

**INDIAN INSTITUTE OF TROPICAL METEOROLOGY**  
**PASHAN, PUNE-411008 (INDIA)**  
*(An Autonomous Body under the Ministry of Earth Sciences, Govt. of India)*

**TENDER NO. : WS/50/FIRE/WIRELESS/1/2013**

**TENDER NOTICE**

Director, Indian Institute of Tropical Meteorology, Dr.Homi Bhabha Road, Pashan, Pune- 411 008 (India) invites separate sealed tenders (Part-I – Technical Bid, Part-II – Commercial Bid) in separate sealed covers from Manufacturers/Suppliers and their accredited selling agents for the Supply, Commissioning and Installation of

**“WIRELESS ADDRESSABLE FIRE ALARM & DETECTION SYSTEM” at PUNE**

Last date of receipt of Tender at IITM, Pune: **19 NOVEMBER 2013 14:30 hrs.**

Opening of Tenders (Technical Bids only): **19 NOVEMBER 2013 at 15:00 hrs.**

Tender documents with specifications can be obtained from Workshop of the Institute.

The Institute reserves the right to reject any or all tenders without assigning any reason thereof. For further details please visit our Website: [www.tropmet.res.in](http://www.tropmet.res.in) OR CPP Portal: [www.eprocure.gov.in](http://www.eprocure.gov.in)

**for Director**  
Email: [ravindra@tropmet.res.in](mailto:ravindra@tropmet.res.in)

**TENDER DOCUMENTS**

**FOR**

**(TECHNICAL SPECIFICATION- PART I)**

**FOR WIRELESS ADDRESSABLE FIRE ALARM &  
DETECTION SYSTEM**

**AT**

**INDIAN INSTITUTE OF TROPICAL  
METEOROLOGY, PASHAN,  
PUNE**

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<b>ISSUED TO.</b>	: ON
<b>CASH RECEIPT NO.</b>	: DT

### **TENDER NOTICE**

1. Sealed item rate quotations are invited from reputed contractor of Wireless Fire Alarm & Detection System work with its supply, installation, testing and commissioning of the system.

Name of Owner	<b>INDIAN INSTITUTE OF TROPICAL METEOROLOGY PUNE.</b>
Name of Work	<b>WIRELESS ADDRESSABLE FIRE ALARM &amp; DETECTION SYSTEM</b>
Cost of Tender documents	<b>Rs. 500 /- Non Refundable.</b>
Earnest Money Deposits	<b>Rs. 22,000/- (Twenty Two Thousand) in form of D.D / B.G from Indian Nationalized Bank drawn in favour of "Director Indian Institute of Tropical Meteorology, Pune".</b>
Date of completion	<b>45 days from the date of LOI.</b>

2. The tender forms will be available on payment of Rs.500/- of tender documents in cash/D.D. from Nationalized Bank at the address given below

**The Director,  
Indian Institute of Tropical Meteorology**  
Dr. Homi Bhabha Road, Pashan, Pune 411008.  
Tel. No. 020 - 25904200

Note:-Tender documents also can be download from the Institute website [www.tropmet.res.in](http://www.tropmet.res.in) and D.D of Rs 500 /- as tender fee should be enclosed along with the technical bid.

3. For further clarifications can be had from the Institute head work shop.
4. Duly completed tenders shall be submitted in sealed envelopes at the office of Director IITM Pune on address given below by **19.11.2013 at 14:30hrs.**

**Indian Institute of Tropical Meteorology**  
Dr. Homi Bhabha Road, Pashan, Pune - 411 008  
Tel. No. 020 - 25904200

**Contact Person: Mr. Ravindra Bankar, Mechanical Engineer**

**Email: - [ravindra@tropmet.res.in](mailto:ravindra@tropmet.res.in)**

**Due Date and Time: - 19.11.2013 at 14:30hrs. and Technical bid will be open on  
19.11.2013 at 15:30hrs.**The date of commercial bid opening will be intimated to technically qualified vendors after evaluation of technical bids.

5. The Director IITM, Pune reserves right to accept or reject any or all the quotations without assigning any reasons.
6. This tender notice shall form part of Contract / Order.

### **INSTRUCTION TO THE TENDERS**

1. The tender is to be filled properly and all relevant information asked for shall be provided for in due format.
2. Technical and commercial bids are to submit in separate envelopes. Technical bid is the blank BOQ (without price schedule) along with specifications and highlighted with the makes and material considered; duly signed on each page, super scribing the envelope as technical bid.
3. Commercial bid with price schedule only, super scribing the envelope as commercial bid.
4. The schedule of rates shall be returned in two sets.
5. All section wise total amounts shall be written in words also.
6. The tenderers are requested to furnish information about similar works handled, staff and infrastructure etc in technical bid.
7. All drawings and documents issued to the tenderers are confidential and shall be returned back with the tender.
8. EMD shall be in the form of DD/B.G of Nationalized Bank or as mentioned specifically in Tender Notice and shall be enclosed in a separate envelope along with the tender.
9. The duly completed tender shall be submitted at the following address in a sealed envelope before the time indicated.
10. Preliminary drawings, prints shall be available for reference & discussions at our office.
11. Time is essence of contract, hence contractor has to mobilize proper manpower & material in a short mobilization period to site. No extension will be given for completion period, without proper and genuine reasons.
12. All bidders should visit site prior to giving quotes to get acquainted with site conditions. No demand shall later be entertained due to site conditions.
13. Pre-bid meeting for technical queries will be held on 00.00.2012 at 11:00hrs at I.I.T.M. Bidders are requested to be present in the meeting. All technical queries will be answered by I.I.T.M and consultants.
14. Bidders are requested to give deviations / comments / assumptions clearly in deviation pages based on the site observations.
15. Bidders are requested to highlight the makes of material considered while quoting in the list of approved makes.
16. Bidders are requested to quote value for supply & installation of material but client may provide some or all capital items free of cost. So while quoting labour / installation rates, material handling charges should be considered accordingly.
17. The Director IITM, Pune reserves the right to accept or reject any or all the quotations without assigning any reasons.
18. Soft copy of covering letter and priced BOQ shall be submitted along with tender in the CD provided. Bidders shall not change format of BOQ. VAT & service tax calculation / supporting shall be kept separate.
19. Duly completed tenders shall be submitted on or before 00.00.2012 at 12:30 hrs. to addressee to following address :-

**Indian Institute of Tropical Meteorology**  
Dr. Homi Bhabha Road, Pashan, Pune - 411 008  
Tel. No. 020 - 25904200

**Contact Person: Mr. Ravindra Bankar, Mechanical Engineer**  
**Tel No. :- 020 - 25904505**

**ARTICLES OF AGREEMENT**

Articles of Agreement -----  
made on the -----day of -----2012.  
Between:

(hereinafter called "The Owner") of the part and -----  
-----  
of (or whose registered office is situated at) -----  
-----

(herein after called "The contractor") of the other part.  
Where as the owner is desirous of awarding the Work for -----  
----- . Drawing and Bill of Quantities showing and  
describing the work to be done prepared by under the direction of:

And where as the Contractor has supplied the owner with a Fully priced copy of the said bills of quantities (Which copy herein after referred to as "The Contract Bills"). And where as the said Drawings (herein after referred to as "The Contract Drawings") and the Contract Bills have been signed by or on behalf of the parties hereto and where to and where as the Contractor has deposited the sum of rupees ----- with the OWNER for the due performance of this Agreement. Now it is hereby agreed as follows:

1. For the consideration herein after mentioned the Contractor will upon and subject to the condition annexed, carry out and complete the work shown upon the contract Drawings and described by or referred to in the Contract Bills and the said Conditions.

