of maintenance. The bidder shall supply a Manual specifying all the faults experienced by the system together with an account of how such faults have been rectified.

The bidders shall ensure the following visits at remote site for preventive maintenance. The bidder should take time stamped geo tagged photographs of the equipment during each maintenance visit (either scheduled or unscheduled visit). The photographs should show the condition of equipment before maintenance, during maintenance and after maintenance.

15.1 Schedule Showing Frequency of Scheduled Visits for Routine and Preventive Maintenance

Sl. No.	Station Category	Minimum Preventive Visits yearly	Remarks
1	Maintenance of data Server& allied equipment's in Data center.	4	Every Quarter (immediately after final acceptance) and also on need basis
2	Maintenance of Automated River and Reservoir level Stations	4	One pre-monsoon, two in monsoon period and one in post monsoon and also on need basis
3	Maintenance of Automated Rain gauges	4	One pre-monsoon, two in monsoon period and one in post monsoon and also on need basis
3	Maintenance of Snow-water Equivalent (SWE) Stations	4	One pre-winter, two in winter period and one in post winter and also on need basis

15.2 Operation & Maintenance

- (i) Bidder shall provide at least one dedicated Service Engineer cum operator at the State Data Center for Operation of RTDAS system and ensure seamless data transfer from remote station to ERS at Delhi /Jaipur / Burla & then to State data Center via Internet& e-SWIS software and also GPRS /GSM data transmission as per technical specifications.
- (ii) The Service Engineer shall have experience of working on Hydro-met stations /Instrumentation / SCADA system for period of at least 3 years and shall be well versed with Operation and Maintenance aspects of RTDAS systems.
- (iii) Operation and Maintenance shall include free of cost repairs/ replacement of hardware and Software necessary to keep the system functional for the period of five years (Warranty) from Date of Installation, and further during 2 years of AMC.

4. BIDDER SHALL FURNISH CLAUSE BY CLAUSE COMMENTARY AGAINST THE LAID DOWN TECHNICAL SPECIFICATION AND STANDARDS AS PER THE FORMAT GIVEN BELOW:

TECHNICAL RESPONSIVENESS FORM

(A) Summary of Instructions

- i. Particulars of Manufacturer and local agent cum representative are to be given under rows Model and Address.
- ii. **All entry boxes in column “Specification and Standards as offered in by Bidder” shall be filled-in accurately and comprehensively. Quantitative fields shall be filled in accurately. It is not acceptable to use ‘Yes’, No, Compliant or similar evading words. Following format is designed to help the Bidder to understand the requirements of the equipment being procured. The Bidder must describe in the format how his bid responds to the technical requirements of the equipment. Bidder to note that one or two word responses (e.g. “Yes”, “No” “will comply” or similar evading words) are normally not sufficient to confirm the responsiveness with the technical requirements, hence elaborate responses are sought from the bidders. In case deviation on the following technical requirements of equipment is not as per the minimum criteria mentioned, the bids may be declared “non-responsive”.**
- iii. Requested materials and information shall be enclosed with the bid and be unambiguously associated with instruments as offered in the bid
- iv. Negligence to comply with the instructions and requirements as stated above makes the bid liable to be rejected.
- v. Abbreviations: OD-Outer Diameter; ID-Inner Diameter; FS-Full Scale; Pa-Pascal (unit of pressure), RTDAS-Real time data acquisition system; DRS-Data Retrieval System; DCP-Data collection Platform, AWS- Automatic Weather Station, ARG- Automatic Rain Gauge, AWLR- Automatic Water Level Recorder.
- vi. Sample interval is the interval at which samples or sensor readings are taken. The recording / measurement interval defines the interval at which the data records are stored in memory. A data record can represent a single sample or the average of a number of samples. In particular the result of the wave suppression filter is a single record representing the average value of a number of samples.

(B) Entries requiring special attention

- i. In entries 5.0 to 15.2 the bidder's experience with the offered equipment should be clearly reflected. The proposed maintenance interval and the recommended spares as offered in the bid shall be based on instrument deployment history. The training proposal shall be based on experience in similar cases. Moreover, it shall consider the educational level and specialization of the trainees.

(C) Bidder shall provide information in the formats given below:

- i) Make/ Model/ Local Agent:

Bidder	AWLR make / model	AWR make /model	AWS make /Model	Snow Pillow Station make/Model	Data Logger make/ model	Data Server make / Model
Name / Complete Address/Website/E-mail	Model: Manufacturer: Name: Place: Tel: Fax: E-mail: Web:	Model: Manufacturer: Name: Place: Tel: Fax: E-mail: Web:	Model: Manufacturer: Name: Place: Tel: Fax: E-mail: Web:	Model: Manufacturer: Name: Place: Tel: Fax: E-mail: Web:	Model: Manufacturer: Name: Place: Tel: Fax: E-mail: Web:	Model: Name: Address: Tel: Fax: E-mail: Web:

ii) Clause by Clause Commentary against laid down technical specifications:

Technical Specifications

Radar Type Water Level Sensor

Name of Goods-Its Features	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
RADAR Water Level Sensor		Make: Model:	
Site Conditions			
Ambient Temperature	From -5 to +60 ° C		
Humidity	0 to 100 %		
Altitude	0 to 2500 meter		
Sensor			
Sensor Type	Microwave non-contact sensor		
Range	0 to 35 meters 0 to 50 meters- for two sites at (Kawlchaw, Siaha under Package-IV – Mizoram)		
Resolution	3 mm or better		
Accuracy	0.02 % FSO		
Output Interface	SDI-12 / RS-485 / 4-20mA		
Power Supply	To be powered by Solar Panel provided by bidder with DCP		

Beam angle	Less than 16 degrees.		
General Features			
Material	Corrosion Resistance (Stainless steel / Aluminum / PVC / UV stabilized ABS with metal casing)		
Enclosure	The Sensor shall be easy to dismount and replace in the event of malfunction.		
Tools	Complete tool kit for operation and routine maintenance		
Manuals	Full Documentation and maintenance manual in English		
Accessories	Sensor Mounting support, cables and other accessories as required		
Protection	NEMA 4 or IP67 or better		
Horizontal Mounting/Installation Arrangements	Above FRL, below a bridge girder wherever available otherwise horizontal cantilever arrangement from a mast/wall/pedestal to be provided		
Radar Sensor should have inbuilt diagnostics feature & averaging feature			

Automated Weather Station Sensors

Name of Goods-Its Features		Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Site Conditions				
Ambient Temperature		From -5 to +60 ° C		
Humidity		5 to 100 %		
Altitude		0 to 2500 meter		
Air Temperature and Relative Humidity Sensor			Make: Model:	
Air Temperature Sensor				
Sensor Type		Platinum resistance or better or equivalent		
Range		-5 to 60 Degree Celsius		
Resolution		±0.1°C		
Accuracy		Within ±0.2°C in the entire		

	working range		
Response Time	10 secs or lesser		
Relative Humidity Sensor			
Sensor Type	Capacitive/ Solid State Humidity Sensor		
Range	0 to 100 %		
Resolution	1%		
Accuracy	±3% or better		
Power Supply	To be powered by solar power provided by bidder with DCP		
Response time	10 secs or lesser		
Self-aspirated	To ensure continuous supply of air. Free from turbulence, water droplets and radiation		
Power Supply	To be powered by solar power provided by bidder with DCP		
Accessories	All accessories for mounting the instrument at ~1.5mts height above the ground level e.g. special cross arm clamps or flag, if any shall be provided		
Output Interface	SDI-12/ RS-485/ Analog		
Wind Speed and Direction Sensor		Make:	
		Model:	
Sensor Type	Ultrasonic sensor (No moving Parts)		
Range	0-60 m/s for speed and 0–360 degrees for direction		
Resolution	0.1m/s for Speed; ±1 degree for Direction		
Accuracy	Wind speed ± 2% ± 0.1m/s (upto 20 m/s) and ± 3% (for 20 to 60 m/s) Wind direction ±5° or better		
Response time	Less than 1 second lag in operating range		
Mounting	All accessories for mounting the instrument at 10mts height above the ground level, e.g. special		

	cross arm clamps or flag if any shall be provided.		
Output Interface	SDI-12 / RS-232/ RS-485		
Air Pressure Sensor		Make: Model:	
Sensor Type	Temperature Compensated		
Range	600 to 1100 hPa		
Resolution	± 0.1 hPa		
Accuracy	±0.2hPa		
Power Supply	To be powered by solar power provided by bidder with DCP		
Output Interface	SDI-12 / RS-232/ RS-485		
Solar Radiation Sensor			
Sensor Type	Silicon Pyranometer	Make: Model:	
Threshold	120 W/m2 of direct solar irradiance		
Methodology	Alternate shading of sensor to account for sky radiation or Sunshine duration shall be computed in datalogger		
Spectral Range	400nm to 1100 nm		
Range	0-2000 W/Square meter		
Resolution	1 W/Square meter		
Accuracy (Including Temperature Compensation)	3% or better		
General Features			
Material	Corrosion Resistance Metal (Stainless steel / Aluminum)		
Tools	Complete tool kit for operation and routine maintenance		
Manuals	Full Documentation and maintenance manual in English		
Accessories	All accessories for mounting the instrument at ~1.5mts height above the ground level e.g. special cross arm clamps or flag, if any, shall be provided		

