Ref.: RED/PP&ESS/RRS/21/3FS/AMC/2020/441766


Sub: Invitation to quote.

Non-Comprehensive AMC of Fire detection & Alarm System

Dear Sirs,

1. Sealed quotations are invited by undersigned for and on behalf of the President of India from the experienced contractors for "Non-Comprehensive AMC of Addressable Fire Detection & Alarm System" as per details given below.

2. Quotation should be submitted in the following manner:
   (i) Attested copies of two Experience Certificates, showing satisfactory completion of similar works (Fire Alarm Maintenance), issued by GOI/PSU.
   (ii) Letter of authorization, if required.
   (iii) Valid Goods & Services Tax number.
   (iv) Each paper of bid document duly signed by the authorized signatory.
   (v) Schedule of rates duly filled and signed.

The tender, which is not accompanied by the requisite documents, shall be summarily rejected. Tender will not be received after expiry of date and time. Purchaser reserves the right to reject any or all the quotation without assigning any reason. If it happens to be a holiday on any of the dates above, next working day shall be applicable.

3. Tender should be in a sealed cover and super-scribed as "Quotation for Non-Comprehensive AMC of Addressable Fire Detection & Alarm System". The quotation shall be complete in all respects with regard to price, specifications, completion period, validity of the offer, etc. and must reach on or before 20/03/2020 by 16.00 Hrs. The quotation shall be on printed letter head mentioning complete address, Phone numbers, fax number, PAN number/ GST registration/TIN etc., without these details, quotation will be liable for rejection. The envelope should indicate this office Ref. No. and due date clearly. The sealed quotation should be addressed to undersigned and should be sent through Speed Post Only so as to reach his office before due date.
4. **Duration of Contract**: One year from the date of award of contract with an option of extension for a further period of two years progressively on year after year on the same rates, terms & conditions.

5. Rates should be quoted in figures as well as in words and should be genuine & reasonable. Rates should include all types of taxes, duties etc. The evaluation of bids shall be done on overall basis irrespective of item-wise rate.

6. There should be no overwriting/correction in rates. Corrections *if any*, must be initialed. Conditional & incomplete quotations are liable for rejection.

   The accepted rates will be operative for one year from the date of work order. The competent authority may extend the period further up to two years progressively year after year, if necessary taking in view of satisfactory performance of the contractor on same terms & conditions of the contract as per administrative convenience. The quantities of Fire detection units put on AMC may vary drastically.

7. The work will be done as per directions/specification given by the Engineer in-charge concerned.

8. The contractor will be responsible and liable to make good any losses which may be caused to the department due to the negligence of the contractor.
   (i) The contractor shall submit his quarterly Bills duly verified by the Engineer In-charge.
   (ii) The payment shall be made after submitting the bills, deducting penalty etc. If any imposed/due.
   (iii) The contractor will pay the GST & paid-up slip (undertaking against GST payment to concerned authority) will be submitted to the purchaser within along with the bill.

9. **GENERAL INSTRUCTIONS**
   (i) Please note that the goods/works proposed to be carried based on this NIT (Notice Inviting Tender) is meant for the Research Institution under the Dept. of Atomic Energy. The purchaser will make available *(if required and applicable)* to the successful bidder, with whom a work order is placed, the GST exemption certificate duly signed by the authorized officer in the Dept. of Atomic Energy well before the dispatch of the goods/completion of work by the supplier.
   (ii) **Place of work**: Engineering. Hall No. 7, Trombay, Mumbai-400085.
   (iii) Inspection as per specification shall be carried out departmentally after the completion of the work to the satisfaction of the Engineer in-charge. Inspection regarding the work according to specification, checking of the site etc. will be carried out continuously by the Engineer in-charge or his authorized representative.
   (iv) The contractor shall have to maintain the area assigned to him for the work, very clean and shall follow the instructions of Engineer in-charge in this regard. All equipment/tools etc. are to be removed and cleaned the area after the end of the day’s work.
   (v) The bidders, who wish to inspect the site before quoting, may do so with prior appointment with our engineer **Shri R. R. Singh** on telephone no. 25591590/7167.
   (vi) Payment will be made by cheque/ECS after satisfactory completion of the work *(on quarterly basis)* as per Government rules. Income TAX/TDS on GST/Surcharge, as applicable will be deducted on the gross amount payable for the work done.
(vii) Bidder shall note that BARC is final consumer of the goods/services procured and does not intends to make any outward supply. BARC will not avail the benefits of input tax credit and hence, the good can be supplied without quoting the GSTIN of BARC, Mumbai on invoice. The invoices taxed under GST, as per rates applicable under the GST schedule of rates, will be admitted for payment.

(viii) **GSTIN Invoice:** The invoice raised by the registered supplier of taxable goods/services along with other details specifically indicating: GSTN, PAN, Location of supply, tax component to be separately indicated.