The Owner will pay the Contractor the sum of Rs. -----  
-----

(herein after referred to as "Contract sum") or each other sum as shall become payable here under at the time and in the manner specified in the said conditions.

2. The terms "The Consultant" in the said condition shall mean the said or in the event of his death or ceasing to be Consultant for the purpose of this contract, such other persons as the owner shall nominate for that purpose provided always that no person subsequently appointed to be the Consultant under this contract shall be entitled or over rule any certificate or decision or approval or instruction given or expressed by the earlier Consultant.
3. The said condition and Appendix hereto (Sections) Shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by, submit themselves to these Conditions and perform the agreements on their parts respectively in such Conditions contained.

As Witness the hands of the said parties.

Signed by the:  
In the presence of:

Witness :  
Name :  
Address :

**SECTION - A**  
**FORM OF TENDER.**

To,

**Indian Institute of Tropical Meteorology**  
Dr. Homi Bhabha Road, Pashan, Pune - 411 008  
Tel. No. 020 - 25893825

Dear Sir,

Having examined the drawings, specifications and schedule of quantities of Fire Alarm & Detection System work specified below and having visited and examined the site of works for acquiring requisite information. I/We hereby offer to execute the works specified below in the specified time period at the rates quoted in the Schedule of Prices attached in accordance with the drawings, designs, specifications, conditions of contract and in all other respects with such conditions as applicable.

a)	Description of Work	:	<b>WIRELESS ADDRESSABLE FIRE ALARM &amp; DETECTION</b>
b)	Earnest Money Deposit	:	<b>Rs22,000/- (Twenty Two Thousand) in form of D.D / B.G from Indian Nationalized Bank drawn in favour of "Director Indian Institute of Tropical Meteorology,</b>
c)	Completion Period	:	<b>45 days from the date of LOI.</b>

1. Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and conditions of contract as they may be applicable and in the default there of to forfeit and pay to owner sum of money mentioned in the said conditions.
2. I/We agree that this offer shall remain open for acceptance for a minimum period of 120 days.
3. I/We hereby deposit a sum of Rs..... Drawn on bank ..... Dated.....as EMD which is not to bear any interest. Should I/we fail to execute the contract when called up to do so, this sum shall be forfeited by me/us.
4. Our Bankers are
5. Names of Owner/Partner of Firm
  - 1)
  - 2)
  - 3)

Name of Partners/Director of  
Firm Authorized to Sign.

Name of Person having Power of  
Attorney to Sign the Contract.

**PLACE**     :  
**DATE**       :

**Signature & Seal of  
Contractor.**

SIGNATURE, NAME & ADDRESSES OF WITNESSES.

- 1)
- 2)

**SECTION - B**

**PROJECT INFORMATION:**

<b>OWNER</b>	:	<b>INDIAN INSTITUTE OF TROPICAL METEOROLOGY PUNE.</b>
<b>PROJECT</b>	:	<b>MAIN BUILDING AT PASHAN, PUNE.</b>
<b>WORK</b>	:	<b>WIRELESS ADDRESSABLE FIRE ALARM &amp; DETECTION SYSTEM</b>
<b>AVG. RAIN FALL</b>	:	800 mm.
<b>TEMPERATURES</b>	:	42 ° c Max. 8° c Min.

**B.1. DETAILED SCOPE OF WORK:**

- A. The scope of work shall include supply, installation, testing and commissioning of intelligent Wireless Fire alarm & detection system including accessories, etc, as required for the satisfactory operation of the system.
- B. Supply and installation of all equipment cabinets, panels, data communication network cables needed, and all associated hardware.
- C. Supply and installation of Fire Alarm control panel, Repeater panel, Detectors and input/output devices.
- D. Provide complete manufacturer's specifications for all items that are supplied. Include vendor name of every item supplied and get approved by IITM ..
- E. Provide as-built documentation & all other associated project operational documentation (such as technical manuals) on approved media, the sum total of which accurately represents the final system.
- F. No used components shall be used as any part or piece of installed system.
- G. Vendor should ensure warranty of the System for **2 years** and shall give service back up for 7 x 24 hrs of a week against any failure, software / hardware problem etc.
- H. Vendor should submit their separate offer for **3 Years AMC** with their terms & conditions.
- I. Necessary training for the successful operation & trouble shooting to the IITM responsible staff member is also included in the scope.
- J. Vendor should consider all required Liasoning work related to Fire alarm & detection system with State / Municipal authorities for getting Fire NOC.

**B.2 CIVIL WORKS:**

- 1) Major Civil works is excluded from the scope however necessary excavations if required, making, closing of cutouts in the wall, necessary supports and grouting, drilling etc are included in the scope.
- 2) All Civil works like chasing & making good the chases making pockets for grouting if necessary, grouting of panels etc. is Included in scope.
- 3) Fabrication and fixing of supports, frames etc. are included in the scope.

**B.3 GENERAL:**

Scope includes testing and commissioning of all items installed by contractor.

Contractor has to carry out all works as per respective NFPA & IS standards. All required tools & tackles, testing kits, measuring instruments, safety equipment's shall be provided by contractor with skilled manpower required.

**B.4 LIST OF FREE ISSUE ITEMS:**

Procurement of all items shall be included in the contractor's scope.  
Client reserves right to procure any material if felt necessary by giving proper information to contractor

**B.5 POST COMPLETION HANDING OVER DOCUMENTS:**

Contractor's scope of work also covers post completion handing over documents, which will cover.

- a) As Built Drawings.
- b) Installation & maintenance manuals of all equipment.
- c) Test & warranty certificates of all bought out items.
- d) Test & Commissioning certificates for all installations.
- e) Statutory documents required for record.
- f) Testing & commissioning Documents in standard forms.
- g) Bill of Material

## **SECTION - C**

### **DEFINITION OF TERMS**

- C.1** 'Owner/Purchaser' shall mean the client on whose behalf this enquiry is issued and his authorized representative.
- C.2** 'Engineers' shall mean Engineer / Architect / Consultant appointed by Owner for the project. (IITM Engineer)
- C.3** 'Bidder' shall mean party who quotes against this enquiry.
- C.4** 'Contractor' shall mean the successful 'BIDDER' whose bid has been accepted by Owner and on whom Purchase/Work Order is placed.
- C.5** 'PROJECT' shall mean the project specified in Section - B.
- C.6** 'SITE' shall mean the actual place of work as detailed in specification / Section B
- C.7** 'SPECIFICATIONS' shall mean collectively all the terms and stipulations contained in those portions of contract as general and special conditions, amendments, deletions, revisions as made in agreement or written agreements made pertaining to method of work.
- C.8** 'Month' shall mean calendar month.
- C.9** 'Plant/Equipment' and 'Works' shall mean respectively the goods to be supplied and services to be provided by contractor.
- C.10** 'Contract/Work Order' shall mean the order specifying works and associated specifications to be executed by "Owner and Contractor".
- C.11** 'Contract Period' shall mean the period during which "Owner" and "Contractor" shall execute the entire contract as agreed.
- C.12** 'Guarantee Period' / "Defect Liability Period" shall mean period during which the plant / equipment and installations shall give same and trouble free performance as guaranteed by contractor.
- C.13** 'Engineer's Instructions' shall mean instruction oral or written, drawings, direction, Explanations issued by Engineer time to time during period of contract. (All 'oral' instructions shall be authenticated by written instructions immediately.)
- C.14** 'Performance Tests' shall mean all tests to be carried out by contractor as per specifications prior to installation being taken over by Owner under guarantee
- C.15** 'Commissioning' shall mean integrated activity of carrying out performance tests, initial and trial operations of system.
- C.16** 'Drawings' shall mean all drawings furnished by Engineer / Owner for basis of proposal or for carrying out works, from time to time; all drawing submitted by vendor provided such drawings are acceptable to Engineer/Owner.
- C.17** 'UR' means quote unit rate.

