



**India Meteorological Department
Mausam Bhawan, Lodi Road
New Delhi-110003**

NOTICE INVITING TENDER (NIT)

Tender Enquiry No. CPU/52/0720/9953

Dated: 28.07.2020

1. Director General of Meteorology (DGM), India Meteorological Department (IMD), Ministry of Earth Sciences (MoES), Government of India, on behalf of President of India invites, Online Tenders in Two Bid System i.e. (i) Technical bid & (ii) Price bid from eligible and qualified Indian bidders for procurement of Automated Weather Observing Systems (AWOS) at 18 Airports in Indian currency INR only. Foreign bidders are disallowed to directly submit their bid documents to quote in foreign currency as per notification published by Ministry of Finance, Govt of India on 15-05-2020.

2. Name of Goods/Services : Automated Weather Observing Systems (AWOS)

3. Specification and Quantity : As per "RFP" attached, Quantity = 18 Nos.

4. Tender schedule:

1.	PRE BID Conference	21.08.2020 / 1100 Hrs. CAMD at HQ Mausam Bhawan, Lodi Road, New Delhi. Phone no.: +91-11-43824358
2.	Closing date and time for submission of tender	08.09.2020 / 1700 Hrs.
3.	Tender Opening date & time (Technical Bid)	10.09.2020 / 1500 Hrs.
4.	Place of Tender Opening	Central Purchase Unit, Mausam Bhawan, O/o DGM, IMD, Lodi Road ,New Delhi.

5. Earnest Money Deposit (EMD):

For Indian Bidders only : **Rs.1,65,71,580/-** (Rupees One Crore Sixty Five Lakh Seventy One thousand Five Hundred Eighty only). The EMD should be in the form of Bank Guarantee (BG) issued by any Indian Bank in India. Any other form of EMD is **NOT** acceptable.

6. EMD documents should be issued in the favour of "DDO, O/o DIRECTOR GENERAL OF METEOROLOGY, IMD, NEW DELHI" and payable at NEW DELHI. Hard Copy of BG or MSME Certificate must be submitted in Room No.517, CPU, Mausam Bhawan, on or before the bid opening date.

7. Bidders may download the **Tender Enquiry Document** from the web site www.imd.gov.in & www.eprocurement.gov.in/cpp and read the tender documents carefully before uploading the soft copy of the technical bid on CPP Portal.
8. (a) SSI, Micro and Small Enterprises registered for stores and services specified in this tender with any government bodies specified by Ministry of Micro, Small & Medium Enterprises (MoMSME) are exempted from the Earnest Money Deposit (EMD).
- (b) Firms other than SSI, registered for stores and services with NSIC, are also exempted for submitting the EMD.
- (c) For getting exemption and relaxation in EMD, the firms must submit hard copy of their valid registration certificate in this office on/before the date of opening of tender.
9. Bidders shall ensure that their tenders are complete in all respects before uploading the same on CPP Portal. Central Purchase Unit of IMD will not be held responsible for any delay or corruption in the uploaded bids.
10. In the event of the tender opening date being declared as holiday for the organization, the tender will be opened on the next working day. The venue and time of tender opening will remain the same.
11. Purchaser: The President of India
Through Director General of Meteorology,
India Meteorological Department,
Lodi Road, New Delhi-110003
12. Consignee: DGM (CAMD),
India Meteorological Department,
Lodi Road, New Delhi-110003
Head (CAMD) mobile no. 09818449464
13. Inspecting Authority: Head (CAMD)
Director General of Meteorology,
India Meteorological Department,
Lodi Road, New Delhi-110003.
(Shri Gajendra Kumar- 9818449464)
14. Inspection officer: Authorized Representative of Inspecting Authority

Director, Central Purchase Unit (CPU)
O/o Director General of Meteorology,
India Meteorological Department,
Lodi Road, New Delhi-110003.
Telefax No: 011-24698148
Telephone No.011-43824389



भारत मौसम विज्ञान विभाग
लोदी रोड, नई दिल्ली -110003
निविदा आमंत्रित करने की सूचना (एन आई टी)

निविदा जाँच सं. CPU/52/0720/9953

दिनांक : 28.07.2020

1. मौसम विज्ञान के महानिदेशक (मौविमनि) भारत मौसम विज्ञान विभाग (भा.मौ.वि.वि.) पृथ्वी विज्ञान मंत्रालय, भारत सरकार, भारत के राष्ट्रपति की ओर से नीचे लिखे सामान / सेवाओं की आपूर्ति, संस्थापन और आरंभ के लिए पात्र और अर्हक निविदाकारों से दो बिड प्रणाली अर्थात (एक) तकनीकी बिड और (दो) दर बिड में आमंत्रित करते हैं .
2. सामान/ सेवाओं का नाम: स्वचालित मौसम अवलोकन प्रणाली (AWOS)
3. विनिर्देशन और मात्रा: विनिर्देशन आर एफ पी के अनुसार, मात्रा – 18
4. निविदा अनुसूची :

1	प्री बिड कांफ्रेंस	दिनांक 21.08.2020 / 11:00 बजे
2.	निविदा जमा करने की अंतिम तिथि व समय	दिनांक 08.09.2020 / 1700 बजे
3.	निविदा खोलने की तिथि व समय (तकनीकी बिड)	दिनांक 10.09.2020 / 1500 बजे
4.	निविदा खोलने का स्थान	केंद्रीय क्रय एकक , मौसम विज्ञान के महानिदेशक का कार्यालय, भा.मौ.वि.वि, लोदी रोड, नई दिल्ली

5. बयाना जमा राशि (ई एम डी):
भारतीय बोलीदाताओं के लिए: Rs.1,65,71,580/- (रूपये एक करोड़ पैंसठ लाख इकतर हज़ार पांच सौ अस्सी सिर्फ़)
बयाना जमा राशि (ई एम डी): (Bank Guarantee) का कोई अन्य रूप स्वीकार्य नहीं है।
6. बयाना जमा राशि (ई एम डी) दस्तावेजों को "DDO, O / o मौसम विज्ञान के महानिदेशक, भारत मौसम विज्ञान विभाग, नई दिल्ली" के पक्ष में जारी किया जाना चाहिए और नई दिल्ली में देय होगा। बैंक गारंटी (बीजी) या एमएसएमई सर्टिफिकेट की हार्ड कॉपी को कमरा नं 517, सीपीयू, मौसम भवन में, बोली खोलने की तारीख को या उससे पहले जमा किया जाना चाहिए।
7. निविदाकर्ता www.imd.gov.in और www.eprocure.gov.in वेबसाइट से निविदा जांच कागजात डाउनलोड कर सकते हैं और डाउनलोड किए गए कागजात ध्यान से पढ़कर अपनी निविदा सी पी पी पोर्टल पर डालें ।
8. (ए) लघु, लघु और मध्यम उद्यम मंत्रालय (एमओएमएसएमई) द्वारा निर्दिष्ट किसी भी सरकारी निकाय के साथ इस निविदा में विनिर्दिष्ट भंडार और सेवाओं के निर्माताओं के रूप में पंजीकृत एसएसआई , माइक्रो और लघु उद्यमों को बयाना जमा राशि (ईएमडी) जमा करने से छूट दी गई है।
(बी) एनएसआईसी के साथ भंडार और सेवाओं के निर्माताओं के रूप में पंजीकृत एसएसआई के अलावा अन्य फर्मों को भी बयाना जमा राशि (ई एम डी) जमा करने से छूट दी गई है।
(सी) बयाना जमा राशि (ई एम डी) में छूट प्राप्त करने के लिए, फर्मों को निविदा खोलने की तिथि से पहले / इस कार्यालय में अपने वैध पंजीकरण प्रमाणपत्र की हार्ड कॉपी जमा करनी होगी।

9. निविदाकर्ताओं को यह सुनिश्चित करना होगा कि उनकी सभी निविदाएँ सभी तरह से पूर्ण हैं किसी भी प्रकार के विलम्ब अथवा नुकसान के लिए क्रय संगठन जिम्मेवार नहीं होगा ।
10. यदि निविदा खोलने की तारीख के दिन क्रय संगठन का अवकाश घोषित होता है तो निविदा अगले कार्य दिवस को खोली जाएगी , निविदा खोलने का स्थान और तारीख वही रहेंगे ।
11. क्रयकर्ता: भारत के महामहिम राष्ट्रपति
भा.मौ.वि.वि.के माध्यम से
भारत मौसम विज्ञान विभाग,
लोदी रोड, नई दिल्ली-110003
12. परेषिति: मौसम विज्ञान के महानिदेशक ()
भारत मौसम विज्ञान विभाग
लोदी रोड, नई दिल्ली-110003
13. जाँच प्राधिकारी: मौसम विज्ञान के महानिदेशक
भारत मौसम विज्ञान विभाग
लोदी रोड, नई दिल्ली-110003
(**Shri Gajendra Kumar- 9818449464**)
14. जाँच अधिकारी: जाँच प्राधिकारी का प्राधिकृत प्रतिनिधि
निदेशक, केंद्रीय क्रय एकक(कें.क्र.ए) ,
मौसम विज्ञान के महानिदेशक का कार्यालय,
लोदी रोड, नई दिल्ली- 110003

TENDER DOCUMENT FOR PROCUREMENT

OF

**Automated Weather Observing Systems(AWOS)
for installation at 18 Airports across India**

**Government of India
Ministry of Earth Sciences,
India Meteorological Department,
Mausam Bhawan, Lodhi Road, New Delhi-110003**

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SECTION – I
GENERAL INSTRUCTIONS TO TENDERERS (GIT)

Note: The bidder shall submit their bid as per Scope of the RFP document.

1. Introduction:

The Purchaser has issued this TE documents for purchase of goods/stores/articles and related services as mentioned in “**Request for Proposal (RFP)**”, which also indicates, *inter alia*, the required stores, delivery schedule, terms and place of delivery etc. This section (“General Instructions to Tenderers”) provides the relevant information as well as instructions to assist the prospective Tenderers in preparation and submission of tenders.

Bidders shall have to agree/accept all the terms and conditions of tenders including payment terms etc. Acceptance shall be unconditional and bidders shall have no claim and right in future on their terms if any.

2. Language of Tender:

The tender submitted by the Indian tenderer and all subsequent correspondence and documents relating to the tender exchanged between the tenderer and the purchaser, shall be written in English language.

3. Eligible Goods and Services:

All goods and related services to be supplied under the contract shall have their origin in India or any other country with which India has not banned trade relations. The term ‘origin’ used in this clause means the place where the goods are mined, grown, produced, or manufactured or from where the related services are arranged and supplied.

4. Tendering Expense

The tenderer shall bear all the costs and expenditure incurred and/or to be incurred by them in preparation, and uploading their tender including attending the pre-bid conference and or arranging demonstration of Product/Services or Field trials that may be deemed necessary by the Purchaser.

5. PRE-BID CONFERENCE:

Pre-bid conference shall be held as per NIT schedule so as to provide an opportunity to the participating bidders to interact with IMD with regard to various tender provisions/clauses, before the bids are submitted. **Bidders should depute their authorised representative for pre-bid meeting.** In case, due to the points/doubts raised by the prospective bidders, needs to be modified, and then the same will be considered for modification. After pre-bid conference, tender conditions will be frozen. **No change in bid documents will be permissible after opening of Bids.** Clarification needed if any may be sent before commencement of pre-bid meeting. No reply in this regard shall be sent to individual bidders. **Pre-Bid minutes shall be uploaded on eProcurement portal at <https://eprocure.gov.in/eprocure/app>.**

6. Regular visit of website:

Prospective bidders are advised to see IMD website at <http://www.imd.gov.in/pages/tenders.php> & CPP portal at <https://eprocure.gov.in/eprocure/app> on regular basis for any change in NIT schedule, amendment / corrigendum in Tender Document (T.E.) including technical requirement and pre-bid minutes etc.

7. Amendments to TE documents:

At any time, prior to the deadline for submission of tenders, the purchaser may, for any reason deemed fit by it, modify the TE documents by issuing suitable amendment(s) to it. The amendment will be uploaded on IMD web site only. In order to provide reasonable time to the prospective tenderers to take necessary action in preparing their tenders as per the amendment, the purchaser may, at its discretion extend the deadline for the submission of tenders and other allied time frames, which are linked with that deadline. Prospective bidders are advised to visit/see eprocure.gov.in/eprocure/app as well as IMD website www.imd.gov.in on regular basis for any change in NIT schedule, amendment / corrigendum in Tender Document including technical requirement.

8. Documents Comprising the Tender:

The tender is to be submitted in two bid system.

Part-1 should contain Techno-Commercial Bid and duly signed blank price bid (without indicating the cost) and scanned copy of EMD.

Part-2 should contain only the price bid indicating the cost and applicable GST/Taxes etc.

The bid should be submitted electronically through CPP Portal www.eprocure.gov.in/app. The Part-1(technical bid) and Part-2(Price bid) should be uploaded separately indicating the Tender reference/details. Please note that to participate in the tender Digital Signature (DSC) has to be obtained. The bidders are advised to obtain DSC (Digital signature Certificate) from the authorized agent of NIC (the list provided in the NIC portal) and to register with NIC. In case the Price/Cost is revealed in the technical bid the tender will be treated as invalid or rejected.

The responsibility to ensure the timely submission of bid lies with the bidder. Bids submitted through FAX or e-mail will not be considered. Bidders shall also attach scanned copies of all the requisite documents i.e. Earnest Money and other certificates/documents specified in the tender documents. The bids are to be submitted (electronically) as per the bidding type indicated in the front page of tender. No manual tender is acceptable.

8.1 Techno - Commercial Tender (Unpriced Tender)

The following documents are to be furnished by the tenderer along with their **Technical Bid**. Bidder shall upload following documents on CPP PORTAL <https://eprocure.gov.in/eprocure/app>

- (i) Registration certificate of bidding firm with government body in their country. Credential/document shall be attached.
- (ii) Checklist section (as per Annexure-I) properly filled and signed.
- (iii) Scanned copy Earnest Money Deposit (EMD) in the form of BG issued from **Indian Bank only**. Original EMD in physical form shall be submitted to Central Purchase Unit of IMD on or before closing of bids submission date.
- (iv) Documentary evidence for fulfillment of Eligibility /Qualification criteria(s).
- (v) Copy of agreement between bidding firm in India and their foreign principal indicating precise relationship between them and their mutual interest in this tender must be furnished along with the technical bid.

- (vi) Tender terms & Conditions Acceptance Form (as per Annexure-II) duly signed. (i.e. tenderer has agreed to all the terms & condition of tender enquiry document).
- (vii) Authorization letter from principal authorizing Indian representative **to submit /deposit the tender document**. Above documents must be enclosed with technical bids otherwise bids may be ignored and not to considered for technical evaluation.
- (viii) Along with Technical bid, List of deliverables (un-priced/without price) in Indian currency (INR) only shall be submitted along with detailed make, model & country of origin etc. as per Annexure-IV. **This should be exactly same as attached in price bid in INR.**
- (ix) Pre-Integrity Pact as per format at Annexure-V duly signed on all the pages by the authorised signatory.

Note: The above documents (signed and scanned) shall be attached in the beginning of technical bid.