Output Interface	SDI-12/RS-485/ 4-20 mA /Analog		
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Soil moisture Sensor

Name of Goods-Its Features	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Soil moisture Sensor		Make: Model:	
Site Conditions			
Ambient Temperature	From -5 to +60 Degree C		
Humidity	5 to 100 %		
Altitude	0 to 2500 meter		
Soil moisture			
Range	0 to 0.7 m ³ /m ³		
Accuracy	± 0.03 m ³ /m ³		
Resolution	Better than 0.01 m ³ /m ³		
Soil calibrations	Generalised calibration for Mineral and Organic soil		
Soil Temperature			
Range	0 to 40 ° C		
Accuracy	± 0.5 ° C		
General Features			
Measurement Depth	30 cm below ground level		
Power Supply	To be powered by solar power provided by bidder		
Accessories	All accessories for installation of the instrument at desired level below the ground level shall be provided		
Protection	IP68 or better, Sensor should be withstand long term burial under ground		
Output Interface	SDI-12 / RS-485 / Analog		

Automated Rain Gauge Sensor

Name of Goods-Its Features		Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Automated Rain Gauge			Make: Model:	
Site Conditions				
Ambient Temperature		From -5 to +60 Degree C		
Humidity		5 to 100 %		
Altitude		0 to 2500 meter		
Sensor				
Sensor Type		Tipping Bucket type with reed switch		
Range		250 mm/h or better		
Resolution		0.5 mm or better		
Accuracy		2% or better, ± 2 mm		
General Features				
Output Interface		SDI-12/ RS-485 / 4-20 mA / Switching closure output		
Power Supply		To be powered by solar power provided by bidder with DCP		
Material		Corrosion Resistance Metal (Stainless steel/ Aluminum)		
Enclosure		NEMA 4 or IP65		
Tools		Complete tool kit for operation and routine maintenance		
Manuals		Full Documentation and maintenance manual in English		
Accessories		Sensor Mounting support, cables and other accessories as required		
Protection		Bidder shall provide spout filter and bird cage to prevent ingress of insects and debris And with Bubble Spirit Level and adjustable legs for horizontal alignment of tipping bucket mechanism		
Certification		IMD/ WMO certification shall be provided.		

Snow Station Sensors--**Snow Pillow - Snow Water Equivalent (SWE)**

Name of Goods-Its Features	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
<u>Snow Pillow with Sensor</u>		Make: Model:	
Site Conditions			
Ambient Temperature	From -20 to +60 ° C		
Humidity	5 to 100 %		
Altitude	0 to 5500 meter		
Snow Pillow <ul style="list-style-type: none"> • For measurement of snow water equivalent • Consisting of liquid-filled pillow and pressure transducer (or, alternatively, a system consisting of a standpipe, float and shaft encoder) • Four snow pillow per station plumbed together • Total area min 7 m2 (80 sqft) • Tanks made from stainless steel by manufacture experienced with fabricating snow pillow tanks. • Antifreeze solution for filling snow pillow • Pipes and valve as required 			
Range	1000 mm water equivalent		
Pressure measuring Accuracy	1% full scale (10mm)		
General Features			
Output Interface	SDI-12/ RS-485 / 4-20 mA / Compatible with Data logger		
Power Supply	12 V DC or switch rated for 12 VDC		
Material	Corrosion Resistance Metal (Stainless steel or Aluminum)		
Enclosure	NEMA 4		
Tools	Complete tool kit for operation and routine maintenance		
Manuals	Full Documentation and maintenance manual in English		
Accessories	Sensor Mounting support, cables		

	and other accessories as required		
<u>Snow Depth Sensor</u>		Make:	
		Model:	
Site Conditions			
Ambient Temperature	From -20 to +60 ° C		
Humidity	5 to 100 %		
Altitude	2000 to 5000 meter		
Sensor			
Sensor Type	Ultrasonic sensor/Laser based sensor		
Range	0-10 meter		
Resolution	1 mm or better		
Accuracy	0.25 % of measuring distance		
General Features			
Output Interface	SDI-12/ RS-485 / 4-20 mA / Compatible with Data logger		
Power Supply	9-18 V DC		
Material	Corrosion Resistance Metal (Stainless steel/ Aluminum or PVC)		
Enclosure	NEMA 4		
Tools	Complete tool kit for operation and routine maintenance		
Manuals	Full Documentation and maintenance manual in English		
Accessories	Sensor Mounting support, cables and other accessories as required		
<u>Snow Precipitation (Rain and Snow) Gauge Sensor</u>		Make:	
		Model:	
Site Conditions			
Ambient Temperature	From -20 to +60 ° C		
Humidity	5 to 100 %		
Altitude	0 to 5000 meter		
Sensor			
Sensor Type	Storage Gauge with Anti-freeze system without heating		

Capacity	1000 mm minimum		
Resolution	0.5 mm or better		
Accuracy	2 % or better, ± 2 mm		
General Features			
Output Interface	SDI-12/ RS-485 // 4-20 mA / Compatible with Data logger		
Power Supply	12 V DC or switch rated for 12 VDC		
Material	Corrosion Resistance Metal (Stainless steel or Aluminum)		
Enclosure	NEMA 4		
Tools	Complete tool kit for operation and routine maintenance		
Manuals	Full Documentation and maintenance manual in English		
Accessories	Sensor Mounting support, cables and other accessories as required		

Data Logger Specifications

Data Logger with 2 AI Sensor Input (For ARG / AWLR)

Name of Goods-Its Features		Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Data Logger with 2 AI Sensor Input			Make: Model:	
Site Conditions				
Ambient Temperature		From -5 to +60 Degree C		
Humidity		5 to 100 %		
Altitude		0 to 2500meter		
Sensor Interface				
Analogue Inputs		2-Analogue Input Channels 4 to 20 mA, 100% over range withstand (Analog input channels are required in datalogger, if any sensor offered by bidder requires Analog interface to integration with datalogger)		

SDI Port	One SDI-12 Interface port		
Serial Port for sensor interface	RS-232/ RS-485 for sensor Interface		
Pulse Input	1 Input for Rain Gauge impulse		
Input - Output Interfaces			
Data Transfer	USB stick option for Data transfer		
Port for Configuration	One Serial Port (RS-232) for communication with Laptop for programming		
Port for Telemetry	2 Ports for Communication with Telemetry (GSM / GPRS &INSAT) device Both telemetry systems should work simultaneously for redundancy		
Display Port	Port for connecting external display screen for data in running text		
Computer Software			
Operating System	Windows software for system configuration / communication		
Version	English language version		
Licenses	All required licenses shall be included		
Analog to Digital Converter			
Resolution	16 bit or better		
Conversion Accuracy	± 1 LSB		
Sample intervals	1 Sec to 24 hours (user scalable)		
General Features			
Flash memory	Non-volatile Flash memory that can one store year of data and expandable upto a minimum of 1GBVia USB/SD Card		
Recording Interval	Individual recording intervals for each sensor/parameter		
Firmware Operating System	Multi-tasking operating system - must log data and transmit at same time		

Display	Inbuilt Digital Display for viewing current data and setting values		
Power Supply	Shall be powered by solar Power supply to be provided by bidder with DCP, low current drain (quiescent $\leq 10.0\text{mA}$)		
Battery Voltage	Monitoring of battery voltage level		
Internal battery	Internal battery backup for clock, lithium battery, storage 2 years		
Charge Controller	Internal or External		
User Permissions	Different user levels, system of user rights / passwords, access restricted to unauthorized personnel		
Internal clock	Internal clock with drift less than 1 second per Week		
Keypad	For displaying or transferring data to memory stick, configuration of data logger and sensors		
Real time clock	GPS synchronized & timing in IST format required		
System integrity	System integrity check procedures		
Enclosure	for wall-mounting in a shelter / enclosure with IP65 (NEMA 4 or equivalent) protection or better		
Accessories	Serial cable + adaptor (if required). All accessories (fixing units, etc.) as required		
Tools	complete tool kit for installation and routine maintenance giving full detail (number of pieces and type)		
Manuals	full documentation and maintenance instructions in English (1 copy per station).		
GSM / GPRS MODEM		Make: Model:	

Operating Temperature	From -5 to +60 Degree C		
Transmission System	GPRS/edge-based data transmission system		
Performance	Data Reception availability of 95% or better		
Form factor	The GSM /GPRS modem should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger		
Specific Features			
Communication Direction	Utilize GPRS network for two-way connection with FTP, TCP/IP (INTERNET) connection and SMS		
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event based transmission triggered by remote site		
Power Saving	Ability to disable interrogation system in order to save power at remote site		
Communication Protocol	Data transmission to execute HTTP Post, FTP, SMS to transmit and receiving data to the Data Center		
Accessories	All associated equipment, including Antenna all cables and mounting hardware		
Antenna features			
Frequency range	900 MHz: 824-960 MHz/1800MHz:1710-1880 MHz, 4G and better		
Impedance	50 ohms		
VSWR	≤ 2.0		
Radiation	Omni-directional		
Operating temperature	-5 to + 60 degrees Celsius		
Connector	SMA or suitable RF connector adaptable to GSM/GPRS modem		

Cable length	As required at site		
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Data Logger with 8 AI Sensor Input (for AWS sites)