## **SECTION : D-I**

### **GENERAL CONDITIONS OF CONTRACT**

#### **D-I.1 WORK ORDER:**

The work order conveys final agreement between owner and contractor on terms and conditions and is exclusive statement of terms of their agreement. In case of discrepancy between general conditions and specifications, drawings furnished by owner, the latter shall take precedence.

#### **D-I.2 MODIFICATION AND VARIATION:**

The order may be amended, modified or rescinded only in writing by both the parties and their duly authorized representatives pursuant to terms stated therein.

#### **D-I.3 MATERIALS AND SERVICES:**

##### **D-I.3.1 LABOUR & TOOLS TACKLES:**

The contractor shall provide at his cost, all necessary material, tools, tackles, skilled manpower for proper execution of works specified in the schedule of the quantities and as per drawings and specifications. Any discrepancy in schedule of quantities and drawings shall be brought to notice of engineer/owner for decision, immediately.

##### **D-I.3.2 ACTIVITY CHART RELATED TO CIVIL WORK:**

Contractor shall provide detail Bar chart of activities based on completion period and civil work schedule made on MS project or similar software and get approval prior to starting the work. Mile stones for supply of important material & completion of specific jobs shall be indicated clearly.

##### **D-I.3.3 MAKE OF MATERIAL:**

Contractor shall provide all material of specific makes accepted during discussion stage or from approved list of makes.

In case of any problem / difficulties in procurement of such items, alternative makes will be approved by Engineer & owner based on samples and specifications submitted by contractor.

Alternative material shall be procured only after written approval for makes.

Procurement and use of material of makes not in approved list shall be sole responsibility of the contractor. Contractor shall replace all such material at no additional cost within a stipulated period.

#### **D-I.4 AUTHORITIES AND LAWS:**

Contractor shall confirm to all provisions of any law pertaining to works and to the regulations and by laws of related authorities and for water/electricity supply. Contractor shall indemnify owner/Engineer from all conflicts arising out of provisions of regulations & laws.

#### **D-I.5 MATERIAL AND WORKMANSHIP:**

All the materials to be supplied for execution of works shall be of first quality, new and strictly as per specifications. In case employer procures such items and hands over the same for fixing to the contractor, the contractor will receive the goods, open the crates and report any discrepancies, store it in his custody until required, install and commission it with necessary care and the best workmanship. The contractor shall be responsible for any loss or damages once the materials are supplied to him in good order and condition.

All the installation rates are deemed to include handling, erection, fabrication services & erection hard ware required for all items.

All the works shall be executed with highest quality of workmanship and as directed by owner/engineer. In case of mockups or approved samples, the quality of the same shall be adhered to for all works and any work quality & material below that standard will be rejected.

**D-I.6 SUPERVISION:**

One Engineer or supervisor should be deputed on site of day to day supervisory work.

**D-I.7 ACCESS TO WORK:**

Owner / Engineer or their authorized representative shall have access to works being carried out at all reasonable times. No person, not authorized by owner/engineer except representatives of public authorities shall be allowed at work site at any time.

**D-I.8 SUB-CONTRACT:**

The complete work included in the contract shall be executed by the contractor and the contractor shall not sub-contract/sub-let work or part thereof without prior written consent from owner/engineer. However, contractor shall not be relieved from the responsibility of execution of works as per contract under any circumstances.

**D-I.9 SCHEDULE OF QUANTITIES AND DRAWINGS:**

**D-I.9.1 SCHEDULE OF WORK:**

The schedule of quantities indicates nearest approximate quantities of the items works. There is a possibility of upward or downward variation of quantities due to site modifications. Any variation of quantities of the individual items as per schedule and overall cost variation of 25% shall be accepted by contractor without any financial implication. Contractor shall take exact measurements for items like cables, earth strips prior to bringing and cutting the same. If variation is beyond above stipulated limits, such items shall be carried out after written mutual agreement. However no excess payment claims for additional quantities shall be entertained if variation is established prior to deliveries of stipulated quantities.

**D-I.9.2 GENERAL INFORMATION ON DRAWINGS:**

Rates quoted for all 'Unit Rate' (UR) items shall be deemed as valid for any quantity as may be required for completion of work. The drawings enclosed indicate extent and general arrangement of various equipments. These are for guidance of contractor and exact locations, dimensions; clearance will be governed by site conditions, buildings and statutory rules. Contractor is required to go through the drawing and regulations prior to starting of works. Any discrepancy/changes required shall be reported to consultant and owner. Contractor shall prepare all '**working drawings**' and get them approved from consultants prior to starting the work. The working drawing shall be submitted to consultant within a specific time frame from date of order as mutually decided.

**D-I.9.3 PROCURMENT OF MATERIALS:**

Contractor shall bring quantities of items like cables, earthing strips, trays specific measurement. Client will not take over excess quantities of any items is specifically agreed. Contractor shall have to take back all such quantities without any financial burden on client.

**D-I.10 SUFFICIENCY OF SCHEDULE:**

The contractor shall be deemed to have satisfied himself before tendering as to correctness and sufficiency of his tender for works and prices quoted therein which shall cover all obligations under contract for satisfactory completion of works, and stipulated performance of system/equipment in his preview.

**D-I.11 MEASUREMENTS & BILLS:**

Measurements and billing shall be done by specific method detailed below.

1. Contractor shall maintain a proper measurement book (Triplicate) on site and take measurement from time to time.
2. Owners representative / Engineer shall check these measurements from time to time. Coordination for checking will be contractor's responsibility.
3. Contractor shall make bills based on checked measurements only.
4. Bills shall be made in standard and cumulative formats only. Non cumulative Bill will not be accepted.
5. Contractor shall submit minimum 3 copies of bill with
  - a) Measurement sheets copies duly signed.
  - b) Copies of signed challan
  - c) Summary sheet.
  - d) Site progress photographs.

Measurements will be certified within 7 days. Engineers will certify R.A. Bills within 10 days of submission of correct bills. Contractor will claim extra items vide separate bills only after rate approval of such items.

**D-I.12 REMOVAL OF WORKS:**

The owner/engineer during the progress of work have power to order in writing removal from the works any material / installations which in their opinion are not as per specifications or instructions, and for carrying out rectification/rework within specified time and contractor shall carry out such removals/rework as per specification at his own cost. The owner/engineer can get such rectifications/rework done from other agencies at the cost of contractor, if the same are not carried out by them in the stipulated and agreed period.

**D-I.13 COMPLETION CERTIFICATE:**

**D-I.13.1 COMMENCEMENT DEFECT LIABILITY PERIOD:**

The work shall be deemed to have been completed on written certificate by Engineer that they have been virtually completed. The "Defect Liability Period" shall commence from the date of such certificate.

**D-I.13.2 COMPLETION DRAWINGS & DOCUMENTS:**

On completion of works, prior to getting completion certificate contractor shall prepare as built drawings in association and to satisfaction of consultant/Engineer giving all particulars.