8.2 Price Bid:

- (i) All pages of the price bid should be page numbered, indexed and signed with company/firm seal by authorized signatory.
- (ii) Price Bid shall be preferred as per price schedule format in INR only (Annexure- IV).
- (iii) Costing, of each and every item, sub items offered in bidder's technical bid, shall be done with all breakup prices.
- (iv) The Tenderer shall indicate on the Price Schedule specifying all components (main units and sub units etc. of each item) of prices shown therein including the unit prices and total tender prices of the **goods (H/w & S/w), services, packing, inland transportation/insurance to the sites, GST etc.** against the requirement.
- (v) Wherever, the Purchaser's invitation to tender calls for installation and commissioning or supervision of installation and commissioning of the instrument/equipment by the tenderer, the tenderer must clearly and separately quote the prices for the supply of the stores and the charges & the terms for installation and commissioning or supervision of installation and commissioning as the case may be. The charges towards installation and commissioning should not be included in the price of the stores.
- (vi) **The Supplier shall bear** all the taxes (IGST/SGST/CGST/Income-tax/or any other taxes) levied by the state/central government, as per the rates prevailing at the time of undertaking the job in accordance with the Income-tax in India.
- (vii) CAMC shall be only for the maintenance of stores (equipment and software only) therefore prospective bidders are advised to quote CAMC charges accordingly and specifically. **It should not be quoted in terms of percentage of project** as consumable, transportation, warranty; installations, training etc are not covered under CAMC. **Price bids shall not be accepted if CAMC charges are quoted in percentage.**
- (viii) In case any charges not mentioned in the price bid, it will be treated as all the charges are free of cost for that item.
- (ix) Indian vendor shall quote prices on F.O.R destination (sites of consignee) basis and Payment to Indian supplier shall be paid into Indian rupees (INR) only.
- (x) The Indian bidder supplying goods shall quote only in Indian Rupees only. No foreign exchange shall be released by IMD and also no payment shall be made to their foreign principal. It is the responsibility of Indian firm to pay custom duty etc. IMD shall not be responsible for custom clearance. Prices quoted by the tenderer shall remain firm and fixed in the Indian currency of the contract.
- (xi) Foreign bidders are disallowed to directly submit their bid documents to quote in

foreign currency as per notification published by Ministry of Finance, Govt of India on 15-05-2020.

- (xii) Hence bids from Indian bidders in single Indian currency (INR) are acceptable. Bids from foreign bidder are not acceptable and shall be rejected.
- (xiii) Statutory levies, taxes and duties etc., if any, chargeable on the goods are on actual basis as applicable.
- (xiv) If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail.

Note: Price bid shall prima-facie shall be rejected in case of any deviation from the technical bid of the bidder and found that any fact concealed or hid in price bid/technical bid.

9. Signing and uploading of Tender:

Tenderer shall upload their properly signed and stamped tender on the company letterhead bid ONLINE through CPP Portal (URL:<https://eprocure.gov.in/eprocure/app>), as manual bids shall not be accepted. The tender shall not contain any eraser or overwriting, except as necessary to correct any error made by the bidder and, if there is any such correction; the same shall be initialled by the person(s) signing the tender

10. Alteration and Withdrawal of Tender:

The bidder, after uploading online bid through CPP Portal is permitted to alter / modify its bid within the deadline for submission of bids. No tender should be withdrawn after the deadline for submission of tender and before expiry of the tender validity period. If a tenderer withdraws the tender during this period, it will result in forfeiture of the earnest money furnished by the tenderer.

11. Opening of Tenders:

The purchaser will open the online tender at the specified date and time and at the specified place as indicated in the NIT. In case the specified date of tender opening falls on / is subsequently declared a holiday or closed day for the purchaser, the tenders will be opened at the appointed time and place on the next working day. Authorized representatives of the tenderers, who have submitted tenders on time may attend the tender opening, provided they bring with them letters of authority from the corresponding tenderers. Two Bid system will be as follows. The **Technical Bids** are to be opened in the first instance, at the prescribed time and date. These Tenders shall be scrutinized and evaluated by the competent committee/ authority with reference to parameters prescribed in the TE document. Thereafter, in the second stage, the Price Bids of technically qualified tenderers only shall be opened online for further scrutiny and evaluation on a date notified after evaluation of the techno commercial tender.

12. Scrutiny and Evaluation of Tenders:

12.1 Unresponsive bids:

The tenders will be scrutinized to determine whether they are complete and meet the essential and important requirements, conditions etc. as prescribed in the TE document. **The tenders are liable to be treated as non – responsive and will be summarily ignored if followings are not provided along with technical bids:**

- (i) Tender is unsigned or is incomplete, is not uploaded on e-procurement portal due to any reason within stipulated period.
- (ii) Properly signed and stamped Checklist (Annexure-I) is not properly filled and fully

- furnished compliance statement is not enclosed.
- (iii) Tender Acceptance Form (Annexure-II) not duly signed and stamped. **(i.e. all the terms & conditions of tender document are acceptable.** Original Letter shall be enclosed in technical bid.
 - (iv) Tender validity is shorter than the required period.
 - (v) Required EMD has not been provided unless exempted.
 - (vi) Tenderer has not agreed to give the required performance security.
 - (vii) Copy of agreement of bidding firm from India with its foreign principal with the precise relationship between them and nature of services which would be available from bidding firm in India. Copy of this agreement must be attached with the tender.
 - (viii) Pre-Integrity Pact as per format at Annexure-V duly signed on all the pages by the authorised signatory.

12.2 **Technical Evaluation:**

Tenders shall be scrutinized and evaluated by the committee constituted by competent authority with reference to parameters prescribed in the TE document.

Minor Informality/Irregularity/Non-Conformity:

If during the preliminary examination, the purchaser finds any minor informality and/or irregularity and/or non-conformity in a tender, **the purchaser may waive the same provided it does not constitute any material deviation and financial impact and, also, does not prejudice or affect the ranking order of the tenderers.** Wherever necessary, the purchaser will convey its observation on such “minor issues” to the tenderer asking the tenderer to respond by a specified date. If the tenderer does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that tender will be liable to be ignored.

The technical presentation in the presence of committee may be held in IMD. The committee will seek clarifications on design, performance and other technical points during presentation.

12.3 **Financial evaluation:**

Thereafter, in the second stage, the Price Bids of technically qualified tenderers only shall be opened online for further scrutiny and evaluation on a date notified after evaluation of the techno commercial tender.

The purchaser shall evaluate the technically qualified financial bids for deciding lowest bidder (L-1) on the basis of ultimate landing cost including all applicable GST taxes as per rule of GOI.

The ultimate/landing cost in respect of store is arrived at by considering following below elements including CAMC, Warranty, and Extended Warranty cost and etc if any unless these are optional requirements.

Indian stores

1. Basic price
2. Excise duty (if applicable)
3. **As per prevailing rate of GST taxes imposed by Govt. of India**
4. Installation, commissioning, training, Insurance, freight and inland transportation of goods up to sites

Note: IF ANY CHARGES ARE NOT INDICATED SPECIFICALLY AND SEPARATELY IN THE BID, SAME WILL BE TREATED AS INCLUSIVE.

13. Packing and Marking:

The packing for the goods to be provided by the supplier should be strong and durable enough to withstand, without limitation, the entire journey during transit including transshipment (if any), rough handling, open storage etc. without any damage, deterioration etc.

14. Inspection, Testing and Factory acceptance test (FAT)

The purchaser's /consignee's reserve the right to inspect goods at factory site/supplier site before their dispatch if required and mentioned in technical requirement (RFP) section.

Goods accepted by the purchaser/consignee and/or its inspector at initial inspection and in final inspection in terms of the contract shall in no way dilute purchaser's/consignee's right to reject the same later, if found deficient in terms of the warranty clause of the contract.

Purchaser will not undertake any Pre dispatch inspection, unless mentioned, for stores in the supplier's country of origin and equipment will be sent to the supplier on the basis of supplier own inspection at the premises and guarantee and warranty. The equipment will be accepted subject to final inspection and test on commissioning and before handing over the equipment to consignee.

SECTION – II
GENERAL CONDITIONS OF CONTRACT (GCC)

1. **Bidders shall have to agree/accept all the terms and conditions of tenders including payment terms etc. Acceptance shall be unconditional and bidders shall have no claim and right in future on their terms if any.**

2. Whenever there is any conflict between the provision in the GCC **regards to specific Para under this section and that in the “RFP-List of requirements/ technical specifications”**, the provision contained in the RFP shall prevail and have an over-riding effect. Any Special instructions as per –RFP-List of requirements/ technical specifications section will also apply for this purchase. The conditions (like qualification criteria, delivery schedule, mode of delivery & sites of delivery etc.) mentioned in “RFP-List of requirements/ technical specifications section” will also apply for this purchase.

3. **Tender Validity:**

The tenders shall remain valid for acceptance for a period of 180 days (one hundred eighty days) after the date of tender opening, prescribed in the TE document.

4. **Purchaser’s Right to accept any tender and to reject any or all tenders:**

The purchaser reserves the right to accept in part or in full any tender or reject any tender without assigning any reason or to cancel the tendering process and reject all tenders at any time prior to award of contract, without incurring any liability, whatsoever to the affected tenderer or tenderers.

5. **Tender Fee:** No tender fee is charged on the downloaded and e-tenders.

6. **Price preference:**

6.1 Price preference shall be given to **Micro and Small Industries** registered for stores and services specified in this tender document with **National Small Industries Corporation** or any other government agencies as per the latest guidelines/orders from Government of India. Purchase preference and quantity etc shall be decided as per the Government of India orders. The tenderers shall have to attach valid registration certificate as OEM. Micro and small Enterprises are exempted for submitting fees/cost towards tender document and submission of earnest money deposit (EMD) also known as security deposit. However Micro and small Enterprises are not exempted for performance security. Micro and small Enterprises shall have to furnish performance security if purchase order is placed to them. There is no relaxation in this regard.

6.2 Purchase preference shall be given to Make in India, as per the policy of Government of India to encourage Make in India and promote manufacturing and production of goods and services in India circulated Vide Order No. P-45021/2/2017- B.E.-II, Ministry of Commerce and Industry, Department of Industrial Policy and Promotion dated. 15.06.2017.

7. **Eligibility & Qualification criterion for Tenderers:**

As Global Tender Enquiry (GTE) is disallowed under GFR rule 161 (iv) dated 15-05-2020 by the Ministry of Finance, Govt. of India. Only Indian firms in given below category are eligible to participate in tender **subject to registration of the firm with government bodies as per act /rules in their country and also fulfil of other specific qualification criteria, terms and conditions mentioned in technical requirement section and tender enquiry document also.**

(i) Original Equipment Manufacturer (OEM).

- (ii) Original Software Company (OSC), who developed the main application software with back to back support of OEM.
- (iii) Authorized Supplier from Original Equipment manufacturer (OEM) /Developer of main application software company (OSC) etc., the tenderer shall have to submit authorization certificate from their OEM /OSC etc. that will provide after sale service support for entire period of system operation during warranty and CAMC along with Manufacturer's Authorization Form in the prescribed format (Annexure-VI).
- (iv) Integrators/ Authorized dealer/ Supplier/ subsidiary/ Distributors / Stockist in India having full back to back maintenance support agreement for hardware & software from OEM & OSC etc.
- (v) Firm from India quoting on behalf of their foreign principal:
 - (a) Copy of agreement, with their foreign principal with the precise relationship between them, their mutual interest and nature of services which would be available from bidding firm from India, shall be submitted along with their tender. Whether foreign principal has agreed to provide technical support and spares after sale services. The type and nature of after sales services to be rendered by the Indian Agent.
 - (b) **Indian firm quoting on behalf of their foreign principal shall be responsible for furnishing performance security (ePBG) in INR only for the entire project.**
 - (c) Price to be quoted in Indian currency towards for all related works and services which are to be undertaken in India like installation & Commissioning of equipment.
 - (d) The complete name and address of the bidding firm in India and its permanent income tax account number (PAN) as allotted by the Indian Income Tax authority must be submitted.
 - (e) Indian Supplier /Integrator /Distributors /stockiest etc for stores shall quote in single Indian currency (INR) only & no payment shall be made to their foreign principal in foreign currency. Hence bid shall be rejected immediately without any clarification if quoted in two currencies.

8. Earnest Money Deposit (EMD):

The tenderer shall furnish along with its tender, earnest money for an amount as shown in the tender notice. The earnest money is required to protect the purchaser against the risk of the tenderer's unwarranted conduct.

The tenderers who are registered as OEM on Tender submission date with Directorate General of Supplies & Disposals or with National Small Industries Corporation, New Delhi, shall be eligible for exemption from EMD. **Micro and small Enterprises** specified by Ministry of Micro, Small & Medium Enterprises (MoMSME) **are exempted from earnest money deposit (EMD). EMD also known as security deposit.**

The EMD shall be furnished in the form of Bank Guarantee (BG) (as per Annexure-IV)) from any commercial bank doing government business, may be issued in the favour of -DDO, O/o DGM, IMD, New Delhi. **BG only** for EMD in INR submitted by Indian bidders shall be accepted.

The clause “release of BG requires clearance certificate from Purchaser i.e. DGM, IMD” must be mentioned in issued BG by Indian Bank.

The earnest money shall be valid for the total period of Two Hundred Forty (240) days (180 days of the tender validity and 60 days beyond the validity period of the tender).

Refund of EMD: Unsuccessful tenderer’s earnest money will be returned to them **without any interest**, after expiry of the tender validity period. Successful tenderer’s earnest money will be returned without any interest, after receipt of performance security from the tenderer.

Forfeit of EMD: Earnest money of a Tenderer will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender or if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged without prejudice to other rights of the purchaser. The successful tenderer’s earnest money will be forfeited without prejudice to other rights of Purchaser if supplier fails to furnish the required performance security within the specified period.

Firm shall have to extend the validity of EMD if extension of tender validity is agreed on the request of purchaser in exceptional cases.

9. Performance Security:

- 9.1 Successful bidder shall submit performance security within thirty (30) days from date of dispatch of supply order/award of contract by the purchaser or within twenty-one (21) days from the receipt of supply order by the supplier whichever is earlier.
- 9.2 The purchaser may consider annulment/cancellation of supply order/ award of contract if performance security not received in stipulated time.
- 9.3 There is no relaxation/exemption in submitting of performance security.
- 9.4 The supplier, shall furnish performance security to the purchaser for an amount equal to ten percent (10%) of the total value of the contract excluding AMC if any, valid up to sixty (60) days beyond the warranty period.
- 9.5 The CAMC service provider shall furnish performance security to the purchaser for an amount equal to five per cent (5%) of the total value of the AMC Value, valid up to sixty (60) days after the date of completion of all contractual obligations by the supplier/service provider.
- 9.6 **Performance Security has to be submitted irrespective of its registration NSIC etc. Performance security is not relaxed to any supplier/service provider. Submission of Performance Security is must for all suppliers/service providers.**
- 9.7 **Performance Security shall be in the form of Bank Guarantee issued by a National Commercial Bank doing government business in the prescribed form in favour of the purchaser. In the event of any amendment issued to the contract, the supplier shall, within twenty-one (21) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended in the form of Bank Guarantee.**
- 9.8 The purchaser will release the Performance Security without any interest to the supplier/service provider on completion of the supplier’s all contractual obligations including the warranty obligations & after receipt of performance security for CAMC (if applicable). The supplier shall submit pre receipt for obtaining back their security.

10. Terms of Delivery:

Goods shall be delivered by the supplier in accordance with the terms of delivery specified in the contract for **F.O.R destination** (in case of domestic supply). Suppliers should not deliver the

goods without any valid delivery period. Purchaser shall not be held responsible for anything (payment and loss of stores etc) if stores supplied without any valid delivery period as purchaser reserve the right to reject the delivery and terminate the supply order.

11. Delivery schedule: As per section under RFP-List of Requirements.

Date, on which all the stores as per supply order have been delivered to the consignee shall be treated as final date of delivery of stores for calculating liquidated damages etc.