Name of Goods-Its Features	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Data Logger with 8 AI Sensor Input		Make: Model:	
Site Conditions			
Ambient Temperature	From -5 to +60 Degree C		
Humidity	5 to 100 %		
Altitude	0 to 2500meter		
Sensor Interface			
Analogue Inputs	8-Analogue Input Channels 4 to 20 mA, 100% over range withstand (Analog input channels are required in datalogger, if any sensor offered by bidder requires Analog interface to integration with datalogger)		
SDI Port	One SDI-12 Interface port		
Serial Port for sensor interface	One RS-232 for sensor Interface One RS-485 for sensor Interface port		
Pulse Input	1 Input for Rain Gauge impulse		
Input - Output Interfaces			
Data Transfer	USB stick option for Data transfer		
Port for Configuration	One Serial Port (RS-232) for communication with Laptop for programming		
Port for Telemetry	2 Ports for Communication with Telemetry (GSM / GPRS &INSAT) device. Both telemetry systems should work simultaneously for redundancy.		
Display Port	Port for connecting external display screen for data in running		

	text		
Computer Software			
Operating System	Windows software for system configuration / communication		
Version	English language version		
Licenses	All required licenses shall be included		
Analog to Digital Converter			
Resolution	16 bit or better		
Conversion Accuracy	± 1 LSB		
Sample intervals	1 Sec to 24 hours (user scalable)		
General Features			
Flash memory	Non-volatile Flash memory that can one store year of data and expandable up to a minimum of 1GBVia USB/SD Card		
Recording Interval	Individual recording intervals for each sensor/parameter		
Firmware Operating System	Multi-tasking operating system - must log data and transmit at same time		
Display	Inbuilt Digital Display for viewing current data and setting values		
Power Supply	Shall be powered by solar Power supply to be provided by bidder with DCP, low current drain (quiescent $\leq 10.0\text{mA}$)		
Battery Voltage	Monitoring of battery voltage level		
Internal battery	Internal battery backup for clock, lithium battery, storage 2 years		
Charge Controller	Internal or External		
User Permissions	Different user levels, system of user rights / passwords, access restricted to unauthorized personnel		
Internal clock	Internal clock with drift less than 1 second per Week		

Keypad	For displaying or transferring data to memory stick, configuration of data logger and sensors		
Real time clock	GPS synchronized & timing in IST format required		
System integrity	System integrity check procedures		
Enclosure	for wall-mounting in a shelter / enclosure with IP65 (NEMA 4 or equivalent) protection or better		
Accessories	Serial cable + adaptor (if required). All accessories (fixing units, etc.) as required		
Tools	complete tool kit for installation and routine maintenance giving full detail (number of pieces and type)		
Manuals	full documentation and maintenance instructions in English (1 copy per station).		
GSM / GPRS MODEM		Make: Model:	
Operating Temperature	From -5 to +60 Degree C		
Transmission System	GPRS/edge-based data transmission system		
Performance	Data Reception availability of 95% or better		
Form factor	The GSM /GPRS modem should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger		
Specific Features			
Communication Direction	Utilize GPRS network for two-way connection with FTP, TCP/IP (INTERNET) connection and SMS		
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event based transmission		

	triggered by remote site		
Power Saving	Ability to disable interrogation system in order to save power at remote site		
Communication Protocol	Data transmission to execute HTTP Post, FTP, SMS to transmit and receiving data to the Data Center		
Accessories	All associated equipment, including Antenna all cables and mounting hardware		
Antenna features			
Frequency range	900 MHz: 824-960 MHz/1800MHz:1710-1880 MHz, 4G and better		
Impedance	50 ohms		
VSWR	≤ 2.0		
Radiation	Omni-directional		
Operating temperature	-5 to + 60 degrees Celsius		
Connector	SMA or suitable RF connector adaptable to GSM/GPRS modem		
Cable length	As required at site		

Data Logger with 8 AI Sensor Input (for Snow Pillow Station)

Name of Goods-Its Features	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Data Logger with 8 AI Sensor Input		Make: Model:	
Site Conditions			
Ambient Temperature	From -20 to +60 Degree C		
Humidity	5 to 100 %		
Altitude	0 to 5000meter		
Sensor Interface			
Analogue Inputs	8-Analogue Input Channels 4 to 20 mA, 100% over range withstand (Analog input channels are		

	required in datalogger, if any sensor offered by bidder requires Analog interface to integration with datalogger)		
SDI Port	One SDI-12 Interface port		
Serial Port for sensor interface	One RS-232 for sensor Interface One RS-485 for sensor Interface port		
Pulse Input	1 Input for Rain Gauge impulse		
Input - Output Interfaces			
Data Transfer	USB stick option for Data transfer		
Port for Configuration	One Serial Port (RS-232) for communication with Laptop for programming		
Port for Telemetry	2 Ports for Communication with Telemetry (GSM / GPRS & INSAT) device. Both telemetry systems should work simultaneously for redundancy.		
Display Port	Port for connecting external display screen for data in running text		
Computer Software			
Operating System	Windows software for system configuration / communication		
Version	English language version		
Licenses	All required licenses shall be included		
Analog to Digital Converter			
Resolution	16 bit or better		
Conversion Accuracy	± 1 LSB		
Sample intervals	1 Sec to 24 hours (user scalable)		
General Features			
Flash memory	Non-volatile Flash memory that can one store year of data and expandable upto a minimum of 1GB Via USB/SD Card		

Recording Interval	Individual recording intervals for each sensor/parameter		
Firmware Operating System	Multi-tasking operating system - must log data and transmit at same time		
Display	Inbuilt Digital Display for viewing current data and setting values		
Power Supply	Shall be powered by solar Power supply to be provided by bidder with DCP, low current drain (quiescent $\leq 10.0\text{mA}$)		
Battery Voltage	Monitoring of battery voltage level		
Internal battery	Internal battery backup for clock, lithium battery, storage 2 years		
Charge Controller	Internal or External		
User Permissions	Different user levels, system of user rights / passwords, access restricted to unauthorized personnel		
Internal clock	Internal clock with drift less than 1 second per Week		
Keypad	For displaying or transferring data to memory stick, configuration of data logger and sensors		
Real time clock	GPS synchronized & timing in IST format required		
System integrity	System integrity check procedures		
Enclosure	for wall-mounting in a shelter / enclosure with IP65 (NEMA 4 or equivalent) protection or better		
Accessories	Serial cable + adaptor (if required). All accessories (fixing units, etc.) as required		
Tools	complete tool kit for installation and routine maintenance giving full detail (number of pieces and type)		
Manuals	full documentation and maintenance instructions in		

	English (1 copy per station).		
GSM / GPRS MODEM		Make: Model:	
Operating Temperature	From -20 to +60 Degree C		
Transmission System	GPRS/edge-based data transmission system		
Performance	Data Reception availability of 95% or better		
Form factor	The GSM /GPRS modem should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger		
Specific Features			
Communication Direction	Utilize GPRS network for two-way connection with FTP, TCP/IP (INTERNET) connection and SMS		
Transmission trigger	Data collection to be triggered by interrogation from Data Center, or by event based transmission triggered by remote site		
Power Saving	Ability to disable interrogation system in order to save power at remote site		
Communication Protocol	Data transmission to execute HTTP Post, FTP, SMS to transmit and receiving data to the Data Center		
Accessories	All associated equipment, including Antenna all cables and mounting hardware		
Antenna features			
Frequency range	900 MHz: 824-960 MHz/1800MHz:1710-1880 MHz, 4G and better		
Impedance	50 ohms		
VSWR	≤ 2.0		
Radiation	Omni-directional		

Operating temperature	-20 to + 60 degrees Celsius		
Connector	SMA or suitable RF connector adaptable to GSM/GPRS modem		
Cable length	As required at site		

Specifications of INSAT Radio

Name of Goods-Its Features	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
INSAT Transmitter Radio		Make: Model:	
Operating Temperature	From -20 to +60 ° C		
Environment Relative Humidity	0 to 100 %		
Career Frequency	402 – 403 MHz		
Carrier Settability	In steps of 100Hz from 402.0 MHz to 403.0 MHz		
Modulator	PCM/BPSK		
Data coding	NRZ (L)		
Output Power	3-10 Watt user settable		
Data Bit Rate	4.8 kbps		
Frequency Stability			
a)Long Term	Transmit frequency inaccuracy including aging of oscillator should not exceed +-400Hz per year. Oscillators/synthesizer should have provision to adjust for the long term drift.		
for temperature	±1ppm or better (-40 to +55 degree Celsius)		
Signal Bandwidth	6.0 KHz maximum or better		
Power Stability	±1dB		
Spurious	-60dB or better		
Harmonics	-40dB or better		
Antenna cable	LMR 400 grade or better		
Performance	Data Reception availability of 99% or better		

Form factor	The Transmitter should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger		
Operating Power	Switched 12V DC controlled by data logger		
Yagi Antenna		Make: Model:	
Polarization	LHCP or RHCP, switchable in field		
Gain	Minimum 11 dbi or better		
Center Frequency	402-403 MHz		
3dB Beam width	40°		
VSWR	1.2 : 1		
Impedance	50 ohms		
Axial Ratio	To be specified by tenderer		
Operating temperature	-5°C to +55°C		
Operating Relative Humidity	0 to 100% RH		
Weight	Light weight		
Size	Small, portable		
Operating rain rate	100 mm/hr and water proof		
Mounting	Proper mounting and Pointing arrangement for 360 degree azimuth and elevation adjustment		
Operating Wind speed	250 kmph		
Wind Survival	300 kmph		
Material	Rust-proof and Oxidation-proof		
Specific Features			
Satellite System	INSAT Radio System to be Used on the INSAT Satellite operated by ISRO		
Certification	Certificate of acceptance required by ISRO and or IMD as part of the bid package		