Contractor shall submit the as-built drawing in 4 sets of prints and one set of reproducible to the client.

Contractor shall also submit detail drawings, instruction & maintenance manuals & test certificates for all bought out items. Test certificates of all tests carried out at site shall also form part of this.

One set of all handing over documents shall be given to Engineer.

**D-I.14 DEFECT LIABILITY PERIOD:**

Any defects, faults, deterioration in performance of the material and installations which may appear; during the "Defect Liability Period" of twenty four months or any period as agreed by both parties from virtual completion of contract shall be amended/made good by the contractor at his own cost within a reasonable time. In case of default, owner may employ and pay other person to make good the defects and deduct the expenses from the dues payable to contractor on certification from engineer. The defect liability period unless otherwise specifically agreed shall be twelve months.

**D-I.15 CONTRACTOR'S RESPONSIBILITY:**

Contractor shall be responsible for injury to person animal or things, for all damages caused to property from operations or negligence of himself or his employees/sub-contractors. The contractor shall indemnify owner / Engineer and their employees and hold them harmless in respect of any and all expenses arising from such injury or damage and claims arising there of.

The damages to the property, plant and equipment caused due to such negligence shall be made good by the contractor at his own cost to the satisfaction of the owner / engineer within a specific time. The owner in concurrence with engineer shall be entitled to deduct amount of damage, compensation for loss arising from such damages/injuries/accidents in case of default. All laws related to PF, ESI, Medical insurance etc. shall be adhered to by the contractor. No child labour shall be employed by contractor.

**D-I.16 INSURANCE & INDEMNITY:**

**D-I.16.1 LABOUR LAWS:**

Contractor shall have valid PF, ESI registration. All laws related to Labour, PF, ESI, Medical insurance etc, shall be adhered to by contractor. No child Labour shall be employed by contractor.

**D-I.16.2 GENERAL INSURANCE:**

Contractor shall provide necessary insurance cover for all equipment and material in his scope till the system is handed over. Necessary insurance cover shall also be provided for man power employed on site. Contractor shall indemnify Owner/Engineer and their representatives employed and hold them harm less in case of any damages injuries /accidents and any claims arising out of them.

**D-I.17 DATE OF COMMENCEMENT:**

The date of commencement of work shall be accounted from the 25<sup>th</sup> day after receipt of work order by contractor unless otherwise stated specifically.

**D-I.18 LIQUIDATED DAMAGES:**

The contractor shall pay liquidated damages of 1% per week / subject to a maximum of 10% at value of work order in case of delays beyond the accepted completion period for reasons solely attributed to him.

**D-I.19 TIME EXTENTION:**

If in the opinion of owner/engineer the work is delayed (a) by force majeure, (b) by reasons beyond control of contractor, extension of time for carrying out the works can

be sanctioned by owner/engineer on written request from contractor with due reasoning / supporting.

Force majeure shall mean & include compliance with statutory laws & regulation, Government order or change in orders, war & war like conditions, acts of civil & military authorities, fires, floods, earthquakes and other acts of God, sabotage, revolt, Strikes & lockout of more than 2 weeks. However contractor & owner in such case should devise means of expediting the progress for performance as per contract.

**D-I.20 TERMINATION OF CONTRACT:**

Owner shall be entitled to terminate the contract in case contractor fails to fulfill one or more conditions of contract or if the engineer/consultant certify to the owner in writing that the contractor;

- a) Has abandoned the work.
- b) Has failed to commence the work or has without any lawful excuse under contract conditions suspended work progress for more than one week or,
- c) Has failed to proceed with the works and failed to make such due progress for timely completion of works or.
- d) Has failed persistently to observe and perform works as per specifications and contract conditions or.
- e) Has employed services of sub-contractors/sub-let all or part of works without prior permission of owner/engineer.

Then and in any of the above said cases owner may not withstanding any previous waiver, can terminate the contract after giving seven days notice in writing to the contractor without affecting powers of engineer and obligation and liabilities of the contractor.

If the payment of the amount payable by the owner under certificate of engineer is unpaid for thirty days or if owner interferes or obstructs issue of such certificate or if the works of owner/engineer or by any injunction or other orders by court of law, then and in any of the said cases contractor shall be at liberty to terminate the contract by giving seven days notice to the owner and shall be entitled to recover payment from owner on account of work executed or any loss sustained. Owner shall also be entitled to recover any losses due to default of contractor, incurred by him for carrying out / completing works as certified by consultant.

**D-I.21 CERTIFICATION AND PAYMENTS:**

The contractor shall be paid by owner from time to time under interim measurements certified by engineer on account of work executed in accordance with contract & to satisfaction of Engineer with certain retention till the work is completely executed. On virtual completion of the works, contractor shall be paid final installment retaining certain fixed percentage over a period known as "Defect Liability Period" as security. The final balance shall be payable to the contractor after expiry of "Defect Liability Period" and after such certificate is issued by engineer/consultant. Engineer/Consultant shall have power to withhold payment against work or part thereof not carried out to his satisfaction.

**D-I.22** The decisions, opinion, direction, certificates with respect to clauses 9,13,17,18 here of shall be final conclusive and binding on the parties without appeal. All other decisions, opinion, direction certificates etc. shall be subject to right of arbitration.

**D-I.23 ARBITRATION:**

All the disputes of any kind in connection with contract shall be referred to engineer/consultant and settled in writing by him. If any party is dissatisfied with such

decision except for clauses indicated in clause 22 they are entitled to bring such disputes for arbitration.  
Both parties shall appoint Arbitrator/s and his/their decision shall be final and binding on both parties.  
Consultant/Engineer if necessary will represent the client in case of arbitration.

**D-I.24 TECHNICAL SCRUTINY OF FINAL BILL:**

The owner shall have right to get works and bills technically scrutinized at the time of payment of final bill. Owner shall be entitled to recover any money found to be over paid or over certified during such scrutiny.

**D-I.25 CO-ORDINATION:**

Contractor or his authorised representative shall be responsible for co- ordination with all other agencies working at site for smooth functioning and timely completion of works. The Contractor shall arrange his work program to suit the building progress and priorities given by Owner.

**Site meeting:** Qualified/responsible representative shall attend necessary site meeting from contractor's side to take site instruction/decision in view of trouble shooting and progress review of works.

**D-I.26 PRICES:**

The prices quoted in the schedule of works shall remain firm during the period of contract. Bidder shall be clearly state taxes, statutory duties and levies which he is required to pay. The rates quoted by Bidder for the items in schedule of rates shall inclusive of all taxes, duties etc.

**D-I.27 EXTRA ITEMS:**

Contractor may be required to carry out extra items due to site requirements or changes. All such items shall be carried out by contractor after written consent from client. Contractor shall submit a rate analysis of these items based on market rates. A margin of 10% shall be allowed over and above the expenses incurred. Escalation shall not be allowed on the extra items.

**D-I.28 SECURITY DEPOSIT:**

Successful bidder shall have to pay an amount of 5% of the order value at the time of starting the work in terms of bank guarantee of equal amounts in favor of the owner for entire period of contract up to virtual completion period.

**D-I.29 PERFORMANCE GUARANTEES:**

The contractor shall guarantee performance of plant and equipment and workmanship against fault for a period of 24 (twenty four) months called as "Defect Liability Period". A certain percentage of work value 10% or as per payment terms shall be retained for the entire "Defect Liability Period" as security. Such retention can be released on furnishing a performance bond in form of bank guarantee of equal amounts for 24 month in favour of owner.