12. Force Majeure:

Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable. Such events may include, but are not restricted to, acts of the purchaser either in its sovereign or contractual capacity, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, and freight embargoes. If there is delay in performance or other failures by the supplier to perform its obligation under its contract due to event of a Force Majeure, the supplier shall not be held responsible for such delays/failures. **If a Force Majeure situation arises, the supplier shall promptly notify the purchaser in writing of such conditions** and the cause thereof within twenty-one days of occurrence of such event. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side. There may be a Force Majeure situation affecting the purchase organization only. In such a situation the purchase organization shall take up with the supplier on similar lines as above for further necessary action.

13. Warranty:

The warranty shall be **Onsite warranty for three years after successful commissioning of systems.** All stores to be supplied should be free from all defects and faults in material workmanship and manufacture. They should be of the highest grade and consistent with the established and generally accepted standards for material of the type used and in full conformity with the specifications, drawings, or samples and shall, if operable, operate properly. **The Seller shall be bound to furnish a clear written warranty regarding the same.** The Seller will be required to replace them free of cost inclusive of all freight and handling charges. The supplier shall provide warranty certificate from the OEM for the goods along with date of manufacturing of stores/products.

The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the purchaser for such replaced parts/goods thereafter. Custom charges if any, for Re-export/re-import of defective parts/repairs or replaced parts to the foreign supplier country for repairs etc shall be borne by supplier only. Transportation cost and Octroi etc, for sending defective parts for repairs and sending back repaired or replaced one to IMD site(s), shall be borne by supplier itself.

Other condition under warranty clause of “List of requirements/ technical specifications” section shall also be applicable.

14. Comprehensive Annual Maintenance Contract (CAMC):

The Purchaser/Consignee reserves the rights to enter into Comprehensive Maintenance Contract between Consignee and the Supplier after the completion of warranty period. CAMC shall be only for the maintenance of stores (equipment and software only). Prospective bidders are advised to quote accordingly and specifically. **It should not be quoted in terms of percentage of project** as consumable, transportation, warranty; installations, training etc. are not covered.

The cost components towards CAMC are to mentioned and added in bid by bidders for its evaluation on overall basis to decide the ranking of tender. Generally, payment for maintenance contract is made on quarterly basis unless it is specified in technical section. The supplier shall enter into agreement with consignee, if required.

15. Penalty clause/Liquidated damages clause (LD) for delayed stores & Services:

15.1 The supplier shall deliver the goods and perform the services (like installation & commissioning etc) under the contract within the time schedule specified by the purchaser in the -List of requirements/ technical specifications section and as incorporated in the contract. **The delivery date, unless delivery is divided, on which all the items/stores/materials/services etc as per supply/purchase order are delivered shall be taken into account for penalty/LD purpose.**

The purchaser shall, without prejudice to other rights and remedies available to the purchaser under the contract, deduct as penalty/liquidated damages from the contract price a sum equivalent to 1% per week of delay or part thereof on delayed supply of goods and/or delayed services subject to a maximum of 10% of the contract price of delayed items. L/D shall not be imposed under force majeure conditions. Once the maximum is reached purchaser may also consider followings:

- i.** Forfeiture of its performance security and
- ii.** Termination of the contract for default.

Note*

The supplier shall not be held responsible for delay in delivery of stores and their installation for the followings reasons:

- i.** Delay in providing Entry permits/Road Permits (if required) to the supplier by the consignee.
- ii.** Delay in providing proper site(s) by the consignee to the supplier. Site is not ready in all respect (i.e. all civil & electrical at site completed) for installation of stores.
- iii.** Delay in providing No Objection Certificate (NOC) required from any other government agency/agencies.
- iv.** Communication facility required for project to be provided to the supplier by the consignee if it is not the responsibility of supplier.
- v.** Any other reason for which supplier is not responsible.

15.2

Penalty / Liquidated damages shall be calculated on the purchase/contract price including the element of GST tax, excise duty etc. mentioned in the price bids.

15.3 The supplier shall not dispatch the goods after expiry of the delivery period. The supplier is required to apply to the purchaser for extension of delivery period and obtain the same before dispatch. In case the supplier dispatches the goods without obtaining an extension, it would be doing so at its own risk and no claim for payment for such supply and / or any other expense related to such supply shall be against the purchaser. **The supplier shall inform to the purchaser (CPU) directly in writing about these delays on part of IMD.**

16 Award Criteria and Tolerance Clause:

The purchase order /supply order shall be awarded to the eligible responsive tender evaluated as the most economical, technically qualified and suitable to the requirements subject to the availability of funds. The buyer may increase or decrease the quantity by +/-25% at the same rate and terms & conditions of procurement as per manual for procurement of goods.

17 Modification of contract

If necessary, the purchaser may, by a written order given to the supplier at any time during the currency of the contract, amend the contract by making alterations and modifications within the general scope of contract. If the supplier doesn't agree to the adjustment made by the purchaser, the supplier shall convey its views to the purchaser within fifteen (15) days from the date of the supplier's receipt of the purchaser's amendment / modification of the contract.

IMD shall not have any custom responsibility for supply of stores, if any order placed by the Indian supplier for stores.

18 Taxes and Duties in India:

19.1 Duty and Local Taxes:

As per prevailing GST taxes imposed by Govt. of India.

Integrator / Supplier shall pay IGST/SGST and other taxes where applicable as per existing rules at that time. Normally materials to be supplied to Govt. Department against Govt. contracts are exempted from levy of town duty, Octroi duty, terminal tax and other levies of local bodies. The local Town/Municipal Body regulations at times, however, provide for such exemption only on production of such exemption certificate from any authorized officer. Contractors should ensure that stores ordered against contracts placed by this office are exempted from levy of town duty/Octroi duty, Terminal tax or other local taxes and duties. Wherever required, they should obtain the exemption certificate from the indenter /consignee concerned, to avoid payment of such local taxes or duties. The supplier shall pay the Octroi, entry tax etc. if exemption certificate not agreed by local authorities and same may be got reimbursed from purchaser on proof of payments.

19.2 **Supply of Road Permits by the indenter /consignees:** In all such cases where the requirement of Road Permit for entry of goods into a particular State is mandatory, the following provisions shall be strictly followed: -.

- i. The supplier shall request the Indentor /consignee for providing Road permit/ Way bill within 10 days of the receipt of the Supply order. The supplier shall furnish all the necessary information and documents in this regard to Indentor/consignee.
- ii. On receipt of the above request from the supplier, the indentor/consignee concerned shall arrange to provide the Road permit/Way Bill in the prescribed form to the supplier within a maximum period of two weeks so that the same reaches the supplier before the dispatch of the stores. However, in cases where the Road permit/Way Bill is issued on proof of actual invoice of the material, the consignee shall arrange to provide the Road permit/Way Bill from appropriate authorities within a maximum period of 5 days from the receipt of invoice.
- iii. The supplier shall pay the local charges/taxes (Octroi etc.) if exemption certificate not agreed by local authority and same will be reimbursed by purchaser on submission of receipt.

The supplier shall not be held responsible for any delay in supply due to non- supply/delayed supply of Road permit.

19.3 Income Tax and service tax etc:

Tax deducted at source (TDS) shall be done before making payment to the suppliers as per existing law of Ministry of Finance, Govt. of India in force. The bidders (foreign as well as Indian tenderers) may visit website of Income Tax Department of India for details of Tax Liabilities, Rules, and Procedures etc. The bidders shall have to provide their Permanent Income Tax Number (PAN) and GST registration number. All the applicable taxes such as GST etc. shall be borne by the vender.

19 Terms and Mode of Payment

Payment Terms: Payment, as per term mentioned below, shall be made subject to recoveries, if any, by way of liquidated damages /penalty clause /TDS or any other charges as per terms & conditions of contract if not specified elsewhere in the document.

19.1 Cases where installation & Commissioning to be done by supplier:

Sixty percent (60%) payment of total value of stores would be made after proof of dispatch of stores to each site on F.O.R basis & FAT certified by supplier & accepted by buyer.

19.2 Balance remaining 40 % of total value of stores shall be made after issuing certificate for installation, commissioning and acceptance of stores by the consignee.

19.3 100% payments towards services like FAT, Training, Transportation, SAT, Installation & commissioning charges etc if any after their executions and completions. Necessary documents must be submitted for the release of payments.

19.4 Payment towards Annual Maintenance Contract Charges:

Payment shall be made as per RFP List of requirements / technical specifications section. The consignee will enter into CAMC if required for selective items with the supplier at the rates as stipulated in the contract after warranty period. The payment of CAMC will be made after satisfactory completion of said period and duly certified by the consignee. The consignee shall deal this issue separately and directly. The supplier shall deal CAMC agreement and payment etc directly with the consignee.

19.5 The supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to respective consignees.

19.6 Bills/invoices must be submitted separately for stores and services.

19.7 The bidder shall submit particulars of his bank account required for making payments.

- (a) Account Number (b) Bank Name (c) Branch Name (d) Address
(e) IFS code (f) MICR No. (g) Mobile No. (h) SWIFT code etc.

20 Fall Clause

The bidder undertakes that it has not supplied/is not supplying similar products/systems or subsystems at a price lower than that offered in the present bid in respect of Ministry/Department of the Government of India or Public Sector Unit (PSU) and if it is found at any stage that similar products/systems or subsystems was supplied by the BIDDER to any Ministry/Department of the Government of India or Public Sector Unit (PSU) at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and difference in the cost would be refunded by the BIDDER to the BUYER (India Meteorological Department) or it will adjusted from their bills, if the contract has already been concluded.

21 Termination of tender/contract by the Purchaser:

From the time of submission of tender to the time of awarding the contract, if a tenderer needs to contact the purchaser for any reason relating to this tender enquiry and / or its tender, it should do so only in writing.

In case a tenderer attempts to influence the purchaser in the purchaser's decision on scrutiny, comparison & evaluation of tenders and awarding the contract, the tender of the tenderer shall be liable for rejection in addition to appropriate administrative actions being taken against that tenderer, as deemed fit by the purchaser.

The purchaser, without prejudice to any other contractual rights and remedies available to it (the purchaser), may, by written notice of default sent to the supplier, terminate the contract in whole or in part, if the supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the purchaser. In the event of the purchaser terminates the contract in whole or in part, the purchaser may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the supplier shall be liable to the purchaser for the extra expenditure, if any, incurred by the purchaser for arranging such procurement. If the supplier becomes bankrupt or otherwise insolvent, the purchaser reserves the right to terminate the contract at any time, by serving written notice to the supplier without any compensation, whatsoever, to the supplier, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the purchaser.

22 Arbitration clause:

If dispute or difference of any kind shall arise between the purchaser and the supplier in connection with or relating to the extension of contract, the parties shall make every effort to resolve the same amicably by mutual consultations. If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the-List of requirements/ technical specifications section either the purchaser or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per Indian Arbitration and Conciliation Act, 1996. In the case of a dispute or difference arising between the Purchaser/ Consignee and all suppliers relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of an officer, appointed to be the arbitrator by the Director General of Meteorology. The award of the arbitrator shall be final and binding on the parties to the contract. Each party shall bear its own cost.

Venue of Arbitration: The venue of arbitration shall be the place from where the contract has

been issued, i.e., DGM, New Delhi. The contract shall be interpreted in accordance with the laws of India.

23 List of Deliverables:

The tenderer shall submit the final list (List of Deliverables) of their proposal in given below format for all the stores, H/w, S/w, items, subunits etc and all other services which bidder is going to offer in their technical proposal to meet the requirement under “**List of requirement & Technical specifications**” of this tender document. The list of deliverables shall be same as submitted in the price bid. The price bid shall not be considered if it is not matching with the list of deliverables submitted with technical bids.

S.N	Name of Item/Store	Quantity	Make and Model
(1)	(2)	(3)	(4)
Stores (H/w & software)			
Services			

Note*: It is mandatory to mention the make and model of each offered stores.

SECTION – III

SPECIAL CONDITIONS OF CONTRACT (SCC)

1. The number of AWOS mentioned is only indicative quantity. IMD may increase or decrease the numbers.
2. If few more AWOS required, IMD may place an additional supply order at the same cost and same terms and conditions of the present tender, following GFR -2017.
3. The bidders must have ISO certification.
4. Technical evaluation may consist of presentation by bidder (*Presentation must include point to point details as per Schedule of Requirements, Specifications & allied Technical Details of the tender document*).
5. Technical evaluation of the systems will be done by a nominated committee constituted by the competent authority and supply order will be issued to successful bidders after evaluation of the bids and approvals.

CHECKLIST

S. N	Activity	Compliance Yes/ No/ NA	Page No. of your bid
1	Is Firm Registration certificate from Government bodies have attached with technical bid?		
	(i) Have you enclosed EMD (Bank Guarantee) of required amount?		
	(ii) Is the EMD submitted by other firm other than participating firm? If yes, then bid is likely to be ignored.		
	(iii) Is Registration certificate from NSIC/Government bodies on SSI attached for relaxation of EMD?		
	(iv) EMD shall be valid for 240 days.		
3.	Have you kept validity of your bid as per the TE document?		
4.	Have you enclosed <u>Tender Terms & Conditions Acceptance Form</u> duly filled and signed (i.e. terms and conditions are acceptable) with original set of tender. Tenders may be ignored if not signed.		
5.	Have you enclosed clause-by-clause <u>compliance statement</u> for the “List of requirements/ technical specifications” section?		
6.	Have you submitted copy of the last purchase order(s) and end user certificate?		
7.	Is tender Submitted by an OEM ? Is tender Submitted by an integrator Agent/Dealer/Supplier/Distributor/ Stockist etc of OEM? ? Whether Back-to-back support agreement with equipment manufacturer and software developer company attached?		
8.	(i) Permanent Account No. of bidding firm with proof.		
	(ii) Is sales & service tax / GST number with registration certificate attached?		
9.	Name of the firm who quoted the price		
10.	Name of tender currency given in which order to be placed?		
11.	Name of the supplier with complete address to whom supply order to be placed to be submitted on company’s letter head in original from authorized signatory.		
12.	Have you enclosed the signed Pre-Contract Integrity Pact as per prescribed format under Annexure-V?		

(Name & Signature with date and firm/company seal)

Tender Terms & Conditions Acceptance Form
(For all the terms & conditions of tender document are acceptable to tenderer)

To
The Director General of Meteorology,
India Meteorological Department,
Lodi Road, New Delhi-110003

Ref: TE document No. CPU/ dated

I/We, the undersigned have examined the above mentioned TE document, including amendment/corrigendum No. , dated (if any), the receipt of which is hereby confirmed. We now offer to supply and deliver the goods and services in conformity with your above referred document.

If our tender is accepted, we undertake to supply the goods and perform the services (Installation & commissioning etc.) as mentioned in tender document with the delivery schedule specified in the —RFP-List of requirements/ technical specifications.

I/We further confirm that, if supply / purchase order is placed to firm, we shall provide performance security of required amount in an acceptable form for due performance of the contract.

I/We agree to keep our tender valid for acceptance as required in tender document or for subsequently extended period, if any, agreed to by us. I/We also accordingly confirm to abide by this tender up to the aforesaid period and this tender may be accepted any time before the expiry of the aforesaid period. I/We further confirm that, until a formal contract is executed, this tender read with your written acceptance thereof within the aforesaid period shall constitute a binding contract between us.

I/We further understand that you are not bound to accept the lowest or any tender you may receive against your above-referred tender enquiry.

We confirm that we do not stand deregistered/banned/blacklisted by any Govt. Authorities.

I/We confirm that we fully accept and agree to all the terms and conditions specified in above mentioned TE document, including amendment/ corrigendum etc. if any.

(Signature with date and seal of the company)

(Name and designation)

Duly authorised to sign tender for and on behalf of tenderer

Note*: 1. Firm/company shall use their own printed letter head for issuing this certificate.
2. Acceptance shall be unconditional.