Accessories	All associated equipment, including GPS, GPS Antenna, INSAT Antenna, all cables and mounting hardware		
TDMA Transmission Format	As specified in the table for channel specifications for TDMA transmission format		
GPRS / GSM transmission format	As specified in the table for GSM /GPRS communication format		

Specifications of Solar Power Supply System

Name of Goods-Its Features		Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Battery			Make: Model:	
Voltage	From 0 to +60 V			
Type	Sealed maintenance free			
Capacity	Based on site conditions and telemetry method, power supply system shall provide 15 days of backup to all equipment's being powered up by the solar panel			
Solar Panel			Make: Model:	
Size	Based on site conditions and telemetry method, power supply system shall provide 15 days of backup to all equipment's being powered up by the solar panel			
Mounts	The mounts should be detachable but should not move or rotate with wind. It should have a provision to adjust direction and elevation during installation for optimal solar power generation			
Charger	Smart solar charger with protection shall be provided			

	by the bidder		
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Specifications of Data Server

SNo.	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
	Data Server with Monitor	Make: Model:	
1.	<ul style="list-style-type: none"> • Server having two nos. of x86 64-bit processor (Intel Xeon E5-2620 v4), • 64 GB DDRIII expandable to 256 GB, • Integrated Graphics Controller, • SAS RAID Controller supporting RAID 0, 1, • 2*600 GB SAS Hot Swap HDD (10 K or higher RPM), • Dual 1 Gbps Network port, • DVD WRITE drive, • 23" TCO 05 certified TFT Monitor, • OEM Keyboard and OEM Mouse, • Server Chassis having Redundant Hot Swappable Power Supply with 8 Hot Swap drive bays, • Certification for Linux and Windows, • Operating system: Windows Server (2012 or later), • All required device drivers for System Configuration and Server Management Support including all accessories and operating window server software's, latest MS office software & firewall system, with Good antivirus. 		

Specification of Computer Node

Name of Goods-Its Features	Required Specifications and standards as per bidding document	Specification and standard as offered in by Bidder	Remarks
Computer Node with Monitor		Make: Model:	
Operating system	Windows 10 Home/Professional		

Chipset	Intel H270 and above or equivalent		
Processor	Intel® Core™ i7-6700T with Intel® HD Graphics 530 (2.8 GHz, up to 3.6 GHz, 8 MB cache, 4 cores) and above or equivalent		
Memory, standard	8 GB DDR3L and above or equivalent (RAM)		
Hard drive description	1 TB 7200 rpm SATA and above		
Display	58.42 cm(23) diagonal WLED-backlit (1920 x 1080). Touch-enabled (optional)		
Optical drive	DVD-Writer		
Network interface	Integrated 10/100/1000 Gigabit Ethernet LAN		
Wireless	802.11b/g/n (1x1) and Bluetooth® 4.0 combo (Optional)		
Port	4 USB 2.0; 2 USB 3.0; 1 headphone/microphone combo		
Pointing device	USB wired/wireless optical mouse		
Keyboard	USB wired/wireless standard keyboard		
Pre-installed software	Preinstalled MS Office Lifetime with Good antivirus is preferred.		

Specifications of A3 Size Color printer

Required Specification and Standards as per Bidding Document	Specification and Standards as offered in by Bidder	Remarks
Color printer	Make: Model:	
Functions: Print, Copy, Scan		
Printing Up to 20 page/minute		

Black & color printing: As fast as 9.5 sec per page		
Up to 8000 pages printing		
Recommended monthly page volume: 250 to 2000		
Processor speed: 600MHz		
Connectivity: ePrint capability		
Paper handling input, standard: 100 sheet input tray		
Paper handling output, standard: 100-sheet face-down bin		
Specifications of Display Unit (LED)		
Required Specification and Standards as per Bidding Document	Specification and Standards as offered in by Bidder	Remarks
42" Display Unit (LED)	Make: Model:	
Screen Type : 42" Screen LED		
Display resolution: 1920 x 1080 or better		
Colors: 256 colors		
Interfaces: 1 x Ethernet (RJ45) (max. 12Mbit/s), HDMI port, USB port 1 x USB Multimedia card / SD card slot combined		
Industrial Ethernet : 1 x Ethernet (RJ45)		
Protocols: Protocol (Ethernet) TCP/IP		
Image formats Supported: JPEG, JPS, MPO		
Sound technology : Dolby digital		

3. Drawings

These Bidding Documents includes *no* drawings.

4. Inspections and Tests

The following inspections and tests shall be performed:

4.1 General:

1. After manufacture, the supplier shall get each equipment/item of Goods inspected in manufacturer/s works as per approved datasheets and QAP and forward to the Purchaser along with his letter seeking to inspect a equipment/item of Goods conform to contract specifications.
2. Upon receipt of the test certificate and calibration certificates, the purchaser or its representative shall arrange for inspection and/or test of any or part or all the equipment /Goods prior to issuance of dispatch clearance. In cases where the supplies are received from abroad, the purchaser may waive the pre-dispatch inspection.
3. However, the inspection and dispatch clearance by the Purchaser or the waiver thereof shall not prejudice the right of the Purchaser or its consignee to test the equipment/goods on receipt at destination. Upon receipt of the goods at final destination, the Purchaser shall have the right to inspect and/or test the equipment/Goods to confirm their conformity to contract specifications.
4. If the equipment fails to meet the contract specifications during inspection, whether pre-dispatch or upon receipt at final destination, the supplier shall take immediate steps to remedy the deficiency or replace the defective equipment to ensure that all supplies meet with the specifications specified in the contract

4.2 Inspection and tests prior to shipment of Goods and at final acceptance are as follows:

1. The inspection of the Goods shall be carried out to check whether the Goods are in conformity with the approved technical specifications attached to the contract and shall be in line with the inspection/test procedures laid down in the Technical Specifications and the General Conditions of contract. Following broad test procedure will generally be followed for inspection and testing of machine/equipment. The supplier will dispatch the goods to the ultimate consignee after internal inspection testing along with the supplier's inspection report and manufacturer's warranty certificate. The purchaser will test the equipment after completion of the installation and commissioning at the site of the installation.
 - a. Site Preparation and Installation: The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection before the installation of the RTDAS and associated telemetry system
 - b. For site preparation, the supplier should furnish all details to the purchaser sufficiently in advance so as to get the works completed before receipt of the equipment.
2. Complete hardware and software as specified in 'List of Goods and Delivery Schedule' Under the Schedule of Requirement should be supplied, installed and commissioned properly by the supplier prior to commencement of performance tests.
3. The acceptance test will be conducted by the purchaser/their consultant or any other person nominated by the purchaser, at its option. The acceptance will involve trouble-free operation for Fifteenconsecutive days. There shall not be any additional charges for carrying out acceptance tests. No malfunction, partial or complete failure of any part of hardware, equipment's, Data Servers attached to printers, drivers etc. or bugs in the

software should occur. The supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the purchaser, the successful completion of the test specified. An average uptake efficiency of 95% for the duration of test period shall be considered as satisfactory.

4. In the event of the equipment's & hardware failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which the purchaser reserves the rights to get the equipment replaced by the supplier at no extra cost to the purchaser.
5. RTDAS system procured would be subject to the Acceptance Protocol given below

4.3 ACCEPTANCE PROTOCOL

General

- a. The delivery of goods/equipment and software should be in accordance with the contract agreement and the process of delivery will adhere to the following 'Acceptance Protocol'. The Acceptance Protocol shall serve as a formal guidance during delivery of the RTDAS system. Its primary goals are twofold.
 - i. Ascertain the delivery and completeness of all ordered products and related documents.
 - ii. Check the functioning of the equipment's of RTDAS system in a formal way against the specifications by application of Acceptance Tests. The tests also verify the accuracy and stability of the equipment.
- b. The Acceptance Protocol shall be executed in close co-operation between the Supplier and the Client.
- c. Products shall be accepted only if they meet the requirements and are functioning in compliance with the approved technical specifications, approved QAP and the related documents are complete and correct. Defective products and any other discrepancies shall have to be replaced/ resolved, within a pre-defined time frame.

Documents

The following documents shall accompany the delivery of the RTDAS system:

- i. Administrative and Quality Assurance (QA) documents
- ii. Test and calibration documents
- iii. Manuals and Guidelines

All documents shall have identification and references to subject or instrument, date, time, location and officer in charge.

- d. The Acceptance Report lays down the findings and observations during the execution of the Acceptance Protocol and is a formal document to record the acceptance or rejection of any item as covered in the Bid document. Any flaws or findings are to be reported. The forms and checklists filled out during the execution of the Acceptance Protocol are to be enclosed with the Acceptance Report. The Supplier receives a signed copy of the Acceptance Report, which the Supplier can use as proof that the items listed in the report were accepted.