**D-I.30 PAYMENT TERMS:**

1. 70% of supply value against supply of material at site against invoice.
2. 20% of supply of installation on value against testing and commissioning.
3. Balance 10% Payment can be release on submission of Bank Guarantee from Indian Nationalized Bank of equal amount valid for 24 months from the date of virtual completion certificate.

## **SECTION : D-II**

### **SPECIAL CONDITIONS OF CONTRACT**

#### **D-II.1 STORAGE AND OFFICE SHED:**

The contractor has to prepare his own store and office shed. The owner at site will provide the suitable space. The contractor will be responsible for safety of his materials stored on site. The contractor shall make his own arrangements for housing of his staff. The CONTRACTOR **will not** be given space to put up Labour camp. CONTRACTOR shall make his own arrangement outside the premises without causing any hindrances to the OWNER. The cost of putting up the labour camps will be borne by the CONTRACTOR. After completion of work the office & store shed shall be dismantled / removed by the contractor at his own cost.

#### **D-II.2 ELECTRICITY AND WATER:**

**Indian Institute of Tropical Meteorology, Pune** will provide any of these facilities on chargeable basis at one place. Contractor shall have to make his own arrangements for further use of the facility. Unavailability of power & water cannot be deemed as reasons for delay.

#### **D-II.3 MAINTENANCE OF SITE**

Contractor should keep the site, building office clean of debris wood pieces etc. during the period of contract & work will not be considered as complete till last particle of debris is disposed off to the satisfaction of the Engineer / owner.

#### **D-II.4 SECURITY RULES:**

The contractor shall strictly follow all security rules of **Indian Institute of Tropical Meteorology, Pune** particularly bearing upon the inward & outward movements of his trucks, people and equipment and shall also execute the work in such a manner so as to cause the minimum disturbance to the working of the owner.

#### **D-II.5 DISPLAY OF DRAWINGS AT SITE:**

The drawings maintained on the site shall be carefully mounted on boards of appropriate size. They shall be protected from rain, ants or other insects. The contractor shall provide at his own cost a display board for showing the details of work as directed and instructed by the Engineer.

#### **D-II.6 EXAMINATION OF DRAWINGS:**

Contractor shall examine the relevant drawings, specifications of work which shall be available at the architect's / consultant's office. No claims shall be entertained for the assumptions made by tenderer, if any. Contractor shall not write any comments / conditions / figures or change the tender by writing on the same in any manner. The tender drawings are meant for guidance only.

#### **D-II.7 BAR-CHART:**

Contractor shall prepare bar chart and finalize the same in consultation with project consultants before mobilization advance is paid to the contractor. This bar chart will also indicate inputs from Project Consultants & Clients, Links with other works. Following items shall be included;

- a. Time required for each activity and their relationship.
- b. Quantities in each activity.

- c. Resource planning such as equipment & tools to be employed and manpower to be employed for each activity.
- d. Cost of each activity.
- e. Schedule of drawings required by him for completing the project as per chart.

Bar charts shall be done in M.S. Project or equivalent software and shall be available on Compact Disc (CD). The Bar chart shall be reviewed in every site meeting.

CONTRACTOR will be bound to provide the minimum resources shown in the bar chart. In case it is found at any interim stage that the PROGRESS OF WORK is slow and completion time of any activity is likely to extend beyond the target dates the CONTRACTOR will have to increase the planned resources.

Provision of time will be made by the CONTRACTOR for other agencies to carry out their part of the work and such lapse of time will be considered by the CONTRACTOR in the planning schedule. No compensation will be paid for idle labour due to work of other contractors.

**D-II.8 REQUIREMENT OF DRAWINGS:**

Contractor shall indicate the dates on which drawings are required by him before starting the work. Contractor shall give a notice of 15 days to architect/consultant about the requirement of the drawing / decisions required by him to complete the project as per schedule. It is understood that all the drawings are not required at the beginning of the project for completing the project within time.

**D-II.9 WORK- PROGRESS:**

Contractor shall submit progress report for every site meeting with updated bar-chart marking upto date. Progress upto previous day compared to planned Bar chart and % comparison (lag/lead) with approved bar chart.

Monthly progress reports shall accompany “**selective photographs**” of works carried out at site and showing the progress (postcard size.)

**D-II.10 CIVIL – WORK:**

Minor civil work will be in the scope of contractor.

**D-II.11 SHOP- DRAWING:**

Contractor shall prepare his own shop drawing for substation layout as required by Statutory Agencies for submission & approval. Calculation if required for such application shall also be provided. Soft copies of consultant’s drawings can be provided.

**D-II.12 PAINT & FLOORING:**

Contractor should take care of paint & flooring. In case of damage to paint or floor, Contractor shall reimburse the amount for required rectification need to be done.

Work Sequence should be as per given below.

**D-II.13 APPROVAL OF DRAWINGS:**

As per scope of work contractor shall submit 4 sets of shop / working drawings for approval with softcopy before commencement of work which includes,

- a) Shop drawing for Wireless Fire Alarm & detection system (as per the scope of work),
- b) Cables & Conduit layout details.
- c) Detailed cable route layout
- d) Standard installation details

Contractor’s senior engineer / representative shall be made available at consultant’s office for any discussion on above as required.

**D-II.14 TENDER DRAWING:**

The tender drawings are meant for guidance only & may not represent exact size & shape of the building. However they will give a fair idea of the work involved. Complete list of tender drawings available for inspection is given elsewhere in the tender.

Contractor shall examine the relevant tender drawings (which shall be issued along with the tender documents) & specification of work. No claim shall be entertained for the assumption made by the CONTRACTOR, IF ANY. CONTRACTOR shall not write any comments / conditions / figures on the tender.

In case price of item is quoted as lump sum in the BOQ the work described in the drawing will be added in the work described in the item of work as if it is included in the scope of work where lump sum price is quoted. No extra payment will be made for the work shown in the tender drawings.

**D-II.15 PRECEDENCE ORDER:**

1. Articles of agreement of IIA
2. Drawings
3. Bill of Quantities
4. Special conditions of contract
5. General specification
6. General condition of contract

**D-II.16 VARIATION IN THE CONTRACT SUM: DELETED**

**D-II.17 DRAWINGS & DOCUMENTS:**

"The contractor shall, upon receipt of drawings and documents, study and examine them thoroughly and bring to the notice of the Architect / Consultant any discrepancy found therein before starting work. Failure to do so will be at the risk and consequence of the contractor".

**D-II.18 INSURANCE:**

Contractor shall insure all the equipment and work in his scope including necessary transit insurance.

**D-II.19 QUANTITIES:**

Contractor shall, based on shop drawings check the quantities and bring in required quantities after establishing the same.

Abnormal increase or decrease of any quantities compared to BOQ shall be brought to notice of consultant for verification and shall be ordered after verification.

Balance material will not be taken over by client unless specifically discussed.

**D-II.20 SPECIAL CONDITIONS FOR SUBMITTAL**

Following are the requirements during the submittal of the quote. Vendors should carry the copy of the same during the technical submittal. Non submittal would lead to disqualification.

- 1) Data sheets of all the products quoted for.
- 2) Samples of the cables considered along with test certificates
- 3) System architecture
- 4) Deviations if any to be specified.
- 5) All taxes & levies to be mentioned separately. (VAT, Service Tax, Octroi, custom duty, Excise etc.)
- 6) Vendors to clearly specify any dependencies or details required from Client to run their systems smoothly.