MODEL BANK GUARANTEE FORMAT FOR FURNISHING EMD

(Format only)

Whereas
 (hereinafter called the “tenderer”)
 has submitted their offer dated.....
 for the supply of
 (hereinafter called the “tender”)
 against the purchaser’s tender enquiry No.
 KNOW ALL MEN by these presents that WE
 of..... having our registered office at
 are bound unto
 (hereinafter called the “Purchaser”)
 in the sum of
 for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors
 and assigns by these presents. Sealed with the Common Seal of the said Bank thisday
 of
20.....

THE CONDITIONS OF THIS OBLIGATION ARE:

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

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

This guarantee will remain in force upto and including 60 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

Bank Guarantee issued with the tender enquiry reference No. CPU/..... Dated.....

.....
 (Signature of the authorized officer of the Bank)

.....
 Name and designation of the officer

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

PRICE SCHEDULE (Financial Bid format)

**TO BE SUBMITTED BLANK WITH TECHNO-COMMERCIAL BID AND WITH
PRICE IN THE FINANCIAL BID.**

**(KINDLY ENSURE THAT PRICES SHOULD NOT BE REVEALED IN THE TECHNO- COMMERCIAL BID
WHICH WILL LEAD TO REJECTION OF THE BID)**

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price =(5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
STORES								
I	Sensors							
1	Wind sensor for wind direction			78 Nos				
2	Wind sensor for wind speed			78 Nos				
3	Wind installation support accessories			78 Nos				
4	Temperature & Humidity sensor with radiation shield and installation support accessories			52 Nos				
5	High precision pressure transducers for reporting QFE/QNH values			52 Nos				
6	System for measurement of Visibility/MOR and Runway Visual Range as per ICAO requirements including Back ground Luminance Sensor			54 sets				
7	Laser ceilometer as per specifications			26 Nos				
8	Present weather sensors			52 Nos.				
II	Mast and accessories:							
1	10m frangible wind mast (tiltable)			78 Nos				
2	Lightning arrestor			78 Nos				
3	Obstruction light			78 Nos				

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price =(5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4	Weatherproof termination boxes both for power supply and signal termination			78 Nos				
5	Weather proof termination box with battery & battery charger of suitable capacity for supply of power to Data logger, Wind, Temperature & humidity, pressure sensors and communication Modem for 24 hrs			78 Nos				
III	Data Acquisition System (DAS):							
1	DAS			78 Nos.				
2	Battery back-up facility for DAS and all sensors (Except RVR) For 24hrs or better			78 Sets				
3	GPS receiver			36 Nos				
4	Comprehensive Surge protection Systems for protection of all AWOS sensors/ Units/ Sub units.			78 Sets				
IV	Data processing & integration Unit (MBR Site):							
1	Rack mountable dual server computer			18 Sets				
2	Licensed Operating system			18 Sets				
3	Battery Powered Data processor & Integrator (BPDPI)			18 Sets				
4	Color display 21" Flat panel			18 Sets				
5	Over-voltage protection kit			18 Sets				
6	Mains Power distribution board			18 Sets				
7	Online UPS for both servers			18 Sets				

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price =(5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
V	Workstations							
1	Workstations			72 Nos				
2	Colour display 24" LED type			72 Nos				
3	UPS			72 Nos				
VI	Slave Display Units							
1	Wireless router for 300 mts with Battery backup for 30min.			90 Nos				
2	10.1" or better touch screen Tablet PC with 30min battery backup facility			180 Nos				
3	42-inch LED Display with zoom control facility for display of single or Multiple runway data as per user selection			72 Nos				
4	42-inch Slave display for passenger lounge			36 Nos				
VII	Central web server at Pune & Delhi with static IP and its software for viewing & downloading Air-port data from 18 airports.			2 Nos				
VIII	Multi-functional Device (MFD)							
1	Printer-Fax-Scanner			18 Nos				
2	Heavy duty black &white laser printer			18 Nos				
IX	Licenses and Documentation							
1	All licensed (system and application) software with License Nos. and CD's including web-based monitoring and remote maintenance and virus protection software			18 Sets				

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price =(5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2	Documentation (Installation, operation and maintenance manual) and softcopy for all the manuals			18 Set each				
X	Communication							
1	Wireless modems (License free band) for data communication between AMI sites to ATC and MBR			78 Pairs				
2	Land Line Modems/ Suitable Media convertor for data communication through OFC between AMI sites to ATC and MBR			78 Pairs				
3	24 port Ethernet Switch			18 Pairs				
4	LAN Extender			18 Pairs				
XI	Services							
1	Construction of RCC platform on hard soil with foundation grouting of templates for erection of Frangible and foldable 10mts Wind mast as per standards and installation of wind mast.			78 sites				
2a	Installation of Comprehensive Lightning & Surge Protection Systems for protection of all AWOS sensors/Units and Sub systems at Two sites of Runway (as per Annexure-I of RFP).			78 sites				
2b	Installations of maintenance free Earth Pits (Signal, Power & Lightning) including all required copper cables for protection of complete field system from Lightning and Power Surges.			78 sites				

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price =(5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	Outdoor cabling for both AMI sites. Underground Armored Twisted pair cable is to be used for Integration of RVR with DAS			100 m X 18 airports				
4	Indoor cabling works for the installation of communication systems, Servers, work stations, Wireless Router Etc.			100mtsX 18 airports				
XII	Integration & Commissioning of total AWOS			18 airports				
1	Project implementation cost for providing the turn key solution.			18 airports				
2	Local transportation cost for delivering equipment at airport			18 airports				
3	Onsite training of IMD officials at each airport as per Para 7.4.			18 airports				
5a	Site Acceptance Test (Para 7.5.2)			18 airports				
5b	All expenses for Factory Acceptance for 18 systems for Five officials at OEM place for 15 days including their Travel & per diem			1item				
6	Charges for Two Year extended Warranty (Normal one year + 2 Year extended)			18 airports				
XIII	Comprehensive Annual Maintenance Contract							
1	Charges for 1 st Year Comprehensive Annual Maintenance contract (CAMC)			18 airports				
2	Charges for 2nd Year CAMC			18 airports				

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price = (5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	Charges for 3rd Year CAMC			18 airports				
4	Charges for 4 th Year CAMC			18 airports				
5	Charges for 5 th Year CAMC			18 airports				

Total Tender price in figure:

And in words:

Note/instruction:

1. **The bidder shall use their own letter head for quoting the prices.**
2. Price shall be preferred in above format.
3. The names of each stores/items offered in technical proposal must be mentioned with make & Model including services etc if any. The deliverables list attached with financial bid must be exactly same as per the technical bids.
4. Charges, if any, for inland (within the India) Transportation /freight/insurance of stores shall be mentioned. In case not mentioned, it is treated as free of cost.
5. If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
6. All applicable taxes must be mentioned against each item. Rate of each applicable tax must be mentioned in price bid. If taxes not mentioned, then it is treated that price quoted is inclusive of taxes.
7. Costing for each and every items and sub items which is offered in technical bid shall be done with all breakups. Charges for FAT, Trainings, installation, SAT and other services etc. are to be mentioned clearly in price bid.
8. Price Bid (in pdf format excluding note/instruction) shall be uploaded on eprocure.gov.in

Signature of Tenderer _____

Seal of the Tenderer _____

PRE-CONTRACT INTEGRITY PACT

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on day of the -----month of 2018, between, on one hand, the President of India acting through **Director General of Meteorology, India Meteorological Department, Ministry of Earth Sciences**, Government of India, **Lodi Road, New Delhi** (hereinafter called the “BUYER”, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s represented by Shri..... Chief Executive Officer (hereinafter called the “BIDDER/Seller” which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

1. WHEREAS the BUYER proposes for **PROCUREMENT OF AUTOMATED WEATHER OBSERVING SYSTEMS (AWOS) FOR INSTALLATION AT 18 AIRPORTS ACROSS INDIA** as per details in RFP of tender Document and the BIDDER/Seller is willing to offer the stores and WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a Ministry/Department of the Government of India performing its functions on behalf of the President of India.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to: -

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Commitments of the BUYER

- 1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favor or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
 - 1.2 The BUYER will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
 - 1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

Commitments of BIDDERS

3. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre- contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following: -
- 3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
 - 3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favor or disfavor to any person in relation to the contract or any other contract with the Government.
 - 3.3 * BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
 - 3.4 * BIDDERS shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
 - 3.5 * The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacturer/integrator/authorized government sponsored export entity of the defense stores and has not engaged any individual or BIDDER or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, BIDDER or company in respect of any such intercession, facilitation or recommendation.
 - 3.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments. The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
 - 3.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
 - 3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
 - 3.9 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
 - 3.10 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
 - 3.11 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender. The term „relative“ for this purpose would be as defined in Section 6 of the Companies Act 1956.
 - 3.12 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.
4. **Previous Transgression**
- 4.1 The BIDDER declares that no previous transgression occurred in the last three years

immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. **Earnest Money (Security Deposit)**

5.1 While submitting commercial bid, the BIDDER shall deposit an amount (To be specified in RFP) as Earnest Money/Security Deposit, with the BUYER through any of the following instruments:

(i) A confirmed guarantee by an Indian Nationalized Bank, promising payment of the guaranteed sum to the BUYER on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the BUYER shall be treated as conclusive proof of payment.

(ii) Any other mode or through any other instrument (to be specified in the RFP).

5.2 The Earnest Money/Security Deposit shall be valid up to a period of eight months or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the BUYER, including warranty period, whichever is later.

5.3 In case of the successful BIDDER a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.4 No interest shall be payable by the BUYER to the BIDDER on Earnest Money/Security Deposit for the period of its currency.

6. **Sanctions for Violations**

6.1 Actions are as follows:

(i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.

(ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.

(iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.

(iv) To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.

(v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.

(vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

(vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the BUYER.

(viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.

- (ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- 6.2** The BUYER will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 6.3** The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the BIDDER to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.

8. Independent Monitors

- 8.1** The BUYER has appointed following two Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission;
- i. Shri S. K. Sarkar, IAS (Retd), B-104, Nayantara Apt., Plot 8B, Sector-07, Dwarka, New Delhi – 110075 (E-mail: sksarkar1979@gmail.com, Mobile No. 9811149324).**
- ii. Shri Rakesh Goyal, IRSE (Retd), 2094, Joy Apartment, Sector 2, Dwarka, Delhi-110075 (E-mail: goyal1259@gmail.com, Mobile No. 9717644264).**
- 8.2** The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 8.3** The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 8.4** Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- 8.5** As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.
- 8.6** The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.
- 8.7** The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 8.8** The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/ within 8 to 10 weeks from the date of reference or intimation to him by the BUYER/BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

9. Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of

commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

10. Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

11. Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

12. Validity

12.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 8 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions

13. The parties hereby sign this Integrity Pact at New Delhi on.....

BUYER
Name of the officer.
OFFICER Designation
Deptt./MINISTRY

BIDDER
CHIEF EXECUTIVE

Witness

1. _

2. _

Witness

1. _

2. _

* Provisions of these clauses would need to be amended/ deleted in line with the policy of the BUYER in regard to involvement of Indian agents of foreign suppliers.

**ORIGINAL EQUIPMENT MANUFACTURER (OEM)
MANUFACTURER'S AUTHORIZATION FORM**

Tender No.: _____

Date: _____

To
The Director General of Meteorology,
India Meteorological Department,
Lodi Road, New Delhi-110003

Dear Sir,

We manufacturers of original equipments at (address of factory) do hereby authorize M/s. (Name and address of Agent) to submit a bid, negotiate and receive the order from you against your tender enquiry.

No company or firm or individual other than M/s. _____ is authorized to bid, and conclude the contract in regard to this business.

We hereby extend our full guarantee, warranty and under CAMC as per clause _____ of the general Conditions of Contract and Clause _____ of the Special Conditions of Contract for the goods and services offered by the above firm.

Yours faithfully,
(Name)
(Name of manufactures)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. It should be included by the Bidder in its techno-commercial unpriced bid.

Request for Proposal document

for

Procurement of Automated Weather Observing Systems (AWOS) for installation at 18 airports across India

Government of India
Ministry of Earth Sciences,
India Meteorological Department,
Mausam Bhavan, Lodi Road, New Delhi – 110003

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List of abbreviation used

Abbreviation	Expansion/Meaning
AAI	Airports Authority of India
AFTN	Aeronautical Fixed Telecommunication Network
AMHS	Aeronautical Message Handling System
AMI	Aeronautical Met Instruments
AMO	Aerodrome Meteorological Office
AMSS	Automatic Message Switching System
ATCO	Air Traffic Control Officer
ATS	Air Traffic Service
CAMC	Comprehensive Annual Maintenance Contract
CDPI	Central Data Processing and Integration Unit
DAS	Data Acquisition System
DO	Duty Forecasting Officer
FAT	Factory Acceptance Test
GPS	Global Positioning System
ICAO	International Civil Aviation Organisation
IMD	India Meteorological Department
IVRS	Interactive Voice Response System
MOR	Meteorological Optical Range
NOTAM	Notice to Airmen
PAN	Permanente Account Number (of Income Tax)
RVR	Runway Visual Range
SAT	Site Acceptance Test
SMF batteries	Sealed Maintenance Free batteries
TAF	Terminal Area Forecast
TMO	Tower Met Officer
UPS	Uninterruptable Power Supply
UTC	Universal Time Coordinates
WMO	World Meteorological Organisation

Proposals are invited from Original Equipment Manufacturers (OEM) or their authorized distributors or a System Integrator having full back up support from OEM for successful execution of the entire project detailed hereunder.

1. QUALIFICATION CRITERIA FOR BIDDING WHEN TENDERS ARE INVITED ON THE BASIS OF THIS RFP

- 1.1. The bidding firm or, leading firm in case of joint venture (*hereafter referred as the bidder*) shall be OEM or a distributor of OEM or system integrator having Manufacturer's authorization and backup support of OEM. If the bidder is not OEM then manufacturer's authorization letter must be submitted along with technical bid.
- 1.2. The bidder or his counterpart shall have supplied, installed and integrated at least 20 airports (at each airport field integration of Current Weather with RVR system is only considered) of similar standards as specified in this tender document **at different airports** across the globe during **last Five years ending** on **31st March 2020**. A report in this connection should be submitted along with technical bid.
- 1.3. The bidder or his counterpart shall submit a report regarding satisfactory performance of AWOS from end users for at **least 20 airports in the** technical bid during last five years ending on **31st March 2020**. The technical bid should also have the proof of successful commissioning and the performance of the installed systems from the local Met office or Airport officials.
- 1.4. The bidder must have successfully integrated data of AWOS with the Aeronautical Fixed Telecommunication Network (AFTN) and Global Telecommunication System (GTS) of world Meteorological Organization (WMO), at international airports **(at least 10 airports)** in the **last five years**, ending on **31st March 2020**. A report in this connection should be submitted along with technical bid.
- 1.5. The bidders shall have necessary financial resources to successfully execute the projects on turnkey basis. The annual turnover of the firm should be at least INR 150 Million during each of the past three years ending 31st March 2020, as the case may be as per the financial calendar being followed.
- 1.6. **The Indian bidder shall have a registered and/or incorporated office in India operating for at least five continuous years ending on 31st March 2020.** The bidder must be fulfilling the requirement of having valid Permanent Account Number (PAN) and Goods and Services Tax (GST) number. The bidder should have valid Permanent Account Number (PAN) and Goods and Services Tax (GST) number.
- 1.7. The bidder shall submit verifiable documents in support of Para 1.1 to 1.6 above along with the technical bid, when a Tender is invited on the basis of this RFP. A bid SHALL NOT be considered responsive in the absence of above-mentioned documents.
- 1.8. Financial Standing – under all conditions
 - a) The average annual financial turnover of 'The bidder' during the last three years, ending on 31-03-2020, should be at Rs. 150 million as per the annual report (audited balance sheet and profit & loss account) of the relevant period, duly authenticated by a Chartered Accountant/Cost Accountant in India.
 - b) Bidder Firm (manufacturer or principal of authorised representative) should not have suffered any financial loss for more than one year during the last three years, ending on 'The Relevant Date'.
 - c) The net worth of the Bidder firm should not be negative on 'The Relevant Date' and also
 - ii) should have not eroded by more than 30% (thirty percent) in the last three years, ending on 'The Relevant Date'.