- e. The content of the various documents shall be as follows:

4.4 Administrative and QA documents

These QA documents shall include:

- i) Production documents associated with the instruments.
- ii) Type codes, serial numbers and other identification data on, possibly externally procured, sensors and major assemblies, to clearly demarcate the sensors/major assemblies associated with RTDAS system.
- iii) Shipping documents indicating instrument/product type, serial number, measuring range, cable length and other similar data.

4.5 Test and calibration documents

- i) A comprehensive Method Statement on the applied calibration and in-factory test procedures shall accompany the bid. The Method Statement should define the test and calibration methods applied on the instruments and the components thereof. The Method Statement shall also include, for each calibrated product, an audit trail to national standards on all instruments and facilities used for testing and calibration. The Audit Trail Report shall associate the calibration of the reference instruments and test equipment to the national calibration standards.
- ii) If the Supplier or Manufacturer is not in a position to deliver an Audit Trail Report to the national standards, the Manufacturer shall explain what the quality standards are and how they are maintained and monitored.
- iii) Conditions during calibration, such as room and/or instrument temperature, equipment and facilities used, shall be included in the calibration and test documents.
- iv) The test and calibration documents (QAP) shall contain the data generated during calibration and testing, including:
 - Calibration data provided by the Manufacturer for all instruments
 - Calibration and test data of the data-logger electronics
 - Data on hysteresis test, temperature tests, zero stability test, scale stability test
 - Humidity test
 - Spray test on enclosure(s), connectors and cables

4.6 Manuals and Guidelines

- i) The manuals shall meet the requirements on style and clarity, completeness, preciseness, detail and accessibility. This includes:
 - System manual,
 - Operation, Maintenance and Service manuals,
 - Observation guideline, and
 - Training handouts.

4.7 Acceptance Tests

1. General

- i) Qualified engineers under responsibility of a test manager shall execute the Acceptance Tests. The progress of the Acceptance Tests would be monitored and supervised by the Client and/or his authorised representative. The Client may have any tests redone or additional tests executed as deemed required based on the results of previous tests conducted. The Client's and/or his authorised representative shall have the right of access to any instrument and may request any data or information at any time. The Supplier has the obligation to deliver requested information without delay; i.e. collected test data and documents must be available at the test site.
- ii) It is important that all activities (what, when, where, who, which instrument, etc.) are annotated and uniquely linked to the individual instruments.
- iii) The Acceptance Tests mainly comprise three levels viz.:
 - Functional Tests: The Functional Tests shall verify the proper functioning of the instruments and the associated software. Primary goal is to verify that the instrument performs its functions according to the bid specifications.
 - Accuracy Tests: The Accuracy Tests shall verify that each individual instrument is functional and operates according to the bid specifications. A number of relatively simple accuracy tests are routinely exercised on the instruments.
 - Overall Test: The main purpose of the Overall Test is to verify the common features that are identical to all the instruments in a series. Typical components of the Overall Test are:- in-built software functions of instruments, materials of the instrument, cables, connectors, etc. Further tests include battery and memory autonomy, details of sensor specifications like temperature effects, hysteresis, long term stability etc.
 - The above tests can be executed at any one of the following locations:- Premises of the Manufacturer/Supplier; Premises of the Client; Independent organisation; at Site of installation
- iv) The charges for testing shall be borne by the Manufacturer/Supplier. The Client and/or his authorised representative may at his cost opt to be present during the performances of the tests.

4.8 Site Acceptance Protocol

In order to facilitate the site acceptance of the system by the site – in – charges, the Bidder should give a list of deliverables for each site to the respective sites as well as to the headquarters. The list shall be verified by the site – in – charge and accordingly will give a verification report whether all deliverables have been delivered properly at the site. The Bidder should preferably, complete the required civil works at the site for proper installation of the equipment before supplying the equipment at the site.

For site acceptance test, the supplier should give a check – list of all components and their functions. This check list shall be decided in consultation with the purchaser. This check list shall indicate the tests to be conducted at the site and the results that are expected for each and every component that are to be installed at the site. This check list will have to be provided to each and every site one month before the installation begins.

4.9 Site Acceptance Tests (SAT) for Remote Stations

The acceptance test will be conducted by the purchaser or any other person nominated by the purchaser, at its option. Site acceptance test shall be carried out in two stages. The first stage of acceptance will be based on preliminary inspection of the equipment supplied with respect to the required and supplied components such as sensors, DCP with the weatherproof enclosures, batteries (charger/ regulator), gauge apparatus with enclosures and sensors, transmitter, antennae, solar panel and mounting hardware, including all associated accessories.

Second stage of site testing shall be undertaken for a period of Fifteen days following successful completion of witnessed commissioning to prove the equipment and the interconnecting cable installation and ensure that all operators are fully conversant with the equipment and calibration procedures, methods of operation and all facilities provided by software. During the period of Fifteen days, there shall be no occurrence of any malfunction in any component necessitating replacement or repairs. No malfunction, partial or complete failure of any part of hardware or excessive heating of motors or other electro-mechanical equipment or bugs in the software should occur. All the software should be complete and no missing modules/ sections will be allowed. The supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the purchaser, the successful completion of the test specified. An average data acquisition efficiency of 95% for the duration of test period shall be considered as satisfactory. The testing schedule will be agreed to by both the parties during performance of contract. In this stage a regular comprehensive check of functioning of all the components will be made. On conclusion of site acceptance, all relevant documentation pertaining to the site shall be handed over by the supplier to the representative of the purchaser.

4.10 Data Centre Level Acceptance Tests

Data Centre Level acceptance tests shall involve successful receiving of remote stations data at the State Data Center /modeling center's server. It shall include (hardware and software), data dissemination software indicating their full implementation as specified and trouble free operation of all modules for a period of 3 days operating on 24 X 7 basis. An average data acquisition efficiency of 95% for the duration of test period shall be considered as satisfactory.

4.11 Spare parts

Bidder shall provide the list of mandatory spare parts & ensure the availability of sufficient spare parts in its godown for fulfilling its service obligations during warranty and AMC period. The same can be inspected by Engineer-in Charge or its authorized representative.

4.12 Manuals

- Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals of the goods and equipment. These shall be in such detail as will enable the Purchaser to operate, maintain, adjust and repair all parts of the equipment as stated in the specifications.
- The manuals shall be in the ruling language (English) and in such form and numbers as stated in the contract.

- Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purpose of taking over until such manuals have been supplied to the Purchaser.

4.13 For the System and Other Software, the following will apply:

The Supplier shall provide complete and legal documentation of hardware, and licensed operating systems. The supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

4.14 Acceptance Certificates:

On successful completion of acceptability test, receipt of deliverables etc., and after the purchaser is satisfied with the working of the RTDAS system, the acceptance certificate signed by the supplier and the representative of the purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the systems.

5. PROFORMA OF CERTIFICATE FOR ISSUE BY THE PURCHASER AFTER SUCCESSFUL INSTALLATION AND STARTUP OF THE SUPPLIED GOODS

[This is to be attached for supply, erection, supervision of erection and startup contracts only]

No.

Date:

M/s.

Sub: Certificate of startup of the supplied Goods

1. This is to certify that the plant/s as detailed below has/have been received in good condition along with all the standard and special accessories (subject to remarks in Para No. 2) and a set of spares in accordance with the Contract/Specifications. The same has been installed and commissioned.

- (a) Contract No. _____ dated _____
- (b) Description of the plant _____
- (c) Plant Nos. _____
- (d) Quantity _____
- (e) Bill of Lading _____ dated _____
(for import contract)
- (f) Name of the vessel/transporter _____
- (g) Rail/Roadways Receipt No. _____ dated _____
- (h) Name of the consignee _____
- (i) Date of start up and proving test _____

2. Details of accessories/spares not yet supplied and recoveries to be made on that account.

<u>S. No.</u>	<u>Description</u>	<u>Amount to be recovered</u>
---------------	--------------------	-------------------------------

3. The proving test has been done to our entire satisfaction and operators have been trained to operate the plant.
4. 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)
5. The amount of recovery on account of non-supply of accessories and spares is given under Para No. 2.
 6. The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated in endorsement of the letter.

Signature _____

Name _____

Designation with Stamp _____

* Explanatory notes for filling up the certificates:

- (a) He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to Technical Specifications.
- (b) He has supervised the startup of the plan in time i.e., within the period specified in the contract from the date of intimation by the Purchaser in respect of the installation of the plant.
- (c) Training of personnel has been done by the supplier as specified in the contract
- (d) In the event of documents/drawings having not been supplied or installation and startup of the plant have been delayed on account of the supplier, the extent of delay should always be mentioned

PART 3 - Contract

Section VIII. General Conditions of Contract

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Section VIII. General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “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.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “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.
- (i) “Purchaser’s Country” is the country specified in the Special Conditions of Contract (SCC).
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the SCC.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (l) “SCC” means the Special Conditions of Contract.
- (m) “Subcontractor” means any 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.

- (n) “Supplier” means the 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.
- (o) “The Project Site,” 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. Corrupt and Fraudulent Practices

- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC.
- 3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

4. Interpretation

- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
 - (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.
 - (b) The terms EXW, CIP, FCA, CFR and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the SCC and published by the International Chamber of Commerce in Paris, France.
- 4.3 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.
- 4.4 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.5 Nonwaiver

- (a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.6 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

6. Joint Venture, Consortium or Association

- 6.1 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.