**SECTION : D-III**

**COMPREHENSIVE ANNUAL MAINTENANCE SERVICE**

XXXXXXXXXXXXXXXXXXXXXXXXXXXX. as part of the Comprehensive Annual Maintenance Service offers services for Fire alarm & detection system.

**D-III.1.0 Spare Parts Management Services**

**D-III.1.1 Spare Parts Holding Service**

It covers the holding of spare parts service for the installation. This service provides stocking of spare parts at XX. This ensures spares support throughout the service period and minimizes the inventory maintenance costs for spare for IITM. The parts will be replaced either with a functionally compliant spare or with the same part no. and the spare parts, which have been used, shall be replenished. Where there is a requirement of revision update, VENDOR'S shall exchange the part with an updated version.

Parts Replacement Service

The scope covers Unlimited Parts Replacement (exception to Annexure II).

This service provides replacement of parts determined to be defective as a result of normal usage free of cost. Failure due to rat and rodent menace, improper power supply, corrosion, etc. is not covered under this service.

From IITM perspective there is Reduction in Administrative Costs, Shorter replacement cycles (no prior approval required), Improved financial planning (Budget).

**D-III.2.0 Maintenance Services**

**D-III.2.1 Preventive Maintenance Service**

This is a preventive maintenance support under which VENDOR'S Maintenance team will visit the IITM site on a scheduled visit as follows

**4 Visits per Year**

All services are provided during normal working hours unless requested to do differently. The services performed include the following tasks with respect to VENDOR'S system

- System service on all specified hardware (Maintenance schedule) as detailed at Annexure-I
- Technical Assistance on queries
- Control and updating of spare parts stock, system documentation

This will reduce cost of Corrective Maintenance. The liaison understands the application & IITM organization priorities.

Service delivery will be in accordance with the agreed Preventive Maintenance frequency schedule.

Scheduled engineer will be available to IITM during normal working hours.

### **D-III.2.2 Corrective Maintenance Service**

This is breakdown maintenance support with respect to VENDOR'S system. Engineer call out is based on IITM request.

The expertise is available on request. This reduces the downtime of the system. The VENDOR'S engineer performs corrective maintenance services. Where applicable action items and programs shall be agreed to prevent corrective situations.

Three levels of support are available for solution of problems.

First level is available in the region very close to the IITM.

Second level is from the works, which is equipped with a Technical support group consisting of highly trained technical experts who will be providing support to IITM. This is an additional support provided to strengthen the service engineer attending the call in case he requires some technical support for some typical problems. This is for technical support required during emergency. Technical solution on telephone is also covered under this service.

### **D-III.2.3 Service Report**

For every visit covered under preventive maintenance or corrective/break down calls VENDOR'S engineer shall make a service report, which will be signed by both VENDOR'S and IITM.

One copy will be retained by IITM. and one will be with VENDOR'S

## **ANNEXURE - I**

### **SCOPE OF PREVENTIVE MAINTENANCE VISIT**

VENDOR'S engineer will carry out following jobs during the periodic maintenance visit: Cleaning of panels, cards/modules/detectors sensors etc.

Check the system errors and alarms and rectifying the same

Check and note down the revision no. of various software and hardware. This shall help in identifying correct replacement and for future system upgrade.

Power supply checks.

AC Voltage across – 1. Phase & Neutral 2. Phase & Earth 3. Neutral &

Earth Checking of DC voltage across the DC power supply

Communication cables will be checked for loose terminations LED indications check in all modules

Sort out any problematic issues concerned with the system and corrective actions for the problem existing

1. During the preventive/ corrective maintenance visit, IITM will provide vacuum cleaner to VENDOR'S engineer
2. IITM. will co-ordinate with other agencies if any interfacing with other equipment not supplied by VENDOR'S is required to be done.
3. All those non-vendor items (bought outs) covered under the comprehensive contract for replacement when found faulty, will not be stock items and the delivery time will be intimated IITM. at the time of failure of those.

## **ANNEXURE -II**

### **List of Exclusions**

Panels, Consoles, Cables, Conduits, Furniture (if any)

Any software updates which covers addition of new features and if desired by IITM will be at extra cost.

## **SECTION - E**

### **SAFETY REGULATIONS**

- E.1** Readily accessible **First Aid Kit** including adequate sterilized cotton and dressing shall be provided on site.
- E.2** Any injured person shall be taken to nearest public hospital without delay.
- E.3** **Open/temporary jointing of the cables** shall be avoided and all connections shall be taken through proper sockets & plug tops, Insulated joints and switches etc.
- E.4** **All workmen and supervisors** shall be provided with **helmets / safety caps**. **All visitors / Engineers** shall also **wear helmets** when moving on sites.
- E.5** Safety apparatus like hand gloves of appropriate class shall be used for all testing commissioning activities. Proper care through danger notice boards, personal vigil shall be taken during such operation to avoid Injury and damage.
- E.6** **Protective switchgear** shall also be used for **all temporary works**.
- E.7** The Contractor shall be responsible for all injury to persons, animals or things and for all damage to the structural and or any part of property arising out of his operations or neglect of himself or of any of his approved sub-contractor's employees, whether out of carelessness, accident or whatever cause. This clause will include buildings, roads, cables, drains, and tanks. The contractor shall indemnify the owner and hold him harmless in respect of all any expenses arising from any such injury or damage to person or property. The contractor shall reinstate at his cost all damages of every sort mentioned in this clause, so as to deliver the whole of the work complete and perfect in every respect and make good or otherwise satisfy all claims for damages to property of third party. The contractor shall indemnify the owner against all claims made against the owner by any member of public or third party arising out of his work or in consequence thereof and shall at his own cost arrange to effect and maintain until the virtual completion of work, an insurance policy with an approved nationalize insurance company in joint names of owner and himself against such risk and deposit such policy with the client. The contractor shall also indemnify the owner against all claims, which may be made upon the owner.

Whether under workmen's compensation act or any other against such risks. The contractor shall be responsible for anything which may be excluded from insurance policy and also for all other negligent or defective carrying out of this contract.

The Owner shall be at liberty and is hereby empowered to deduct the amount of any damages, compensation costs, charges and expenses arising from any such claims from any sum due to contractor,

**F.2.5 CERTIFICATIONS:**

Together with the shop drawing submittal, submit a certification from the major equipment manufacturer indicating that the proposed supervisor of installation and the proposed performer of contract maintenance is an authorized representative of the major equipment manufacturer. Include names and addresses in the certification.

**F.2.6 GUARANTEE:**

All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least two (2) year from the date of acceptance. The full cost of maintenance, labor and materials required to correct any defect during this one-year period shall be included in the submittal bid.

**F.2.7 POST CONTRACT MAINTENANCE:**

- i) Complete maintenance and repair service for the fire alarm system shall be available from a factory trained authorized representative of the manufacturer of the major equipment for a period of five (5) years after expiration of the guaranty.
- ii) As part of the submittal, include a quote for maintenance contract to provide all maintenance, test, and repair described below. Include also a quote of unscheduled maintenance/repair, including hourly rates for technicians trained on this equipment, and response travel costs. Submittals that do not identify all post contract maintenance costs will not be accepted. Rates and costs shall be valid for the period of five (5) years after expiration of the guaranty.
- iii) Maintenance and testing shall be on a semi annual basis or as required by the local authority. A preventive maintenance schedule shall be provided by the contractor that shall describe the protocol for preventive maintenance. The schedule shall include:
- iv) Systematic examination, adjustment and cleaning of all detectors, manual fire alarm stations, control panels, power supplies, relays and all accessories of the fire alarm system.
- v) Each circuit in the fire alarm system shall be tested semi annually.
- vi) Each smoke detector shall be tested in accordance with the requirements of NFPA 72, Chapter 7 / EN 54.