2. BACKGROUND

The reliable current weather data (CWD) representing operational runways and neighbourhood inside airports are vital for safe landing, take-off, and ground movement of aircrafts as well as for optimising Flight-Plans. India Meteorological Department (IMD) is the nodal agency for providing Aviation Meteorological Services (AMS) in India. IMD is responsible for installing, maintaining and operating meteorological instruments for collection and supply of current weather data and other interested personnel in the airport. Aviation forecasts issued using these data are also used for improving the quality of Air Navigation Services (ANS) in terms of safety, efficiency and promptness. Using the CWD, variety of aviation weather reports such as METAR, SPECI etc. are generated and issued as per International Civil Aviation Organisation (ICAO) and WMO recommendations. As part of modernising AMS; IMD is planning to procure Aviation Weather Observing System (AWOS) comprising of various components broadly listed in Para 4.7 of this document and to integrate the newly procured AWOS with some of the existing observing and communication systems, at **18 airports** in India. **The actual number of AWOS system required may change marginally at the time of finalising the Tender invited on this basis.**

3. INTRODUCTION

The proposed AWOS has to be capable of sensing, logging, processing, communicating, displaying and archiving various meteorological parameters, viz. temperature, pressure, wind speed & direction, Runway Visual Range, Height of base of clouds etc., which are required for providing effective meteorological support to ANS. Towards achieving this goal, the AWOS should comprise of Meteorological Sensors, Data Acquisition system (DAS), Central Data Processing and Integration system (CDPI), Communication System, Workstations and Displays and Data and Product Archival System (DAPS).

The Sensors and DAS of the AWOS shall be installed at the Airport Meteorological Instruments (AMI) sites (aka Met-Park) at either ends of the runway as well as at mid position of runway as per ICAO criteria. The sites are selected as per ICAO recommendations and as shown in **Annexure – I** to this document.

4. GROSS SPECIFICATIONS OF AWOS

The AWOS shall have following features:

- 4.1. State-of-the-art technology available at the time of submitting Tender.
- 4.2. Shall be reliable in all respect and meeting ICAO specified standards. It shall conform to the relevant chapters/paras of following ICAO and WMO reference documents. **These documents shall be referred as reference documents for system compliance.**
 - 4.2.1. 20th Edition (July 2018) of Annex 3 to the convention on International Civil Aviation (Meteorological Service for International Air Navigation) available online at http://dgca.gov.in/intradgca/intra/icao%20annexes/an03_cons.pdf and 7th Edition (July 2018) of Annexure 10 (on Aeronautical Telecommunication) to the convention on International Civil Aviation. Available online at http://dgca.gov.in/intradgca/intra/icao%20annexes/an10_v1_cons.pdf
 - 4.2.2. ICAO Manual of Aeronautical Meteorological Practice Doc. 8896 available online at [http://dgca.gov.in/intradgca/intra/icaodocs/Doc%208896%20-%20Manual%20of%20Aeronautical%20Meteorological%20Practice%20Ed%209%20\(En\).pdf](http://dgca.gov.in/intradgca/intra/icaodocs/Doc%208896%20-%20Manual%20of%20Aeronautical%20Meteorological%20Practice%20Ed%209%20(En).pdf).
 - 4.2.3. ICAO Manual of Runway Visual Range Observing and Reporting Practices Doc. 9328 available online at [http://dgca.gov.in/intradgca/intra/icaodocs/Doc%209328%20-%20Manual%20Runway%20Visual%20Range%20Observing%20and%20Reporting%20Ed%203%20%20Amd%201%20\(En\).pdf](http://dgca.gov.in/intradgca/intra/icaodocs/Doc%209328%20-%20Manual%20Runway%20Visual%20Range%20Observing%20and%20Reporting%20Ed%203%20%20Amd%201%20(En).pdf).

- 4.2.4. Manual on Automatic Meteorological Observing Systems at Aerodromes - (Doc 9837)
- 4.2.5. ICAO Aerodrome Design Manual – Part 6 - Frangibility (Doc 9157 - Part 6)
- 4.2.6. WMO No. 306 (Manual on codes) available on line at <http://www.wmo.int/pages/prog/www/WMOCodes/ManualonCodes.html>
- 4.2.7. ISO-9001-2015 (Quality Management System) for equipment manufacture.
- 4.2.8. Guide to Meteorological Instruments and Methods of Observation (CIMO) – WMO No. 8 (2014 Edition updated in 2017) available online at <http://www.wmo.int/pages/prog/www/IMOP/CIMO-Guide.html>
- 4.3. Shall have a scalable architecture so as to accommodate future expansions, viz, adding a few more of some major components like Sensors, DAS, Workstation, Display, communication and/or archival systems, on a later date.
- 4.4. Shall be able to seamlessly integrate the additional sensors (industry standard ones only) mentioned above, both hardware-wise and software-wise.
- 4.5. Shall be of modular design for easy maintenance and up gradation as well as for reducing down-time.
- 4.6. Shall have redundancy in critical components so as to reduce downtime and increase MTBF.
- 4.7. Each AWOS shall consist of the following sensors/sub-systems:
- a) Pressure sensor.
 - b) Temperature sensor.
 - c) Humidity sensor.
 - d) Wind speed sensor.
 - e) Wind direction sensor.
 - f) Present weather sensor.
 - g) System for measurement of MOR/Visibility and RVR as per ICAO requirements (Hear after named as **RVR** instrument)
 - h) Ceilometer.
 - i) Frangible mast (height 10m) with provision for tilting/folding along with with sensor mounting accessories. The mast shall comply with ICAO Aerodrome Design Manual – Part 6 - Frangibility (Doc 9157 - Part 6).
 - j) Data Acquisition System (DAS)
 - k) Communication system for transmission of data from field site to indoor through wireless & OFC.
 - l) Dual Hot redundant CDPI Unit with all supporting accessories – 1 set.
 - m) Workstations for Tower Met. Officer (TMO), Duty Met Officer (DO), ATC Officer (ATCO) and Maintenance – 4 Nos.
 - n) Battery Operated Data Processor & Integrator (BPDPI) for acquiring & processing data from multiple runways useful during failure /Maintenance of CDPI.
 - o) Wirellesses, portable, touch-screen tablet PC displays with stand and wall mount (hereinafter referred as Touch Displays) for real-time display of Met. Parameters at different ANS operational locations.
 - p) Application software and displays.
- 4.8. Auto generation of METAR / SPECI/ MET report/ Special etc. and their dissemination over GTS & AFTN networks as per ICAO “Annex-3”, WMO “Manual on the GTS” and ICAO “Annex-10 Volume-II”. The messages should strictly follow the AFTN / GTS format, so that it gets ingested automatically to AAI AMSS as well as IMD AMSS through Socket and FTP using Ethernet or Serial interface. Data stream analysis and ingest to AAI or IMD AMSS will be the responsibility of the Vendor.

- 4.9. Provision to generate XML based messages and transmission to WMO GTS and AFTN channels.
- 4.10. Provision to display graphs of actual values for different weather parameters for past week/ past one month / user selectable duration.
- 4.11. Provision of auto generation of Aerodrome MET summary in IDESK and Date9 format. The formats will be provided by IMD.
- 4.12. Provision to generate digital current weather register as per the IMD format. The format will be provided by IMD.

5. SCOPE

The following shall be the scope of work for complete installation, testing and commissioning of AWOS. The AWOS is planned to be installed at the different airports in India as mentioned in ANNEXUTRE VIII.

The bidder shall:

- 5.1. Supply, install, integrate, test calibrate and commission complete AWOS system at selected AMI site.
- 5.2. Participate and actively contribute to civil & electrical work required for the installation of frangible mast of 10-metre height, sensors and communication links at selected AMI sites beside the runway and also related works in the receiving end/server end, along with at various display locations in the premises.
- 5.3. Install sensors such as wind speed, wind direction, pressure, temperature and humidity (with radiation shields), RVR, ceilometers and, as per ICAO recommendations.
- 5.4. Provide obstruction light and lightning arrestor on the frangible mast. To provide comprehensive lightning & surge protection systems including required maintenance free Earth pits (Power, Signal & Lightning) for AWOS. Detailed specifications are enclosed in **Annexure-II**.
- 5.5. Provide separate weather-proof enclosures conforming to IP- 66 standard for termination and distribution of power and signal cables at the AMI sites.
- 5.6. Provide gadgets and tools for visualization and display of data at different locations in the operational areas of airport by providing suitable display units in different ANS locations. The Local Area Network cabling will be provided by the Intender (IMD) at each airport as per the local requirement.
- 5.7. Provide Wi-Fi routers, Touch Displays and peripherals if any needed.
- 5.8. Provide application software for auto generation and dissemination of METAR/SPECI as per ICAO annexure -3, and routine/special Met Reports as per IMD specifications. (Application software for this purpose shall facilitate editing, approving and authenticating the auto generated messages before queuing them for auto-dissemination.)
- 5.9. Interface the AWOS with the AFTN and Aviation Message Handling System (AMHS) for auto-dissemination of METAR/SPECIs by establishing duplex communication channel through which will be available for manual exchange of other operational messages too.
- 5.10. Interfacing existing Transmissometer with CDPI & BPDPI and display MOR/RVR as per ICAO with user selection for existing Transmissometer or the RVR system offered in response to this tender.
- 5.11. Facilitate testing of each AWOS at factory premises.
- 5.12. Arrange full functional testing of the AWOS at installation site (SAT) before accepting the system for operational use. SAT procedures shall be proposed by the bidder to the intender (IMD) well in advance, for approval.
- 5.13. Impart a detailed training (operation, maintenance and system administration) to a group of IMD personnel for a period 7 working days.

- 5.14. Arrange loading, unloading and transportation of the equipments and accessories to different airport sites.
- 5.15. Prepare and provide three full sets of documentation comprising of system architecture, circuit diagrams, schematics, layout diagram, troubleshooting guides, brief functional description of each subunit, flow charts and interface control documents towards enabling the intender (IMD) to carry out independent operation and maintenance of the AWOS.
- 5.16. Prepare and provide two sets each of installation kit in DVDs for Operating System (OS), application software with mandatory libraries, supporting soft- tools, configuration files etc. along with soft copies of associated documentation/manuals in the form of Help-tool. The software should be installable in any PC. There should not be any hardware, MAC or IP binding with the software.
- 5.17. Offer Three years on-site warranty from the date of commissioning and five years Comprehensive Annual Maintenance Contract (CAMC) upon completion of warranty period.
- 5.18. Keep provision (Hardware & Software) in each AWOS for secured, web-based central monitoring facility for remote monitoring of all data health and statistical parameters.

6. SYSTEM SPECIFICATIONS

6.1. General Specifications

- 6.1.1. AWOS shall continuously provide real time weather data from various meteorological sensors for support of aircraft operations.
- 6.1.2. AWOS architecture shall be modular so as to provide the ability to isolate any sub-unit, including data processing units, for service without affecting overall system performance.
- 6.1.3. The CDPI of the AWOS shall be of scalable architecture such that it shall be able to accommodate future addition of equal number of new DAS arising out of Airport expansion / alterations.
- 6.1.4. (DAS) shall be installed at each AWOS site at Met-Park for the collection of the raw data from the sensor and for communication of data to CDPI in Met Briefing Room (MBR).
- 6.1.5. DAS of the AWOS shall also be of scalable architecture such that it shall be able to accommodate one more full set of sensors at the field site arising out of airport expansion/ alterations.

6.2. Field Units

6.2.1. Sensors

All the sensors should be traceable to US National Institute of Standards and Technology (NIST) / WMO specifications or certified by equivalent National agency of OEM's country.

6.2.1.1. Wind Sensor

I. Wind Direction		
a)	Type of sensor	Vane
b)	Range	0 Degree to 359 Degree
c)	Accuracy	5 Degree or better
d)	Resolution	1 Degree or better
e)	Threshold	Less than 1 kt.
f)	Operating Temperature	-20 °C to +60 °C
g)	Operating Humidity	0 to 100 % non condensing
II. Wind Speed		
a)	Type of sensor	Cup anemometer
b)	Range	0 to 120 kt.
c)	Accuracy	± 1 Knot up to 10 Knot ±10% of full range or better above 10 Knot.
d)	Resolution	0.1 kt.

e)	Threshold	Less than 1 kt.
f)	Operating Temperature	-20 °C to +60 °C
g)	Operating Humidity	0 to 100 % non condensing

6.2.1.2. Temperature Sensor

a)	Type of sensor	Pt. 100
b)	Range	-40°C to +60°C
c)	Accuracy	±0.2°C for range of -10 °C to +60 °C
d)	Resolution	0.1°C

6.2.1.3. Relative Humidity Sensor

a)	Type of sensor	Solid state Capacitive
b)	Range	0 % to 100 %
c)	Accuracy	3% over the range of 1% to 99%
d)	Resolution	1%

6.2.1.4. Atmospheric Pressure Sensor

a)	Type of sensor	Class-A type pressure sensor.
b)	Range	700 hPa to 1100 hPa
c)	Accuracy	0.2 hPa for entire range
d)	Resolution	0.1 hPa 0.2

6.2.1.5. Ceilometer

a)	Type of sensor	Laser
b)	Range	10 m to 7500 m or better with at least 3-layer detection facility
c)	Accuracy	±10m up to 100m and 10% above 100 m against target
d)	Resolution	10 m

6.2.1.6. System for visibility/MOR and Runway Visual Range (RVR System)

I. General Specifications		
a)	Output	A suitable output indicating MOR/Visibility and BLM value through any of the ports - RS-232/ RS-485/ USB/RJ45 capable for interfacing with both wireless and cable modem for transmission to MBR
b)	Auto contamination detection & compensation	System should have facility to detect window contamination(due to Dust, Dirt, pollutants or any other aerosols) automatically & compensate the same in computation of MOR/Visibility & RVR
c)	Heater	Internal window heaters to be provided for maintaining the optimum optical-window performance
d)	Temperature compensation	System performance should not be affected with Seasonal/Day/Night temperature.

e)	Maintenance terminal	Provision of external USB port or Ethernet RJ45 port for local maintenance
f)	Height of sensor	2.5 m with standard pedestal
g)	Calibration checks	Suitable provision for easy/auto calibration
h)	Power supply specification and tolerance	Single phase AC, Phase to Neutral 220 VAC \pm 30%, 50 HZ \pm 1Hz
i)	Colour and type of mast	White and Frangible
j)	MTBF	5000 Hrs
II. Measured and Derived Parameters		
A. Meteorological Optical Range/Visibility		
a)	Range	10 m to 10000 m
b)	Accuracy	\pm 50 m up to 600 m \pm 10% between 600 m to 1500 m \pm 20% above 1500 m up to 10000
c)	Reporting resolution	25 m up to 400 m 50 m from 400 m to 800 mt 100 m from 800 m to 5000 m 1000 m from 5000 m to 10000 m
B. Runway Visual Range to be derived		
a)	Range	50 m to 2000 m
b)	Accuracy	\pm 10 m up to 400 m \pm 25 m between 400 m to 800 m \pm 100mts above 800 m up to 2000 m
c)	Reporting Resolution	25 m up to 400 m 50 m from 400 m to 800 m 100 m above 800 m
C Back ground Luminance Monitor (BLM)		
a)	Measurement Range	0 to 40000 cd per Sq.meter or better
b)	Accuracy	\pm 10% of measured value
c)	Spectral response	400 to 700nm of visible light
d)	Field of view	6° or better
e)	Heater	Should have internal heater for clearance of window glass from condensation
f)	Output	Output required for interfacing with RVR System
g)	Protection	Protection

III. Operating Environmental Conditions		
a)	Temperature	-20°C to 60°C
b)	Humidity	0 % to 100 % RH non-condensing
c)	Wind Speed survival	60 m/s
Note: System should withstand the harsh environment condition, resistance to salinity, 100 per cent precipitation and comply with EN50081 and EN50082 or equivalent conditions.		