7. Eligibility

- 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or

constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.

- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

8. Notices

- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **SCC**. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

9. Governing Law

- 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser’s Country, unless otherwise specified in the **SCC**.
- 9.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Purchaser’s country when
- (a) as a matter of law or official regulations, the Borrower’s country prohibits commercial relations with that country; or
- 9.2 (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower’s Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

10 Settlement of Disputes

- 10.1 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.
- 10.2 If, after twenty-eight (28) 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. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.

10.3 Notwithstanding any reference to arbitration herein,

- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay the Supplier any monies due the Supplier.

11. Inspections and Audit by the Bank

11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.

11.2 The Supplier shall permit, and shall cause its Subcontractors to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors and consultants' attention is drawn to Clause 3 [Fraud and Corruption], which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under this Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures)

12. Scope of Supply

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

13. Delivery and Documents

13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.

14. Supplier's Responsibilities

14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.

15 Contract Price

15.1 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, with the exception of any price adjustments authorized in the **SCC**.

16. Terms of Payment

- 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

17. Taxes and Duties

- 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.
- 17.2 For goods Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

- 18.1 If required as specified in the **SCC**, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the **SCC**.
- 18.2 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.

18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the Purchaser in the **SCC**, or in another format acceptable to the Purchaser.

18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the **SCC**.

19. Copyright

19.1 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

20. Confidential Information

20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the

time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or

- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

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

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards

22.1 Technical Specifications and Drawings

- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VII, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.

- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.

- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

23.1 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. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme

temperatures, salt and precipitation, 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.

- 23.2 The packing, marking, and documentation within and outside the Lots shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the **SCC**, and in any other instructions ordered by the Purchaser.

24. Insurance

- 24.1 Unless otherwise specified in the **SCC**, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the **SCC**.

25. Transportation and Incidental Services

- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, **specified in SCC**:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

26. Inspections and Tests

- 26.1 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 are specified in the **SCC**.

- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 26.4 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.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the

Contract.

27. Liquidated Damages

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the **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 those **SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

28.1 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.

28.2 Subject to GCC Sub-Clause 22.1(b), 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 the country of final destination.

28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months 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**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.

28.4 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.

28.5 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.

28.6 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.

29. Patent

29.1 The Supplier shall, subject to the Purchaser's compliance with

Indemnity

GCC Sub-Clause 29.2, 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 the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, 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.
- 29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- 29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.
- 29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors 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 Supplier 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

arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

30 Limitation of Liability

- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
 - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement

31. Change in Laws and Regulations

- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's country where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

- 32.1 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.
- 32.2 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.

- 32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. 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.

**33. Change Orders
and Contract
Amendments**

- 33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to 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 shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

- 33.2 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 in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

- 33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

- 33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

**34. Extensions of
Time**

- 34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. 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, in which case the extension shall be ratified by the parties by

amendment of the Contract.

- 34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
- (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;
 - (ii) if the Supplier fails to perform any other obligation under the Contract; or
 - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

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

35.3 Termination for Convenience.

- (a) The Purchaser, by 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.

- (b) The Goods that are complete and ready for shipment within twenty-eight (28) 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:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

36. Assignment

- 36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

**37. Export
Restriction**

- 37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.

APPENDIX TO GENERAL CONDITIONS

Bank's Policy- Corrupt and Fraudulent Practices

(text in this Appendix shall not be modified)

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

“Fraud and Corruption:

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.⁹ In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

- (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹⁰
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;¹¹
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;¹²
- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;¹³
- (v) "obstructive practice" is:

⁹ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹⁰ For the purpose of this sub-paragraph, “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

¹¹ For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

¹² For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

¹³ For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

- (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,¹⁴ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated¹⁵;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

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¹⁴ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

¹⁵ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section IX. Special Conditions of Contract

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.

GCC 1.1(i)	The Purchaser's country is: India
GCC 1.1(j)	The Purchaser is: Executive Engineer, (For & on behalf of NORTH EASTERN STATE OF INDIA) Middle Brahmaputra Division, Central Water Commission, Adabari, Guwahati- 781014, Contact No. 0361-2674267, E-mail: mbdcwc1@yahoo.com.
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are: Stations located in North Eastern States as per the list attached.
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms.
GCC 4.2 (b)	The version edition of Incoterms shall be 2010
GCC 5.1	The language shall be: English
GCC 8.1	For <u>notices</u> , the Purchaser's address shall be: Attention: The Executive Engineer, Address : Middle Brahmaputra Division, Central Water Commission, Adabari, Guwahati- 781014, Contact No. 0361-2674267, E-mail: mbdcwc1@yahoo.com.
GCC 9.1	The governing law shall be the law of: Union of India
GCC 9.2	Replace in the first line, the word 'Contractor' with 'Supplier'.
GCC 10.2	The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows: (a) 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 Arbitration and Conciliation Act, 1996 as amended up-to-date. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the

	<p>two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the president of the institution of Engineers (India).</p> <p>(b) In the case of a dispute with a Foreign Supplier, the dispute shall be settled in accordance with provisions of UNCITRAL (United nations Commission on International Trade Law) Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the parties, and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the Institution of Engineers (India)</p> <p>(c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the President of the Institution of Engineers (India), both in cases of the Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the President of the Institution of Engineers (India making such an appointment shall be furnished to each of the parties.</p> <p>(d) Arbitration proceedings shall be held at New Delhi, India for Indian bidders and for foreign bidders the venue shall be at New Delhi and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.</p> <p>(e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.</p> <p>(f) Where the value of the contract is Rs. 10 million and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely the *President of the Institution of Engineers (India</p> <p>(g) Except otherwise agreed to by the Parties, Arbitrators should give a decision in writing within 120 days of receipt of notification of dispute.</p>
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<p>GCC 13.1</p>	<p>Details of Shipping and other Documents to be furnished by the Supplier are given below:</p> <p>(a) <u><i>For Goods supplied from abroad:</i></u></p> <p>GC 13.1 Within 24 hours of shipment, the Supplier shall notify the Purchaser and the Insurance Company by cable or telex or fax the full details of the shipment including Contract number, description of goods, quantity, the vessel, the bill of lading number and date, port of loading, date of shipment, port of discharge, etc. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:</p> <ul style="list-style-type: none"> (i) Four Copies of Supplier's invoice showing contract number, goods description, quantity, unit price and total amount; (i) Original and duplicate copies of the negotiable, clean, on-board bill of lading* marked freight prepaid and copies of non-negotiable bill of lading*; (* or Airway bill or equivalent transport document - specify as appropriate) (iii) Four Copies of packing list identifying contents of each Lot; (iv) Insurance certificate; (v) Manufacturer's/Supplier's warranty certificate; (vi) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and (vii) Certificate of origin. <p>The above documents shall be received by the Purchaser at least one week before arrival of Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p>(b) <u><i>For Goods from within India:</i></u></p> <p>GCC 13.1 Upon delivery of the goods to the transporter/consignee, the supplier shall notify the purchaser and mail the following documents to the Purchaser:</p> <ul style="list-style-type: none"> (i) Four Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total
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	<p>amount;</p> <ul style="list-style-type: none"> (ii) Delivery note, Railway receipt, or Road consignment note or equivalent transport document or acknowledgement of receipt of goods from the Consignee; (iii) Four Copies of packing list identifying contents of each Lot; (iv) Insurance certificate; (v) Manufacturer's/Supplier's warranty certificate; (vi) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and (vi) Certificate of origin. <p>The above documents shall be received by the Purchaser before arrival of the Goods (except where the goods are handed over to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 15.1	<p>The prices charged for the Goods supplied and the related Services performed <i>shall not</i> be adjustable.</p> <p>In case of theft and vandalism, purchaser may place an order to for replace of equipment to bidder at the rate limited to unit rate mentioned in the price schedule.</p>
GCC 16.1	<p>GCC 16.1—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/ from within the Purchaser's country and related services:</p> <p>Payment shall be made in () [<i>currency of the Contract Price</i>](for foreign bidders through irrevocable letter of credit opened in favor of the Supplier in a bank in India)in the following manner:</p> <p>The Bidder shall be paid 40% (<i>as per clause i</i>) of the Contract Price excluding AMC cost and the balance 60% (<i>as per clause ii</i>) of the Contract Price excluding AMC cost for O&M and data communication over the next five years @ 12% per year which include 5 year period of onsite warranty and two years of AMC as mentioned below: (<i>Note: Contract Price does not include any taxes or levies, as may be applicable and treated separately</i>)</p>

i) Disbursement of Payment shall be as under:

- **Advance Payment:** Ten (10) percent of the Contract Price shall be paid within thirty (30) days of signing of the Contract, and upon submission of claim and a bank guarantee for equivalent amount valid until the Goods are delivered and in the form provided in the bidding documents or another form acceptable to the Purchaser.
- 20% of Contract Price excluding AMC cost, plus total GST amount charged in Invoice against Supply of Goods shall be released after 30 days of the successful Delivery and installation of all the instruments/ Equipment as per Schedule of Requirements and its final acceptance upon submission of the documents specified in clause 13 of SCC .
- 20% of Contract Price excluding AMC cost will be paid after 30 days of testing, commissioning and final acceptance.