**F.2.9 PRODUCT:**

**EQUIPMENT:**

1. All equipment and components shall be new, and the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approval agency for use as part of a protected premises protective signalling (fire alarm) system. The authorized representative of the manufacturer of the major

- equipment, such as control panels, shall be responsible for the satisfactory installation of the complete system.
2. All equipment and components shall be installed in strict compliance with manufacturers' recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation. Refer to the Riser/Connection diagram for all specific system installation/termination/wiring data.
  3. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g. detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

**F.9.0 POST COMPLETION HANDING OVER DOCUMENTS:**

Contractor's scope of work also covers post completion handing over documents, which will cover.

- f) As Built Drawings.
- g) Installation & maintenance manuals of all equipment.
- h) Test & warranty certificates of all bought out items.
- i) Test certificates for all equipment.
- j) Statutory documents required for record.
- f) Testing & commissioning Documents in standard forms.

**Final Inspection:**

At the final inspection a factory-trained representative of the manufacturer of the major equipment shall demonstrate that the systems function properly in every respect.

**Instruction:**

Provide instruction as required for operating the system. Hands-on demonstrations of the operation of all system components and the entire system including program changes and functions shall be provided.

The contractor and/or the systems manufacturer's representatives shall provide a typewritten "sequence of operation" to the owner.

## TECHNICAL SPECIFICATION WIRELESS ADDRESSABLE FIRE DETECTION AND ALARM SYSTEM

### **Introduction:**

Automatic Wireless Fire Detection and Alarm System should consists of Addressable Fire Alarm Control Panel, Repeater Control Panel at security gate, sounder Beacon, Wireless to wired interface unit (router) from fire panel one cable will be laid to connect wireless to wired interface unit-which is positioned in each floor. The building consists of lot of cabins/rooms all the places wireless multisensor shall be fixed.

### **About the system:**

Based on the architecture of the building, the suitable warning devices shall be installed at appropriate location which will alert / evacuate the occupants in phased manner.

To trigger the warning devices, automatic devices like, multisensors and manual call points shall be used.

The frequency bandwidth used for the system shall be 433.92 MHZ.

### **1.1.00 Scope of work:**

1.1.01 The work shall consist of design, supply, installation, testing and commissioning of Wireless Addressable Fire Detection and Alarm System (AFDAS).

1.1.02 The scope includes all necessary equipments, tools, tackles, ladders, suitable manpower for installation, testing and commissioning.

1.1.03 The scope includes all minor civil works like opening the wall/chasing in the wall required to be made for the installation shall be made excellently and finished in appropriate manner.

### **2.1.0 Terminology**

#### **2.1.1 Analogue Addressable Fire alarm control panel (FACP)**

Analogue addressable fire alarm panel to connect wireless addressable devices like detectors, sounders, etc. FACP shall be able to identify individual detecting device, to the pin-point, location of the fire and trigger respective sounders.

#### **2.1.2 Wireless devices**

Wireless devices refer to all types of wireless devices like wireless multisensors, manual call point, sounder beacon etc.

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#### **2.1.3 Wireless Multisensor**

In case of fire, to detect the smoke and heat caused by fire and communicates to alarm panel without using cable Wireless Multisensor are used.

#### **2.1.4 Wireless Manual call point**

For triggering the alarm manually, this unit is used. All indoor call-points shall be made of ABS. This unit shall have transparent, made of polycarbonate protective flip cover. The unit shall be re-settable without the requirement for replacing the glass. This unit shall be of addressable type.

### 2.1.5 Wireless Sounder Beacon

The device is designed to provide audible alarm to alert/evacuate in case of fire. The unit has unique address & accepts two different signals.(i.e.Alarm ON & Alarm Silence).

## 2.2 TECHNICAL SPECIFICATION

2.2.1 The design, supply, installation, testing & maintenance of entire wireless addressable fire detection and alarm system shall conform to National Building Code of India – Part 4, IS 2189, BS:5839 or NFPA 71/72 and ensure optimum efficiency of smoke detection coverage.

2.2.2 Power supply for the control panel shall be 230V AC, 50Hz and stand-by power supply shall be of SMF battery.

### 2.3 Addressable fire alarm control panel (FACP)/Repeater Panel

2.3.1 The addressable fire alarm control panel shall be analogue addressable type. Shall provide maximum flexibility with user friendly equipment.

2.3.2 The control panel shall operate primary supply of 230 volts AC and standby supply of SMF battery.

2.3.3 The control panel shall have built-in power supply, SMF battery & battery charger.

2.3.4 The control panel enclosure made by 16 gauges CRCA sheet with powder coated.

2.3.5 Suitable control with no. of loops shall be recommended by the vendor. Since no. of devices varies from manufacturer to manufacturer.

2.3.6 Maximum 75% of load of the devices shall be used in order for safety and future expansion purpose.

2.3.7 The control panel shall have TFT color Graphic Display with Touch Screen Control.

2.3.8 The Control panel shall have built feature of Mimic software.

2.3.9 The control panel shall have built-in sounder. There shall be different tone for fire and fault indication.

2.3.10 The control panel shall be suitable to use standard wire, no shielded or twisted pair required on SLC loop.

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2.3.11 The control panel shall have minimum two level password protection.

2.3.12 The control panel shall have network capability.

2.3.13 The control panel shall have event logging facility.

2.3.14 The control panel shall be supplied with PC configuration software.

2.3.15 The control panel all termination shall be suitable to use 1.5 sq. mm cable.

2.3.16 The control panel shall have alert indication for missing device, contaminated device.

2.3.17 The control panel shall have real-time clock (RTC) indicate time, date, month & year.

## **Devices**

### 2.4 Wireless Addressable Multisensor /Heat Detector

2.4.1 The Multi detector shall operate on both light scatter and thermal principle.

2.4.2 The detector shall be wireless addressable type.

2.4.3 The detector shall have an integral microprocessor capable of making alarm decision based on alarm level set (sensitivity).

2.4.4 The detector shall blink when the detector is addressed and glow steady on alarm.

2.4.5 The entire components used in detector shall be protected from corrosion. All the contact components including fasteners shall be either SS or brass.

2.4.6 The detector shall have electronic free base. The base design shall be common for all types of detectors.

2.4.7 The detector sensing chamber shall be easily removable for cleaning maintenance purpose.

2.4.8 The detector and base construction shall be made of polycarbonate plastic.

2.4.9 The detector shall have electronic addressing; DIP/DIL switch address setting is not acceptable in order to avoid unauthorized change of setting.

2.4.10 The detector shall be capable of within the following environmental limits:

Operating temperature – -10 °C to +60 °C

Relative humidity – 0 - 95% (Non-Condensing)

The detector shall be powered by 9 volt Duracell built in battery.

2.4.11 The detector shall have in suitable transmitter. The frequency shall be of 433.92MHZ.

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### **2.5 Wireless Addressable manual call point**

2.5.1 The manual call points shall be of press glass type. The enclosure shall be made of ABS or Polycarbonate.

2.5.2 The design shall be double action type.

2.5.3 The manual call point shall be provided with transparent protective flip cover. Protective flip cover shall be made of strong unbreakable polycarbonate.