6.2.1.7. Present Weather Sensor

a)	Measurement	Visibility (MOR) and Present weather
b)	Output	Serial (RS232 or RS485) baud rate user selectable.
c)	Range of Visibility/MOR	10 to 10000 m or better
d)	Accuracy of visibility/MOR measurement	±10% over entire range.
e)	Visibility measurement interval	10 s to 1 hour (user selectable.)
f)	Reports	Type, amount and rate/intensity of precipitation, size and phase of hydrometeors along with fog, mist, haze, smoke, sand etc. as per WMO manual on codes Table 4680 (PI. see Para 4.2.6 for reference)
g)	Precipitation intensity measurement	0 to 900 mm h ⁻¹ or better.
h)	Precipitation detection threshold	0.05 mm h ⁻¹ or better.
i)	Heater option	Required.
j)	Power	12 to 24 VDC
k)	Operating Temperature	-20°C to 60°C
l)	Operating Humidity	0 % to 100 % RH non-condensing
m)	Wind Speed survival	60 m/s
n)	IP rating	IP 66

6.2.2. Data Acquisition System (DAS)

6.2.2.1. General Requirements

DAS shall accept output from above sensors and GPS signal for time synchronization. It shall be flexible and must offer multiple communication methods (Wireless and through OFC cable). The primary communication will be over long-distance OFC via Ethernet port (IP based communication). The redundant mode is Wi-Fi communication link via another Ethernet port shall also be available.

Battery backup support for all field sensors, including communication equipment and DAS itself is required for minimum 24-hour duration. Alarm on low battery status shall be communicated to the Central Data Processing & Integrating Server. In addition, it must transmit alarms on AC power failures.

DAS shall be user configurable to accept data from third party sensors (either analog or digital O/P) of any make & model other than those being offered.

DAS should perform Range & temporal checks of data coming from sensors before processing and transmitting to main Central data processing sever in accordance to Guide to Meteorological Instruments and Methods of Observation (CIMO) – WMO No. 8 (2014 Edition updated in 2017).

6.2.2.2. Specification for DAS

No	Description	Specification
1	Reference	: Standard DAS with data communication facilities.
2	Memory	: At least 32MB flash memory expandable via SD card
3	Power Supply	: 10 – 14 V DC
4	Internal Battery	: Li - ion
5	Serial ports	: 12 or more configurable serial ports (at least 8 Nos. RS232, at least 2 Nos. TTL and at least 2 Nos. RS485)
6	Ethernet ports	: 2 Nos for communication
8	USB 3.0	: 1 No. or more
9	Configuration port	: 1 No.
10	Removable media	: SD card & USB thumb drive sufficient to store data of at least 3 months.
11	Digital I/O	: Expandable minimum 8 digital I/O
12	A/D convertor	: 16 Bit A/D convertor or better
13	Key board & Display	: Keyboard and Built in touch screen display desirable with readability in full sunlight for viewing sensor data
14	Communication	: Through Wi-Fi Modem and Signal Modem via Optical Fibre.
15	DAS software	: Configuration software shall support command line interface using hyper terminal or GUI.
16	Input protection	: Surge protection of IEC 61000-4-5 standard
17	Input impedance	: More than 10MΩ
18	Scan rate	: At least once every second for all channels.
19	Logging Mode	: User selectable
20	Averaging & integration period	: User selectable
21	Time synchronization	: DAS and server to be synchronized with GPS time.
22	RTC	: In built RTC synchronized with GPS receiver and Li- ion battery support.
23	Operating Temperature	: - 20° C to +60° C

24	Operating Humidity	:	0% to 100% RH non-condensing
25	Wind load	:	about 60m/s
26	Protection class	:	IP – 66

6.3. Indoor Equipment

6.3.1. General Requirements

- 6.3.1.1. Indoor units consist of Dual Hot redundant CDPI, Work Stations with LED monitors of 21inch and slave displays. It shall also contain a Battery Power Operated Data processing and Integrator (**BPDPI**) unit which process all numeric data from multiple runway sites and display. The unit is useful in processing & display of data from multiple runway sites during server breakdown due to any reason.
- 6.3.1.2. Instrument cabinet/racks containing the CDPI, modems and other communication equipment.
- 6.3.1.3. Online sine wave UPS for half-an hour backup with SMF battery to cater to the requirement of all indoor equipment. Detailed specifications of online UPS are given in **Annexure – VII**.
- 6.3.1.4. Four client's Workstation, with dedicated online sine wave UPS with 30 minutes back-up, using SMF battery under full load condition.
- 6.3.1.5. Display system consisting of Wireless routers, 10.1-inch Tablet PCs with stand, 40-inch LED display for display of runway parameters as per user selection.
- 6.3.1.6. 42" (inch) LED display for passenger Lounge.

6.3.2. Central Data Processing and Integrator (CDPI)

Detailed specifications of CDPI are given in **Annexure-III**

CDPI shall obtain sensor data from both field sites on OFC and Wi-Fi modems, including additional (pre-existing) RVR data. Processing software shall be capable of processing all data received from sensors. CDPI shall be hot redundant, i.e. when primary server becomes defective, secondary server automatically takes over and does all functions of primary. While it takes over to secondary server, data shall not be missed. CDPI shall get continuous power from on-line UPS with battery back-up of minimum 30 minutes on full load. CDPI server time shall be maintained through GPS installed at the roof of MBR / ATC. CDPI shall broadly perform the following functions/tasks:

- 6.3.2.1. Data quality checks from all Runway sites (Range, Temporal and Spatial as per Guide to Meteorological Instruments and Methods of Observation (CIMO) – WMO No. 8 (2014 Edition updated in 2017).
- 6.3.2.2. 1-minute and 10-minute running average of MOR, RVR shall be computed using MOR and Background Luminance value obtained from field DAS. CDPI shall obtain Runway Light Intensity Information either on serial or from Ethernet port.
- 6.3.2.3. 2-minute and 10-minute running average of wind Gust/Squall information.
- 6.3.2.4. 1-minute running average of Temperature and Dew Point temperature.
- 6.3.2.5. 1-minute running average of Pressure, QFE and QNH.
- 6.3.2.6. Compute horizontal wind shear from three wind instruments on side of each Runway.

- 6.3.2.7. Generates METAR, Met Report and AFTN output for further dissemination of Data to various user agencies.
- 6.3.2.8. CDPI shall generate ATIS information and able to interface to the DATIS server of Airport Authority of India.
- 6.3.2.9. CDPI shall take data from Observer work station for which sensors are not available or faulty. It shall also obtain manual data such as cloud information TREND, REMARKS, TAF etc which are entered manually.
- 6.3.2.10. All technical parameters of the systems and status of field systems shall be sent to maintenance work station.
- 6.3.2.11. CDPI shall have facility to upload data and health parameters of field equipment into the IMD web server at user defined intervals using FTP or http protocol.
- 6.3.2.12. The Software Support platforms for operating system shall be latest Microsoft window server operating systems ensuring upgrades during Warranty and Comprehensive Annual Maintenance Contract or Linux.
- 6.3.2.13. CDPI shall acquire data from existing Transmissometers installed at airports and display MOR/RVR as per ICAO regulations.
- 6.3.2.14. CDPI should be configurable and capable of obtaining data from Aviation Instrument systems installed at additional runway sites as & when constructed by AAI without any additional cost to IMD.
- 6.3.2.15. In case of failure of field Data logger /field system, in order maintain zero down time, CDPI should have the facility to take data from IMD current Weather Instrument systems & Drishti Systems. Required IP & Port No and Data string format (both in ASCII or Hex data format) will be provided by IMD.
- 6.3.2.16. There should be one parallel **Battery Powered Data Processor & Integrator (BPDPI)** (Powered by battery with adapter) which shall simultaneously obtain data from all runway sites, process and display it on LCD screen. BPDPI shall be programmed for computing QNH from QFE and other station specific & ICAO standard atmospheric table. This Unit shall process and generate all numeric values for all aviation requirements. This BPDPI unit shall consume less Power and with battery support shall work for one day without ac mains power. This unit shall also be useful in case of server failure due to some reason. The unit shall also have an inbuilt or external memory to store data required for all operational requirements for aviation for a period of seven days. BPDPI unit should be configurable and capable of obtaining data from Aviation Instrument systems (of same make & model offered) installed at additional runway sites as & when constructed by AAI without any additional cost to IMD.

6.3.3. Workstations

The technical specifications of Workstations are given in **Annexure – IV**.

6.3.3.1. Functional requirements of workstations.

Sr. No.	Name of workstation	Function	Qty

1)	TMO	a) Display of current Weather data. b) Manual entry of the required data. c) Communication with the main server. d) Provision for display of METAR/SPECI/TAF.	One
2)	DO	a) Display of current weather data both in numeric and graphical form. b) Display of Trend forecast. c) Templates for TAF. d) Communication with server.	One
3)	Maintenance	a) Display of working status of field sensors and sub-systems. b) Display of working status of Electrical parameters & power sub-units. c) System Error warning & logs to be provided.	One
4)	ATCO	a) Display of Current Weather Data as per the user selection. b) Template for ATIS generation.	One

6.3.4. Slave Display Units

6.3.4.1. Slave Display unit consists of Wireless router and Tablet PC with suitable LED display. The specifications of both Wireless router and Tablet PC are given in **Annexure-V**. The Slave Display shall have provision for dynamically configuring information to be displayed by obtaining data from CDPI or BPDPI.

6.3.4.2. Functional requirement of slave display units.

Sr. No.	Slave Display Units	Function
1)	Wireless Router Specifications are given in Annexure-VI	a) Obtain processed Numerical & Graphical data. b) Establish Wireless connectivity with Tablet PC within 300 m Range Line of Sight.
2)	Tablet PC 10.1 Inch	a) Receives data from Wireless router. b) Display of Met Parameters.
3)	42-inch LED display at various locations	For viewing required data from either single runway or multiple runway with zooming facility as per user selection.
4)	42-inch LED Display at Passenger Lounge	Receive Data containing wind, temperature, Humidity, Visibility & RVR, Rainfall intensity and satellite images from remote server through Internet only. The parameters to be displayed shall be user selectable.

6.3.4.3. Following Parameters are to be displayed as per user selection, i.e. user shall configure the display structure, Runway site by finger touch on a touch screen Tablet PC and LED display.

- a) Runway Number
- b) Time (UTC)
- c) Wind Direction & Speed (2-minute average)
- d) Squall and Gusty wind warning
- e) 1-minute running average of MOR & RVR and Trend
- f) QFE & QNH
- g) 1-minute running average of Temperature & Dew Point
- h) Height of Base of Low Cloud
- i) Present Weather.
- j) Current METAR/SPECI as & when available from CDPI
- k) Current MET Report and Special report as & when available from CDPI
- l) Horizontal wind shear along the runway
- m) Graphical display of time profile of wind, wind rose for runway selected for past 1 hour to 24 hours as per user selection as & when available from CDPI.

6.3.5. Software Requirements

The application software shall be used by TMO, DO / Forecasters, maintenance technician, ATCO, Approach Control Room personnel, airport ground handlers, airline operators, search & rescue operation units, pilots, airport directors etc.

6.3.5.1. General features of software

- a) It shall work on popular operating system that provides flexibility for multi-tasking, graphical interfaces for data visualisation, and display of data as per user requirement to meet all operational requirements at the airport.
- b) It shall have necessary security features easily configurable and upgradable confirming to the software requirements of ICAO and WMO.
- c) The software shall run on any workstation and shall allow user Login for configuring the type of workstation and allow processing of data which can be exchanged through LAN.
- d) Software shall have the provision for validation of data and report correctness based on the data quality checks as referred in WMO. The quality checks software includes climatological checks, temporal checks and internal consistency checks.

6.3.5.2. Data Presentation

- a) It shall provide capabilities for background processes, which starts automatically when operating system is started.
- b) The machine shall set to log on with a default configurable role suitable for that specific console.
- c) The access to the system shall be controlled through security prompt & password.
- d) Event monitor application shall be able to view the events generated by the processing unit and to acknowledge the alarm conditions. Data faults shall include:
 - i) Communication faults

- ii) Sensor faults
- iii) Missing data
- iv) Value too high or too low
- v) Value higher or lower than airport operating maxima
- vi) Value jumping too rapidly
- vii) Value “frozen” within a small range of value
- e) The system shall monitor the current weather all the time and prompt all operators (audio/ visual prompt) to generate message as per standard ICAO / WMO format.
- f) All the computer time shall be synchronized with GPS.
- g) The system shall not transmit invalid data.
- h) The message transmission scheduling shall be configurable.
- i) The templates for manually generating following reports shall be available which shall be activated on need basis.
 - METAR/SPECI
 - Aerodrome Warning
 - TAF
 - SIGMET
 - NOTAM
- j) The tenderer shall give an undertaking that changes suggested by ICAO/WMO in method of reporting or format during the warranty or CAMC period will be incorporated without any extra cost.

6.3.5.3. Data Computation and Storage

6.3.5.3.1 The provision for performing number of statistical, arithmetic and logical calculation for the stored data shall be available such as:

- a) Min/ Max calculations
- b) Averaging
- c) Unit conversion
- d) Scaling and offset
- e) Precision pressure elevation
- f) Squall and gusty wind, cross wind/Track wind and wind rose.
- g) Marked discontinuity
- h) MOR and background luminance value for RVR
- i) QFE to QNH
- j) Daily extreme values

6.3.5.3.2. The values shall be derived from raw data used for message generation & display purpose. Measured and calculated data as well as transmitted reports are required to be archived for a period of one year in the hard disk.

6.3.5.3.3. There shall be web-based data retrieval facility.

6.3.5.3.4. A data back-up facility also shall be the part of the CDPI system.

6.3.5.3.5. The archive and backup facility for the data transfer from the database on to the external removable medium shall be provided for following setup.

- a) One year for all the parameters.
- b) Resolution: One minute, configurable.
- c) Stored parameters: All relevant measured and calculated variables, transmitted reports and system alarms.

6.3.5.3.6. Latest sensor data, latest calculated running averages and system health data shall be stored in text file.

6.3.5.4. AFTN interface

6.3.5.4.1. Reports supported: METAR, SPECI, TAF, SIGMET, and Aerodrome Warnings.

6.3.5.4.2. Individual addressing: AFTN addresses, bulletin identifier for each report type.

6.3.5.4.3. Addresses shall be static and defined in the system configuration parameters.

6.3.5.4.4. Maximum addresses for each report type: 28

6.3.5.5. Web Based Remote Monitoring System

Firm shall supply one Web Server with one standby for AWOS online monitoring (web based) software at IMD, Pune. Specifications of web server are same as that of workstation in **Annexure IV**.

Internet will be provided at each airport. Firm shall programme the CDPI server for auto uploading of AWOS data and its health parameters into the web server at **IMD, Pune through FTP**. All the stations will have static IP. The IMD, Pune server will accept data from the designated static IP only.

6.3.5.6. System and Application Software for Workstations

All software shall be with enterprise license, media, documentation and warranty.