Advance payment of 10% paid against Bank Guarantee will be adjusted in 20% payment paid on testing, commissioning and final acceptance as stated above

ii) 60% of the Contract Price excluding AMC cost but including replacement of parts if any and seamless data communication, here onwards referred as maintenance charges over the balance 05(five) years (5 years of warranty period) shall be paid as per follows;

12% per Year to be paid on Half Yearly basis (6% at every six month) inclusive of GST payable on Supply of related services excluding AMC. The Conditions (applicable for this payment) shall be governed by **Annexure I: Service Level Conditions**

iii) AMC cost inclusive of GST payable on it, shall be paid on half yearly basis after 5 years of onsite manufacturer warranty period.

iv) Payment of GST will be against valid Invoice as per GST Act & Rules and submission of GST Registration Certificate along with declaration that GST Registration is valid and all liabilities towards GST have been discharged by the vendor. GST amount will be reimbursed after 30 days of submission of valid Invoice and all required documents and declaration by vendor.

v)

- (i) Where payments are to be effected through Letter of Credit (LC), the same shall be subject to the latest Uniform Customs and Practice for Documentary Credit, of the International Chamber of Commerce;

	<p>(ii) The LC will be irrevocable and will be confirmed at Supplier's cost if requested specifically by the Supplier;</p> <p>(iii) If LC is required to be extended/reinstated for reasons not attributable to the Purchaser, the charges thereof shall be to the Supplier's account.</p> <p><i>vi) Bank guarantee for advance payment shall be released not later than 30 days after the adjustment of advance amount against payment due after testing, commissioning and final acceptance. The bank guarantee should be valid for a period of 180 days or till the date of final testing, commissioning and final acceptance whichever is later, from the date of issue of bank guarantee including claim period.</i></p> <p>The bidder shall indicate in the Price Schedules specifying all items prices shown therein including the unit prices and total prices of the goods and related services along with GST or any other duties and taxes applicable against the schedule of requirements. GST if leviable shall be paid as applicable. Any statutory variation shall be paid on submission of documentary evidence. Bidders shall be required to quote HSN code and applicable tax rates.</p> <p>"GST" means all four Acts CGST, SGST, UTGST, IGST and any other regulations by Government in relation to GST and rules thereto.</p> <p>For all the payments to be made, against Bank guarantees, the bank guarantee shall be issued by a Scheduled Indian Bank or a foreign bank located in India in the format enclosed at Section X. The guarantees issued by other banks should be confirmed by a Scheduled Indian Bank or a foreign bank operating in India.</p>
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 60days.</p> <p>In case of payments in Indian Rupees, the interest rate that shall be applied is 4 %<i>per annum</i>.</p> <p>In case of payments in foreign currency, the interest rate that shall be applied is 1.0 % <i>(based on the discount rate of the central bank in the country of the currency of payment, or if not available, the interbank offered rate)</i></p>
GCC 17.3	<p>In the case of tax/ duty waiver, the purchaser will issue only the certificates in terms of the Government of India's relevant notification as per information given by supplier in form stipulated in Section IV. Supplier is solely responsible for obtaining such benefits and in case of</p>

	failure to receive such benefits, the purchaser will not compensate the supplier separately.
GCC 18.1	<p>A Performance Security shall be required.</p> <p>Performance Security payable to the Purchaser shall be for an amount of 5% of the contract value, valid up to 60 days after the date of completion of performance obligations including warranty obligations.</p> <p>In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 12 months and the Performance Bank guarantee for proportionate value shall be extended 60 days over and above the extended warranty period.</p>
GCC 18.3	<p>The Performance Security shall be in the form of a “Bank Guarantee” in the name of purchaser or “crossed demand draft” drawn in favor of the Executive Engineer, Middle Brahmaputra Division, Central Water Commission, Adabari, Guwahati- 781014, Contact No. 0361-2674267</p> <p>The Performance Security submitted by a Joint Venture shall be in the name of the Joint Venture listing all members.</p> <p>The Performance security shall be denominated in “a freely convertible currency acceptable to the Purchaser” or “the currencies of payment of the Contract, in accordance with their portions of the Contract Price”</p>
GCC 18.4	Discharge of the Performance Security shall take place not later than 60 days following the date of completion of the Supplier’s performance obligations, including the warranty obligation, under the contract.
GCC 18.5	<p>Add as Clause 18.5 to the GCC the following:</p> <p>In the event of any contractual 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 60 days after the completion of performance obligations including warranty obligations.</p>
GCC 23.2	<p><u>Packing Instructions:</u> The Supplier will be required to make separate Lots for each Consignee. Each Lot will be marked on three sides with proper paint/indelible ink with the following:</p> <p>(i) Project; (ii) Contract No.; (iii) Country of Origin of Goods; (iv) Supplier’s Name; (v) Packing List Reference Number.</p> <p>Suppliers should use recycled materials as much as possible for packing.</p>
GCC 24.1	The insurance shall be paid in an amount equal to 110 percent of the EXW value of the Goods from “Warehouse to warehouse (final destination)” on

	“All Risks” basis including War Risks and Strikes.
GCC 25.1	The Supplier is required under the Contract to transport the Goods duly insured to the specified final destination, and until the commissioning & final acceptance of each equipment, and all related costs shall be included in the Contract Price.
GCC 25.2	Incidental services to be provided are: all services under GCC clause 25.2
GCC 26.1	<p>The inspections and tests shall be as detailed in Para 5 of Section VI-Schedule of Requirement:</p> <p>(a) The supplier shall get each item indicated in the Schedule of requirement inspected in manufacturer’s works or at the premises of supplier and submit a test certificate and also manufacturer’s guarantee /warranty certificate that the items conforms to the laid down specification.</p> <p>The Purchaser or its representative may inspect and /or test any or all the items to confirm their conformity to the contract specification, prior to dispatch from the manufacturer’s premises/supplier’s premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the items on receipt at destination to verify conformity to technical specification.</p> <p>If the items are fails to meet the laid down specifications the supplier shall take immediate steps to remedy the deficiency or replace the defective parts of the each to the satisfaction of the purchaser/ consignee.</p>
GCC 26.2	The Inspections and tests shall be conducted at: <i>at remote locations and data center as specified in the technical specification and schedule of requirements</i>
GCC 27.1	<p>The liquidated damage shall be 0.5% of contract price of delayed Goods or Services per week or part thereof. This is applicable upto successful installation testing and commissioning.</p> <p>Further, for the performance towards the related services after acceptance of the system, following shall govern-</p> <p>Penalty for faulty stations/data centres;</p> <ol style="list-style-type: none"> 1. For remote site in monsoon period Rs 3000 per day. 2. For remote site in Non monsoon period Rs 1000 per day. 3. For Data centre (both monsoon and non- monsoon period) Rs 4000 per day.

	The conditions when the penalty as above would be applicable, provision of clause 28.5 to be referred.
GCC 27.1	The maximum amount of liquidated damages shall be: 10% of the contract price.
GCC 28.3	<p>The period of validity of the Warranty shall be sixty (60) months after successful installation, testing, commissioning and acceptance. Warranty period shall be followed by two years comprehensive AMC. This includes seamless communication of data through telemetry system to e SWIS platform. The AMC period can be suitable extended as per mutually acceptable terms and conditions. For purposes of the Warranty, the place(s) of final destination(s) shall be:</p> <p><i>Respective Hydro-met instrument locations Detailed listed at schedule of requirement item no 2A</i></p>
GCC 28.5	<p>Bidder shall provide at least one dedicated Service Engineer cum operator at the State Data Center for Operation of RTDAS system and ensure seamless data transfer from remote stations to ERS at Delhi & then to State data Center via Internet & e-SWIS software and also GSM/GPRS data transmission as per technical specifications. The period for repair or replacement shall be: 48 Hours during monsoon /120 hrs during non-monsoon. It is the responsibility of the bidder to rectify/replace the equipment without any notice from purchaser and it is the duty of its personnel i.e. dedicated service engineer cum data entry operator to notice that site become non-operational or become faulty.</p> <p>A remote site shall be treated as faulty if it fails to respond or transmits erroneous data during six consecutive pre-programmed observation cycles. The decision of Engineer-in-Charge about errors in data shall be final and binding. If a remote site continues to remain "fail" for more than 6 hours in excess of the maintenance time schedule of 48/120 hours. The contractor is liable to pay penalty @ Rs. 1000/- per Day/ remote site during non-monsoon period and @Rs 3000/ per day/remote site during monsoon period (15th June to 15th October). The Day for the purpose of penalty shall be taken as failure period of 24 hours or part thereof for a particular remote site. The amount of penalty will be recovered from performance bank guarantee or payment due to bidder during warranty period or AMC period. The penalty for faulty stations /data centers beyond MRTR would be Rs 4000/ per day.</p>
GCC 31.1	This clause will apply only to variations in GST and other taxes payable in India on the final product which is being supplied and not for variations in tax on the individual components / raw materials which go into the product.
GCC 37	<p>(a) Add the following additional sub clauses.</p> <p>37.1 Supplier integrity:</p>

	<p>The supplier is responsible for and obliged to conduct all contracted activities in accordance with the contract using state- of- the- art methods and economic principles and exercising all means available to achieve the performance specified in the Contract</p>
	<p>37.2 Supplier's obligations :</p> <p>The Supplier is obliged to work closely with the Purchaser's staff, act within its own authority and abide by directives issued by the Purchaser and implementation activities.</p> <p>The Supplier will abide by the job safety measures prevalent in India and will free the Purchaser from all demands or responsibilities arising from accidents or loss of life the cause of which is the supplier's negligence. The Supplier will pay all indemnities arising from such incidents and will not hold the purchaser responsible or obligated.</p> <p>The Supplier is responsible for managing the activities of its personnel or sub- contracted personnel and will hold itself responsible for any misdemeanors.</p> <p>The Supplier will treat as confidential all data and information about the purchaser, obtained in the execution of his responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of the Purchaser.</p>
	<p>37.3 Site preparation and installation</p> <p>The supplier is responsible for associated civil work required for installation and commissioning of the supplies in the Schedule of Requirement under the heading of Relative services.</p>
	<p>37.4 Hardware installation:</p> <p>The Supplier is responsible for all unpacking, assemblies, wiring, installations, cabling between hardware units and connecting to power supplies. The Supplier will test all hardware operations and accomplish all adjustments necessary for successful and continuous operation of the hardware at all installation sites.</p>

Annexure-I of SCC Clause 16.1**SERVICE LEVEL CONDITIONS**

1. The bidder is fully responsible to keep the system functional during installation, warranty and AMC period. The bidder should take sue-moto action to repair any faulty instrument and should not wait for a complaint from purchaser to initiate action.