2.5.4 The manual call point shall be of aesthetically designed, suitable for flush/surface mount. It shall be RED in color.

2.5.5 The manual call point shall be re-settable type without the requirement for replacing the glass. Reset preferable: without using key and directly from the panel.

2.5.6 The communication protocol shall be compatible with the offered panel and other devices.

2.5.7 The manual call point shall be powered and operated with built in 9 volt/3.6 volt battery.

2.5.8 The manual call point operating temperature units shall be 0 °C to 60 °C. Relative humidity (Non-condensing): 10% to 95%

2.5.9 The manual call point shall have electronic addressing. Address setting by DIP switches is not acceptable. The manual call point shall have built in suitable transmitter. The frequency shall be of 433.92 MHZ.

## **2.6 Wireless Addressable Sounder**

2.6.1 The addressable sounder shall have built-in 12Volt SMF Battery and battery charger

2.6.2 The addressable sounder shall have necessary wireless receiver

2.6.3 The sounder beacon operating temperature shall be 0°C to +50°C. Relative humidity 95% RH (Non-condensing)

2.6.4 The sounder beacon sound pressure level shall be 85 dB at 10ft.

2.6.5 The operating voltage range shall be 12-15 volts DC

## **2.7 Documentation:**

The vendor shall submit two sets of printed user manual along with as erected drawing. One set of soft copy in the form of CD or DVD. Separate user software CD for panel programming shall be provided. No extra payment shall be made for documentation. If required shall be quoted by the vendor at the time of tendering itself.

**SECTION G**

**APPROVED LIST OF MATERIAL**

**NOTE:** CLIENT RESERVES RIGHT TO ASK FOR ANY OF THE FOLLOWING APPROVED MAKES TO BE USED DURING DISCUSSIONS. CONTRACTOR SHALL INDICATE WHICH MAKE HAS BEEN CONSIDERED WHILE QUOTING THE RATES.

<b>I. FIRE ALARM SYSTEM</b>		
Fire Alarm Control Panel	:	AIRLIGHT /KARSAN / IEC / NEUTECH/ FIRE ENVO
Repeater Panel	:	AIRLIGHT /KARSAN / IEC / NEUTECH/ FIRE ENVO
Addressable Multi Sensor Detector	:	AIRLIGHT /KARSAN / IEC / NEUTECH/ FIRE ENVO
Addressable Sounder	:	AIRLIGHT /KARSAN / IEC / NEUTECH/ FIRE ENVO
Addressable Manual Call point	:	AIRLIGHT /KARSAN / IEC / NEUTECH/ FIRE ENVO

## **SECTION H**

### **LIST OF STANDARD**

1. National Fire Protection Association (NFPA) Standards:
2. IS 2189
3. NFPA 70 National Electric Code
4. NFPA 72 National Fire Alarm Code
5. BS 5839
6. National Building Code of India –Part-4.

**SECTION – I**

**DEVIATIONS FROM GENERAL  
CONDITIONS OF CONTRACT**

All deviations from general condition of contract shall be filled in hereby the bidder.

**SECTION**

**CLAUSE NO.**

**DEVIATION**

The bidder hereby certifies that the above mentioned are only deviations from general conditions of contract of enquiry.

**DATE**

**Signature And Seal of Bidder**

**SECTION – J**

**DEVIATIONS FROM TECHNICAL  
SPECIFICATIONS**

All deviations from specification shall be filled in hereby the bidder.

<b>SECTION</b>	<b>CLAUSE NO.</b>	<b>DEVIATION SPEC. NO.</b>
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The bidder hereby certifies that the above mentioned are only deviations from technical specifications of this enquiry.

**DATE**

**Signature And Seal of Bidder**

**SECTION - L**

**DETAILS OF CONTRACTORS**

1.	Name & Address	:	
2.	Banker	:	
3.	Solvency	:	
4.	Turn over of last Three Years	a)	
		b)	
		c)	
5.	Type of Firm	:	Proprietor / Partnership / Pvt. Ltd. / Ltd.
6.	No. of Employees		
i)	Directors / Partners	:	
ii)	Managers	:	
iii)	Sr. Engineer	:	
iv)	Jr. Engineer	:	
v)	Supervisors	:	
vi)	Skilled Technicians	:	
vii)	Unskilled Workers	:	

**TENDER DOCUMENTS**

**FOR**

**(PRICE BID- PART II)**

**FOR WIRELESS ADDRESSABLE FIRE ALARM &  
DETECTION  
SYSTEM**

**AT**

**INDIAN INSTITUTE OF TROPICAL  
METEOROLOGY, PASHAN,  
PUNE**

**CLIENT :- INDIAN INSTITUTE OF TROPICAL METROLOGY, PUNE**  
**PROJECT :- MAIN BUILDING AT IITM**  
**WORK :- WIRELESS FIRE ALARM & DETECTION SYSTEM**

**SUMMARY SHEET- 1**

SYSTEM DESCRIPTION			Supply	Installation
			AMOUNT Rs. Ps.	AMOUNT Rs. Ps.
<b>SECTION - 'I'</b> Wireless Addressable Fire Alarm & Detection System	:	RS.		
<b>SUB TOTAL</b>	:	RS .		
<b>TOTAL (Supply + Installation)</b>				
<b>VAT</b>	:	RS .		
<b>Service Tax</b>	:	RS .		
<b>GRAND TOTAL</b>	:	RS .		

L1 will be sum of Summary Sheet 1 and Summary Sheet 2.

CLIENT :- INDIAN INSTITUTE OF TROPICAL METROLOGY, PUNE

PROJECT :- PROPOSED CCCR BUILDING AT IITM

WORK :- ADDRESSABLE FIRE ALARM & DETECTION SYSTEM

**Bill of Quantity**

Item No.	Description	Unit	Qty.	Supply		Installation	
				Rate Rs. P s.	Amount Rs.	Rate Rs. Ps.	Amount Rs. Ps.
<b>SECTION - I</b>							
<b><u>Addressable Fire Alarm &amp; Detection System</u></b>							
1.0	Supply, installation, testing & commissioning of Two Loop Addressable Fire Alarm Control Panel with TFT display & Touch Screen Control.	No.	1				
2.0	Supply, installation, testing & commissioning of Passive Repeater Fire Alarm Control Panel.	No.	1				
3.0	Supply, installation, testing & commissioning of Wireless Addressable Photoelectric smoke detector with built heat detector with detector mounting base & required accessories.	Nos.	340				
4.0	Supply, installation, testing & commissioning of Wireless Addressable Heat detectors with detector mounting base & required accessories.	Nos.	10				
5.0	Supply, installation, testing & commissioning of Wireless Addressable Manual Call Points.	Nos.	25				
6.0	Supply, installation, testing & commissioning of Wireless Addressable SounderBeacon.	Nos.	25				
7.0	Any items required to complete the work						
<b>TOTAL OF SECTION - I</b>							

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SYSTEM**

**SUMMARY SHEET- 2**

**ANNUAL MAINTANENCE  
CONTRACT**

	Charges for comprehensive ,all inclusive annual maintainence contract rate after the expiry of warranty period for 2 years for above mentioned systems			
1	AMC rate for 3rd Year	:	RS .	
2	AMC rate for 4th Year	:	RS .	
3	AMC rate for 5th Year	:	RS .	
	<b>SUB TOTAL OF AMC</b>	:	RS .	
	<b>TOTAL</b>	:	RS .	