6.3.5.6.1. Operating system: Window latest version or LINUX. (Enterprise server with unlimited user License).

6.3.5.6.2. Communication system software: Ethernet LAN, TCP/IP Socket, FTP and Serial

6.3.5.6.3. Back up of software on USB pen drive shall be provided.

6.3.5.6.4. Application software: software which the Firm may feel necessary to meet the requirement shall be included in the offer and shall be supported during warranty and CAMC.

6.3.5.7. Backup and Restoration

The Firm shall demonstrate step by step Back-up and restoration of full system to IMD officers during the Site Acceptance Test (SAT) and IMD officers shall test the same by their own.

The firm shall make provision to take backup of the entire server in a bootable pen drive/ USB external hard disk. In case of crash of the server, there may be system to restore the entire system by just booting the server from the pen drive. There may be arrangement to empty the database table data to reduce the size (data) of the system before taking the backup in Pen drive/ USB external hard disk. Depending on the size (data) of the server, backup may be taken in multiple pen drive with first pen drive as a bootable pen drive/ USB external hard disk

7. COMMERCIAL AND OTHER TERMS & CONDITIONS

Note: Indian firm (Supplier /Integrator /Distributors/ Distributors /Stockiest etc.) offering stores in response to this tender enquiry shall quote in INR only. No foreign exchange shall be released by

IMD and also no payment shall be made to their foreign principal. If the bidder is OEM of foreign origin, then they should bid through their Indian bidder only in INR.

7.1. Delivery Terms

7.1.1. All the items are required to be delivered directly at respective sites.

7.1.2. Delivery Schedule: The supplier is required to complete delivery of all the Stores at respective airports within 6 months from date of issue of Supply order.

7.1.3. Late Delivery charges: If supplier is unable to meet above delivery schedule a Late Delivery charges of **1 % of the goods value for undelivered portion per week will be levied, subject to maximum value of LD being not higher than 10% of the value of the delayed stores.** Late delivery charges will be deducted from 60% of initial payment.

7.2. Installation Terms

All the systems shall be **installed** within three (3) months from the date of delivery of stores at respective site

7.2.1. Acceptance Tests

- a) The supplier shall inform the consignee for acceptance of the system after installation of the system at respective sites.
- b) The supplier shall submit an acceptance test procedures (ATP) well in advance for its finalization.

7.2.2. LD charges for Integration, Installation & Commissioning

If supplier is unable to install the system within 3 months of the delivery at airport, then also LD charges of 1% of total value of the uncompleted portion of work per week is levied, subject to maximum of 10% of the total contract value. The LD charges (if any) will be deducted and remaining 40% of the amount will be paid after successful SAT and commissioning of the System at airports.

7.3. COMPLIANCE/NON-COMPLIANCE STATEMENT

The tenderer shall submit a detailed item-wise compliance/non-compliance statement referring para-wise to the requirements given in this document, for quick evaluation of tender and for any future reference. The technical specifications and other requirements contained in this document are essentially required by the indenter. However, reasons for non-compliance, if any, for certain limited paras or even sub-paras of document may also be given by the tenderer. Silence on any part of the technical specifications will be treated as non-compliance. All non-compliance of specifications, even of small nature, shall be clearly brought out.

7.4. Training to IMD officials

The supplier/firm shall impart training in operation, maintenance, troubleshooting and system administration and management of AWOS (hardware and software) to Four IMD officials at each airport during installation and Site Acceptance Test (SAT) of the system.

7.5. Testing and Acceptance

7.5.1. Factory Acceptance Test (FAT)

- a) The firm will submit testing and acceptance plan for comments by IMD. Factory acceptance test (FAT) and site acceptance test (SAT) details are also to be provided. The firm will also provide the schedule for FAT and SAT.
- b) FAT will be carried out by Five IMD officials for 18 (Eighteen) systems for a period of 15 days. Travel & Stay Expenses will be borne by Government of India.

7.5.2. Site Acceptance Test (SAT)

SAT programme for each airport shall be provided by OEM. SAT will be conducted at each airport in which representatives from IMD and from the OEM will test the system after its

complete installation as per the specifications. NIST traceable Calibration Certificate is mandatory for all the sensors for acceptance of the System. SAT will be for each airport for period of **Three** days.

7.6. COMPREHENSIVE WARRANTY

The Firm shall provide a comprehensive warranty for three years, from the date of commissioning of **the total integrated system** without any additional cost to the purchaser. Any problem encountered in the system including field units like sensors, DAS, Communication systems, CDPI, BPDPI, Workstations, Slave display at passenger Lounge, Wireless router, Slave Displays, UPS with SMF battery, Multi-functional (Printer/Scanner/FAX including printer Cartridge) during this period shall be repaired/ replaced by the firm free of cost. System down time including failure of any sensor, Communication & all Data processing systems shall not exceed more than 3 hours in a day and 20 hours in a month for each unit. If system down time exceeds more than 20 hours per month, the Penalty is applicable on the firm. The total penalty accumulated over three-year warranty will be deducted from performance deposit. Penalty applicable is Rs 1600 per hour after deducting 720hours of failure hours for a span of 3 years.

Definition of failure: In any airport, failure is non availability of meteorological data due to any sensor failure, communication/network failure including Wireless Modems, failure of Data acquisition system, servers, display systems etc. The bidder shall give a separate under taking for acceptance of the above terms. Sensor failure, DAS failure, Communication failure, CDPI failure, Slave Display failure shall be considered as System is down. Firm shall do preventive maintenance once in 3 months. During which it shall check the performance of all sensors, DAS, BPDPI, CDPI & Workstations and generation of reports as per the specifications the report of the PM shall be duly countersigned by the local IMD official.

Firm shall provide License updates for Virus protection software during Comprehensive Warranty.

7.7. Comprehensive Annual Maintenance Contract

7.7.1. Firm shall submit a security bond of 5% of the contract value for entering into the Comprehensive AMC contract (CAMC). Firm shall provide Annual Maintenance contract of five years after the expiry of three years of warranty. 10% Warranty performance bond will be returned back to the firm within six months after receiving 5% security bond for CAMC. The security bond for CAMC will be retained by IMD till the completion of CAMC period.

7.7.2. CAMC charges quoted by the firm shall be taken into account for the cost comparison purpose and arriving at the lowest bid. CAMC shall be quoted in LUMPSUM and not as percentage of the cost of the system.

7.7.3. Any problem encountered in the system during CAMC will be repaired/ rectified by the firm without any additional cost to IMD. Any problem encountered in the system including field units like sensors, DAS, Communication systems, CDPI, BPDPI, Workstations, Wireless router, Slave Displays, UPS with SMF battery, Multi functional Device (Printer/Scanner/FAX including printer Cartridge) during this period shall be repaired/ replaced by the firm free of cost.

7.7.4. Proportionate Amount for CAMC will be paid to the firm once in six months after getting successful maintenance certificate from the station concerned and after deducting applicable penalty (if any). Firm shall do preventive maintenance once in three months.

7.7.5. Firm shall provide License updates for Virus protection software during CAMC.

7.7.6. Penalty during CAMC:

System down time including failure of any sensor shall not exceed:

- a) Three hours of continuous failure or
- b) Cumulative of 120hrs in Six Months.

7.7.6.1. In case of **(a)** Penalty1= Rs AMC **cost quoted for that year /12/30/24** per hour X (no of hours of failure -3)

7.7.6.2. In case of **(b)** Penalty2= Rs AMC cost quoted for that year /12/30/24 per hour * (No of hours failure in six months -120).

7.7.6.3. Penalty of **maximum of {a, b}** will be deducted from six months AMC charges.

7.7.6.4. Proportionate CAMC amount will be paid only upon the firm conducting satisfactory preventive maintenance and submitting duly signed report. Payment shall be made after deducting penalty (if any).

7.7.6.5. If IMD is not satisfied with the performance of the System, CAMC may be terminated any time by IMD only. Same is not applicable to the Firm.

7.8. Installation, System Integration and Commissioning

The supplier shall undertake the complete installation, and integration work on turnkey basis. The commissioning of the total integrated system will be done by the IMD official in presence of representatives of the supplier after SAT.

7.9. Documentation

The manufacturer shall provide detailed operational, servicing and maintenance manuals of each sub-system including all block diagram and detailed schematic circuit diagrams. At least one set of the manuals in printed form including schematic, layout & component level detail diagrams shall be provided with each at airport. The soft copy shall be available on CDs and one CD each shall be provided with each set. In addition, one complete set of documentation (manuals etc.) is to be provided at SI division Pune.

7.10. Payment Terms and Conditions

7.10.1. 60% of the supply order value will be paid to firm against following:

- a) Reception of Performance Bank Guarantee of 10% of the total Purchase order in INR.
- b) Invoice + 2copies
- c) Certificate of Factory Acceptance Test issued by authorized representatives from IMD.
- d) Tax withholding certificates (if any)

7.10.2. Balance 40% amount of the purchase order price for supply of goods & accessories and Training will be paid on successful completion of following:

- a) Successful SAT and Commissioning of System at airports.
- b) Receipt of goods at airports in good condition.
- c) Successful completion of training of IMD and AAI executives.

8. LIST OF DELIVERABLE ITEMS (Kindly refer *Annexure - VIII* for systems required at each airport)

The firm shall be able to complete the installation of AWOS with following list of deliverables at each airport. These items only will be considered for price comparison.

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price =(5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price = (5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
STORES								
I	Sensors							
1	Wind sensor for wind direction			78 Nos				
2	Wind sensor for wind speed			78 Nos				
3	Wind installation support accessories			78 Nos				
4	Temperature & Humidity sensor with radiation shield and installation support accessories			52 Nos				
5	High precision pressure transducers for reporting QFE/QNH values			52 Nos				
6	System for measurement of Visibility/MOR and Runway Visual Range as per ICAO requirements including Background Luminance Sensor			54 sets				
7	Laser ceilometer as per specifications			26 Nos				
8	Present weather sensors			52 Nos.				
II	Mast and accessories:							
1	10m frangible wind mast (tiltable)			78 Nos				
2	Lightning arrestor			78 Nos				
3	Obstruction light			78 Nos				
4	Weatherproof termination boxes both for power supply and signal termination			78 Nos				
5	Weather proof termination box with battery & battery charger of suitable capacity for supply of power to Data logger, Wind, Temperature & humidity, pressure sensors and communication Modem for 24 hrs			78 Nos				
III	Data Acquisition System (DAS):							

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price = (5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	DAS			78 Nos.				
2	Battery back-up facility for DAS and all sensors (Except RVR) For 24hrs or better			78 Sets				
3	GPS receiver			36 Nos				
4	Comprehensive Surge protection Systems for protection of all AWOS sensors/ Units/ Sub units.			78 Sets				
IV	Data processing & integration Unit (MBR Site):							
1	Rack mountable dual server computer			18 Sets				
2	Licensed Operating system			18 Sets				
3	Battery Powered Data processor & Integrator (BPDPI)			18 Sets				
4	Color display 21" Flat panel			18 Sets				
5	Over-voltage protection kit			18 Sets				
6	Mains Power distribution board			18 Sets				
7	Online UPS for both servers			18 Sets				
V	Workstations							
1	Workstations			72 Nos				
2	Colour display 24" LED type			72 Nos				
3	UPS			72 Nos				
VI	Slave Display Units							
1	Wireless router for 300 mts with Battery backup for 30min.			90 Nos				
2	10.1" or better touch screen Tablet PC with 30min battery backup facility			180 Nos				

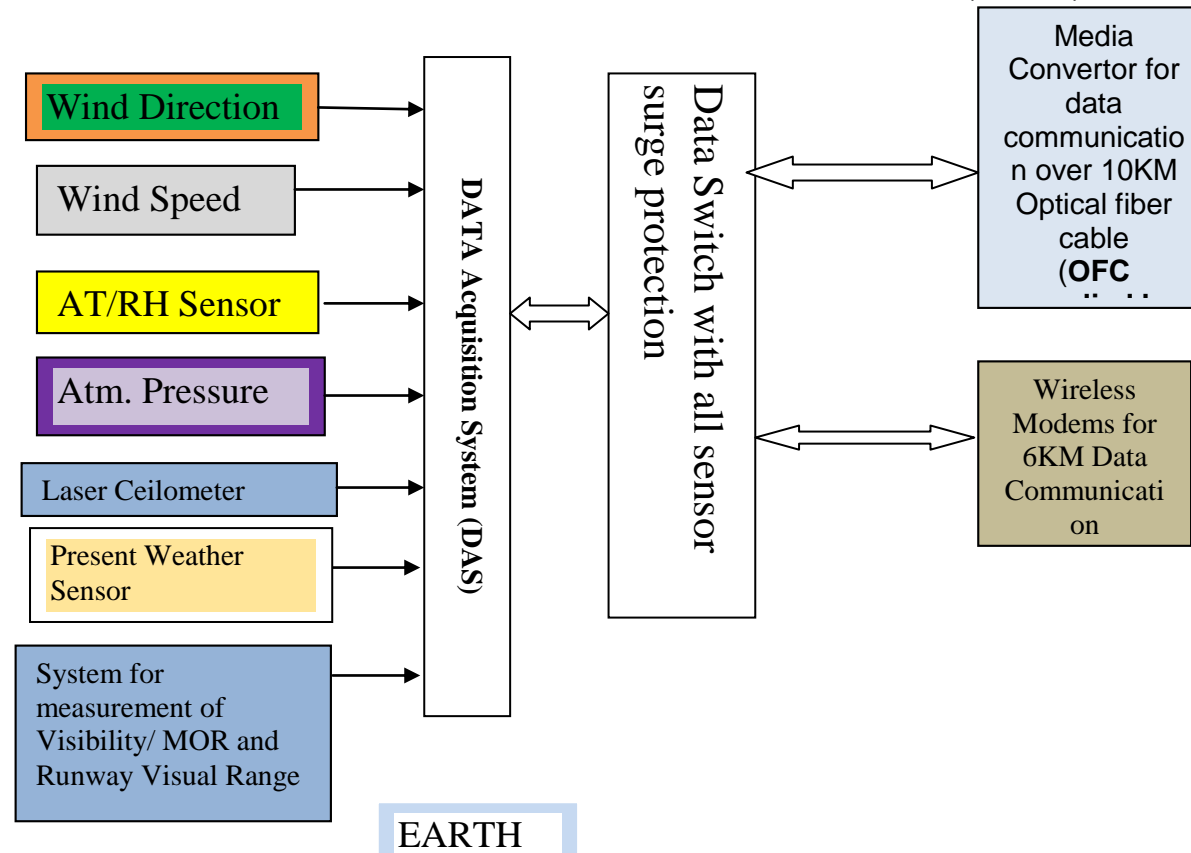
S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price = (5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	42-inch LED Display with zoom control facility for display of single or Multiple runway data as per user selection			72 Nos				
4	42-inch Slave display for passenger lounge			36 Nos				
VII	Central web server at Pune & Delhi with static IP and its software for viewing & downloading Air-port data from 18 airports.			2 Nos				
VIII	Multi-functional Device (MFD)							
1	Printer-Fax-Scanner			18 Nos				
2	Heavy duty black & white laser printer			18 Nos				
IX	Licenses and Documentation							
1	All licensed (system and application) software with License Nos. and CD's including web-based monitoring and remote maintenance and virus protection software			18 Sets				
2	Documentation (Installation, operation and maintenance manual) and softcopy for all the manuals			18 Set each				
X	Communication							
1	Wireless modems (License free band) for data communication between AMI sites to ATC and MBR			78 Pairs				
2	Land Line Modems/ Suitable Media convertor for data communication through OFC between AMI sites to ATC and MBR			78 Pairs				
3	24 port Ethernet Switch			18 Pairs				
4	LAN Extender			18 Pairs				