2. DEFINITIONS**i. REMOTE SITE**

Remote site is the site at remote location where hydro-meteorological sensors are installed. The Remote site may be river gauging site, automatic weather station, automatic rain gauge station, canal gauging site, reservoir water level monitoring site, reservoir outflow monitoring site using gate sensor, groundwater level monitoring site or any combination of these sites.

ii. DATA CENTRE

Data centre is the respective server where data is expected to be received. In case of GSM & GPRS based telemetry, the data centre is the server installed in state data centre for receiving GSM & GPRS transmission. In case of INSAT based telemetry, the Data Centre is Earth receiving station (ERS) server maintained by CWC at New Delhi/ Jaipur/ Burla.

iii. INVALID DATA

A data would be considered **invalid** if

- The value recorded / transmitted is beyond permissible limit for that variable. The examples of invalid data are negative rainfall, negative water level, relative humidity outside the range of 0-100, temperature outside the range of -40 to +60°C, any abnormally high or low number, negative values of atmospheric pressure, wind direction beyond the range of 0-360 degree etc. The valid permissible upper limits and lower limits for each monitoring variable for each site would be provided to bidder by the purchaser.
- If the sensor value recorded / transmitted is absurd values or sudden variation in the value (may be within the specified limits) which is not in-line with the actual physical parameter. (e.g. If the Water level sensor recorded / transmitted value is showing absurd sudden variation of 2mts (beyond the limits of rate of change of sensor value) with respective to the previous measurement interval, then this data is the invalid data).
- If the sensor value recorded / transmitted is having frequent / periodic gapes then the data will be considered as invalid data.

- If the sensor value recorded / transmitted is remain constant, even if there is variation in the physical parameters. (e.g. If the Water level recorded / transmitted value is showing constant / fix value even there is variation in the water level, then this data is the invalid data)
- If the sensor value recorded / transmitted is not in line with the value of co-located automatic / manual observation of the same sensor parameter.

iv. FAILED DATA TRANSMISSION

For each remote station, each scheduled transmission (for all variables including battery voltage) would consist of one data transmission. A data transmission would be considered failed if any of the following conditions are true

- There is no transmission of data from **remote site**
- Data is transmitted form **remote site** but not received at **data centre /ERS /e-SWIS**.
- Data is recorded in datalogger but not transmitted
- Data is not recorded by datalogger
- Battery voltage and / or GPS status (GPS valid only in case of INSAT telemetry) not transmitted
- Only battery voltage is transmitted without any actual data from sensors
- Data is transmitted but data values are **invalid**.
- For automatic weather stations, data is missing / **invalid** for more than two variables
- Rainfall data is missing / **invalid** for automatic weather station

v. FAULTY STATION

A station would be considered faulty if:

- In case of hourly transmission cycle, there are four or more than six failed hourly data transmissions in a day.
- In case Datalogger is not recording any of the sensor Data / Battery voltage OR recording the **invalid** data of any of the sensor / Battery voltage for four or more than four measurement cycles.

vi. FAULTY DATA CENTRE

A Data Centre shall be treated as Faulty if

- Vital Hardware Equipment's installed by bidder at Data Centre Viz. Server, GSM modem, online 3 KVA UPS, GSM modem, Firewall system etc. are not functioning properly.
- Bidder has failed to pay the communication charges (SIM, internet, GSM/GPRS etc.) & system is not in function due to unpaid communication charges.

- Unauthorized absence of Bidders Operator/ Service engineer at Data Centre.

vii. MONSOON PERIOD

The monsoon period is defined between 15 June to 15 October or as per IMD notification every year.

viii. MAXIMUM RESPONSE TIME FOR REPAIR (MRTR)

- The MRTR for Remote station would be 48 hours during Monsoon season
- The MRTR for Remote station would be 120 hours during Non-Monsoon season
- The MRTR for Data Centre would be 24 hours during monsoon and non-monsoon season

ix. MINIMUM TIME BETWEEN REPAIRS PER STATION

- The minimum time between repairs is six months. If a station went faulty for reasons attributed to bidder and availed of MRTR once, it would not be eligible to avail the free repair period within payment period (six months)

3. PAYMENT FOR DATA RECEPTION

- The payment would be released proportion to data received at the Data centre. A table below presents the percentage of data reception and corresponding payment

Percentage of data received	Payment to be made to vendor
90-100%	100% of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))
80-89.99 %	90% of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))
70-79.99 %	80 % of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))
60-69.99 %	70 % of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))
50- 59.99%	60% of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))
40- 49.99%	40%of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))
30-39.99%	25% of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))

Below 30%	NIL of (6% of contract price to be paid six monthly as per SCC clause no. 16.1 (ii))
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The calculations for data reception percentage are as below

Data reception percentage for each station = [1- (No of Failed transmissions / No of transmissions expected)] *100

Data reception percentage for each station is calculated for payment period (six months)

Number of transmissions expected is calculated based on transmission cycle. For hourly transmission cycle, if there are 182 days in six months period, the no. of expected transmissions = 182 (days) * 24 (hourly transmission) for a given station. If a station went faulty during payment period of six months and availed of free time of MRTR (48 hours or 120 hours based on monsoon / non-monsoon period), the 2 days / 5 days period would be subtracted from no. of expected transmissions. For example, if a station went faulty during monsoon period and payment period is for 182 days, the number of transmissions expected would be calculated as:

Number of transmissions expected = (182-2) * 24; here 2 represents 48 hours' time to repair in monsoon period. However, this deduction would be allowed only once in six months period for any given station.

$$\text{Total data Reception percentage} = \frac{\sum_{i=1}^n \text{Data reception percentage of } i^{\text{th}} \text{ station}}{n}$$

Where n is number of remote stations

- In case the percentage of data reception is below 50% continuously for 3 months, the Engineer-in-charge may initiate termination process as per GCC clause no. 35.

Attachment: Price Adjustment Formula

Deleted

Section X. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

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Letter of Acceptance

[letterhead paper of the Purchaser]

[date]

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.**

This is to notify you that your Bid dated *[insert date]* for execution of the
. . . . *[insert name of the contract and identification number, as given in the SCC]*.
. . . . for the Accepted Contract Amount of *[insert amount in numbers and words
and name of currency]*, as corrected and modified in accordance with the Instructions to
Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with
the Conditions of Contract, using for that purpose the of the Performance Security Form
included in Section X, Contract Forms, of the Bidding Document.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made

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

BETWEEN

- (1) [insert complete name of Purchaser], a [insert description of type of legal entity, for example, an agency of the Ministry of of the Government of { insert name of Country of Purchaser }, or corporation incorporated under the laws of { insert name of Country of Purchaser }] and having its principal place of business at [insert address of Purchaser] (hereinafter called “the Purchaser”), of the one part, and
- (2) [insert name of Supplier], a corporation incorporated under the laws of [insert: country of Supplier] and having its principal place of business at [insert: address of Supplier] (hereinafter called “the Supplier”), of the other part:

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

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - (a) the Letter of Acceptance
 - (b) the Letter of Bid– Technical Part
 - (c) the letter of Bid – Financial Part
 - (d) the Addenda Nos. _____ (if any)
 - (e) Special Conditions of Contract
 - (f) General Conditions of Contract
 - (g) the Specification (including Schedule of Requirements and Technical Specifications)
 - (h) the completed Schedules (including Price Schedules)
 - (i) any other document listed in GCC as forming part of the Contract

3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, 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.
4. 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 *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

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]*

Note: In the case of a Joint Venture add another clause as under

“5. The Joint Venture consisting of M/s.....

.....
Covenants that they shall be liable jointly and severally for the execution in conformity in all respects with the provisions of the Contract.”

Performance Security (Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

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

ICB No. and title: *[insert no. and title of bidding process]*

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Purchaser]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *_ [insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

² Insert the date sixty days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Advance Payment Security

Bank Guarantee for Advance Payment

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

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

ICB No. and title: *[insert number and title of bidding process]*

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We, *[insert legal name and address of bank]* have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* () *[insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods; or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has

¹ The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.

been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

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[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.