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price =(5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
XI	Services							
1	Construction of RCC platform on hard soil with foundation grouting of templates for erection of Frangible and foldable 10mts Wind mast as per standards and installation of wind mast.			78 sites				
2a	Installation of Comprehensive Lightning & Surge Protection Systems for protection of all AWOS sensors/Units and Sub systems at Two sites of Runway (as per Annexure-I).			78 sites				
2b	Installations of maintenance free Earth Pits (Signal, Power & Lightning) including all required copper cables for protection of complete field system from Lightning and Power Surges.			78 sites				
3	Outdoor cabling for both AMI sites. Underground Armored Twisted pair cable is to be used for Integration of RVR with DAS			100 m X 18 airports				
4	Indoor cabling works for the installation of communication systems, Servers, work stations, Wireless Router Etc.			100mtsX 18 airports				
XII	Integration & Commissioning of total AWOS			18 airports				
1	Project implementation cost for providing the turn key solution.			18 airports				
2	Local transportation cost for delivering equipment at airport			18 airports				
3	Onsite training of IMD officials at each airport as per Para 7.4.			18 airports				
5a	Site Acceptance Test (Para 7.5.2)			18 air-ports				

S. No.	Name of Item/ Store	Make & Model	Country of origin	Quantity	Unit Price			Total price = (5x8)
					Base Price	Applicable Taxes & Duties	Total unit price	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5b	All expenses for Factory Acceptance for 18 systems for Five officials at OEM place for 15 days including their Travel & per diem			1 item				
6	Charges for Two Year extended Warranty (Normal one year + 2 Year extended)			18 airports				
XIII	Comprehensive Annual Maintenance Contract							
1	Charges for 1 st Year Comprehensive Annual Maintenance contract (CAMC)			18 airports				
2	Charges for 2nd Year CAMC			18 airports				
3	Charges for 3rd Year CAMC			18 airports				
4	Charges for 4 th Year CAMC			18 airports				
5	Charges for 5 th Year CAMC			18 airports				

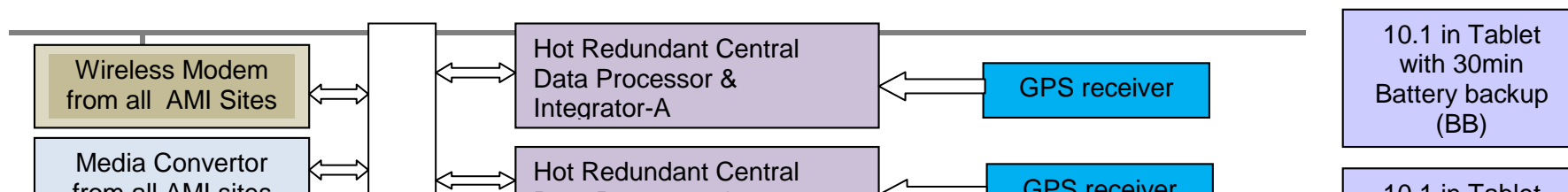
• Annexure – I

BLOCK DIAGRAM OF FIELD AVIATION WEATHER OBSERVING SYSTEM (AWOS)

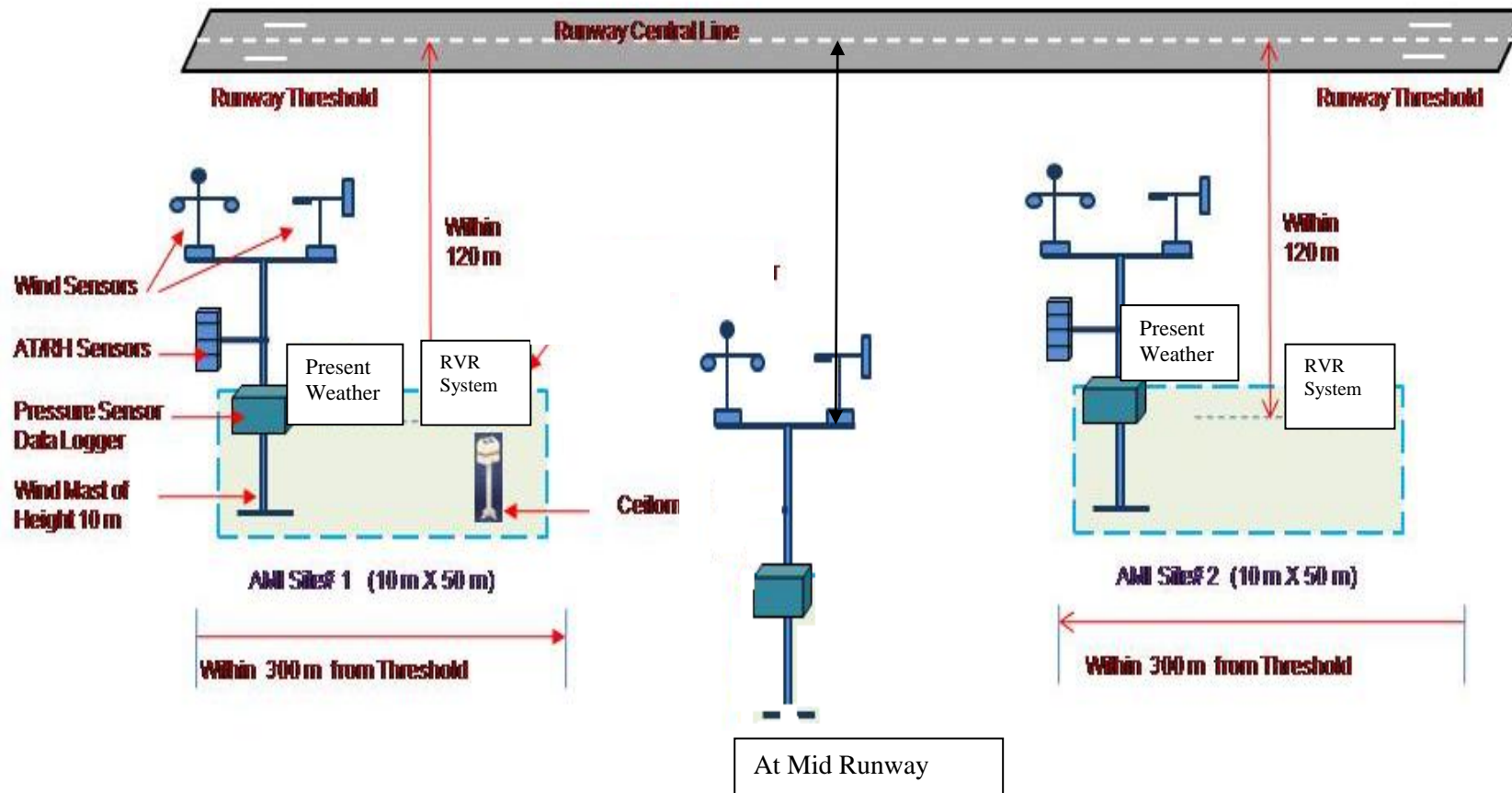


Note: The data from RVR, may come through Data Acquisition System OR directly go to Field communication units via surge protection system.

INDOOR UNITS OF AWOS



Proposed layout site selection for the installation of AWOS



Comprehensive Lightning & Surge Protection Systems

1. The Firm shall design and provide a Comprehensive Lightning & Surge Protection for Sensors and data logger installed at all sites of the Runway. System shall meet following National & International Standards:

IS-2309 & IEC-62305	:	Code for protection for Lightning Protection Protection against Lightning
IS -5216	:	Safety procedure & Practice in electrical work
IEC- 62305	:	Protection against Lightning
IEC – 61643	:	Low Voltage Surge Protection Devices.
IEC-60364	:	Low Voltage Electric Installations

2. The comprehensive Lightning & Sure Protection System shall include
- a) Power Supply Surge Protection Systems at the input of all units and Sub units of AWOS installed at both sites of Runway and inside the building where indoor equipments of AWOS installed. The Power Supply surge protection applicable at each distribution board which will supply power to the equipment and accessories.
 - b) Surge protection System shall be provided to all incoming and outgoing cables connected to the system and data lines, communication Lines and RF cables etc. Standard bonding of cable shields/ trays to ground at entry/ exit points to be ensured.
 - c) The complete layout of the Lightning, Sure protection and Earthing System shall be submitted by the Firm.

* * * * *

SPECIFICATIONS OF CDPI Server

Specifications are indicative and not exhaustive. Bidders may offer server with higher specifications.

Form factor	1U rack	
Processor type	Intel	
Processor family	Intel® Xeon® Scalable 8100/8200 series - Intel® Xeon® Scalable 3100/3200 series or better	
Processor core	4 or more	
Processor Cache	8 MB per core or better	
Memory	Up to 192GB (6 DIMM slots): 32GB or better	
I/O slots	2 PCIe slots: <ul style="list-style-type: none"> • One x8 PCIe slot with x4 bandwidth, 2.0, half-length, half-height • One x16 PCIe slot with x16 bandwidth, 3.0, half-length, full-height 	
RAID controller	Internal controllers: PERC S110 (SW RAID) PERC H310 PERC H710	External HBAs (RAID): PERC H810 External HBAs (non-RAID): 6Gbps SAS HBA
Drive bays	Up to eight 2.5" hot-plug SAS, SATA or SSD or four 3.5" SAS, SATA	
Minimum internal storage	16 TB or more	
Hard drives	SATA 1TB or better	
Embedded NIC	Broadcom® 5720 Dual Port 1Gb LOM	

I/O adapter options	10Gb Ethernet: Intel X520 Dual Port 10Gb DA/SFP+ server adapter Intel X540 Dual Port 10Gb Base-T adapter FC8/FC4 HBA: QLogic QLE2460 4Gb Single Port FC HBA QLogic QLE2462 4Gb Dual Port FC HBA QLogic QLE2560 8Gb Single Port FC HBA QLogic QLE2562 8Gb Dual Port FC HBA Emulex® LPe-12000-E 8Gb Single Port FC HBA Emulex LPe-12002-E 8Gb Dual Port FC HBA Brocade 815 8Gb Single Port FC HBA Brocade 825 8Gb Dual Port FC HBA
Power	Platinum efficiency, hot-plug, redundant 350W and 550W power supplies; Bronze efficiency, cabled 350W power supply Auto-ranging power supplies
Availability	High-efficiency, hot-plug, redundant power supplies; hot-plug hard drives; TPM; dual internal SD support; fan fault tolerance; optional bezel; information tag; ECC memory, interactive LCD screen; ENERGY STAR® compliant
Remote management	Basic management (default), iDRAC7 with Lifecycle Controller, iDRAC7 Express (upgrade option), iDRAC7 Enterprise (upgrade option), 8GB or 16GB V-flash media (upgrade options)

* * * * *

SPECIFICATIONS OF WORKSTATION

Specifications are indicative and not exhaustive. Bidders may offer workstation with higher specifications.

S. No.	Specification	Requirement
1.	Processor	Mobile Intel Core i-7 or better with 6 MB Cache or higher, IVY Bridge Configuration.
Configuration		
2.	Chipset & Motherboard	Mobile Intel 7 series or higher chipset.
3.	Memory	16 GB 1333 MHz DDR3 RAM or higher expandable up to 64 GB
4.	HDD:	SATA, 500 GB 5400 rpm or better
6.	Video controller	Dedicated Video Memory 512 MB / Integrated Intel HD Graphics
7.	Wireless Connectivity	Integrated wireless b/g/n
8.	DVD Writer	Integrated 8X DVD Writer or higher
9.	Expansion Port	3 USB, 10/100/1000 Gigabit Ethernet card, VGA/HDMI/ Microphone, stereo head phone and other standard Features.

* * * * *

• Annexure – V

TABLET PC SPECIFICATIONS

Specifications are indicative and not exhaustive. Bidders may offer Tablet PC with higher specifications.

S. No.	Specifications	Requirement
1.	Screen	Touch Screen, Capacitive touch
2.	Processor	Intel core i5 or latest
3.	Memory	4GB DDR3, 1600MHZ or better
4.	Ports	USB
5.	Wi-Fi & Blue tooth connectivity	Wi-Fi and Blue tooth enable and configurable.
6.	Screen resolution	2560 x 1600 pixels or better
7.	Screen Size	10.1 inch Diagonal
8.	Power	Power adapter with 2 hours battery backup.

• Annexure-VI

WIRELESS ROUTER SPECIFICATIONS

S.No.	Specifications	Requirement
1.	Range	300 metre or better
2.	Frequency	Simultaneous Dual Band 2.4GHZ & 5GHZ
3.	Number of Ethernet Ports	1 WAN port, 4 LAN Gigabit Ethernet Ports
4.	Security	a. Wi-Fi protected access (WPA/ WPA-2/PSK) b Double fire wall protection
5.	Memory	128MB Flash and 128MB RAM
6.	Power	Ac mains with Adapter

SPECIFICATIONS OF UPS

1. UPS for CDPI shall give 30min backup, whereas for work station shall give 15min backup
2. The UPS shall be branded like APC, Tata Libert, Socomec etc.
3. Backup battery Type: Sealed Maintenance Free (SMF-VRLA) of reputed brand.
4. Tenders shall indicate Battery Make/Model Battery Voltage, AH capacity and quantity.
5. Manual & static By-Pass Switch shall be provided for the maintenance of UPS.
6. Details of charging mode with charging current may be indicated by the bidders in their offer.
7. UPS shall be suitable to supply output power and charging current at the same time.
8. Enclosure of UPS shall meet the IP-20 protection requirements to IS: 13947 (Pt. 1. /1993).
9. UPS shall have suitable communication port for interfacing purpose and remote monitoring.

* * * * *

Table of reference for field instruments

S no	Name	RWY	Displaced Threshold	RWY Long or Medium	CAT	System for Visibility/MOR & RVR incl. BLM	Wind with 10m mast	Temp & Humidity with Radiation shield	Atm Pressure sensor	Ceilometer	Present Weather
1	New Delhi	28-10	N	M	3	3	3	2	2	1	2
		29-11	Y	L	3	5	3	2	2	1	2
		27-09	N	M	2	2	3	2	2	1	2
		29-11(New)	Y	L	3	5	3	2	2	1	2
2	Mumbai	27-09	N	L	1	2	3	2	2	1	2
		14-32	N	L	1	2	3	2	2	1	2
3	Amritsar	34-16	N	L	1	3	3	2	2	1	2
4	Bangalore	27-09	N	L	2	2	3	2	2	1	2
		New Runway	Y	L	2	4	3	2	2	1	2
5	Hyderabad	27-09	N	L	1	2	3	2	2	1	2
		27-09 Parallel	N	L	1	2	3	2	2	1	2
6	Kolkata	01R-19L	Y	M	3	5	3	2	2	1	2
		01L-19R	Y	M	1	1	3	2	2	1	2
7	Chennai	25-07	N	M	1	1	3	2	2	1	2
		12-30	N	M	1	1	3	2	2	1	2
8	Ahmedabad	23-05	N	M	1	1	3	2	2	1	2
9	Patna	24-06	N	M	1	1	3	2	2	1	2
10	Varanasi	27-09	N	M	1	1	3	2	2	1	2
11	Guwahati	20-02	N	M	1	1	3	2	2	1	2
12	TRV	27-09	N	M	1	1	3	2	2	1	2
13	Coimbatore	05 - 23	N	M	1	1	3	2	2	1	2
14	Cochin	27-09	N	M	1	1	3	2	2	1	2
15	Calicut	27-09		M	1	1	3	2	2	1	2
16	Lucknow	27-09	N	M	3	3	3	2	2	1	2
17	Jaipur	27-09	N	M	3	3	3	2	2	1	2
18	Indore	07- 25	N	M	1	1	3	2	2	1	2
	Total					55	78	52	52	26	52