(ix) An undertaking shall be furnished by the registered supplier that the GST has been promptly deposited with the authorities.

(x) With your offer please furnish the detailed information regarding whether an **ex-employee of BARC is working** in your organization or whether any of your **relatives is working in DAE/BARC** or you are **an ex-employee of DAE/BARC**. In absence of such information or wrong information, the quotation or contract is likely to be rejected/cancelled.

(xi) **Confidentiality:** No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as proprietary in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party. This clause shall apply to the sub contractors, consultants, advisers or the employees engaged by the party with equal force.

(xii) Restricted information categories under section 18 of the Atomic Energy Act, 1962 and **"Official Secrets"** under section-5 of the **official secret act, 1923**: Any contravention of the above mentioned provisions by any contractor, sub contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

(xiii) **Prohibition against use of BARC's name** without permission for publicity purposes: The contractor or sub contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like press, radio, T.V. or Internet without prior approval of BARC.

(xiv) **Safety Precautions:** The contractor will follow all the good industrial safety rules required during the execution of work. He will have to compulsorily follow other safety instructions issued by **Engineer-in-charge** from time to time. The contractor shall provide all safety gears to their workmen at site and all safety rules shall be strictly followed. Any injury/accident caused to their persons while working inside BARC shall be the full responsibility of the contractor.

(xv) The tool, ladders, testing instruments, software and other equipment required for the maintenance work shall be brought by the contractor and security of the same will be the responsibility of the contractor.

(xvi) **Police Clearance:** The bidder shall note that entry inside BARC is restricted and it is compulsory for contractor to get police clearance (as prescribed by security section of BARC) for all his staff who will be entering BARC for work.
(xvii) The work can be carried out on all working days (except Saturday, Sunday & Public Holidays) between 9.30 hrs to 17.30 hrs.

(xviii) The offer shall be kept valid for a period of 60 days from the date of opening of the quotation.

(xix) The department has option of terminating the contract either partially or wholly at any stage without assigning any reason by giving one-month notice in writing to that effect.

(xx) In case the work is not carried out to the satisfaction of the department or damage caused due to negligence, the contractor will be liable to pay damage charges. All such matter will be decided by the department and the decision in the matter will be final.

(xxi) The successful bidder shall be personally responsible for compliance of all provisions of labour, EPF, Income Tax, GST etc. as applicable from time to time & will give the documentary proof of having complied with all such provisions.
1. **System Description:**
The installed Fire detection & alarm system is BOSCH make, 8-Loop Addressable microprocessor based, intelligent and electronically addressable analog type (Fire Alarm Control Panel). This caters to smoke detectors, multi-sensor detectors, heat detectors, beam detectors, manual call points, sounders, I/O modules & repeater panels. The capability of the system is to accommodate 254 addresses per loop with loop length upto 1.6km per loop (11000meters cable is installed at site). The control panel is having redundancy for CPU and loop boards. The detector installation is as per the requirement of BS-5839. The wiring installation at site is two-wire loop circuits (Class-A) with each detector and device having its own individual built-in isolator. The building in which system has been installed is G+4 with bay area having height of 18 meters.

2. **System Components:**

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fire Alarm Control Panel <em>(Bosch make, Model No.PA5000)</em> with redundancy (for controller and loop modules) having 8-Loop module LSN-300 and Battery control Module BCM-0000.</td>
<td>01 Set</td>
</tr>
<tr>
<td>4.</td>
<td>Dual Optical <em>(BOSCH- DO420/425)</em> type Analogue Addressable smoke detector <em>(RED and Blue LED)</em> Light scattering</td>
<td>399 Nos.</td>
</tr>
<tr>
<td>6.</td>
<td>Beam detector <em>(BOSCH- FLM-420/4-CON)</em></td>
<td>02 Set</td>
</tr>
<tr>
<td>7.</td>
<td>Analogue Addressable Dual Manual Call Point <em>(BOSCH-FMC-210-DM)</em> with box.</td>
<td>29 Nos.</td>
</tr>
<tr>
<td>8.</td>
<td>LHSC cable - Patol system sensor <em>(Analogue)</em> with control modules <em>(3-Segments)</em></td>
<td>400 mtr.</td>
</tr>
<tr>
<td>10.</td>
<td>Analogue Addressable Flasher <em>(BOSCH-FNS-420-R LSN)</em></td>
<td>21 Nos.</td>
</tr>
<tr>
<td>11.</td>
<td>Agni Make Response Indicator.</td>
<td>118 Nos.</td>
</tr>
<tr>
<td>12.</td>
<td>SMF battery 12V, 26Ah</td>
<td>02 Nos.</td>
</tr>
</tbody>
</table>

3. **Scope of Work/Maintenance Schedule:**
The breakdown call shall be attended on the same day, however, breakdown call placed after 1:00 PM may be attended on the following business morning. Maintenance service shall be provided during department's normal working hours, 9:00AM to 5:00PM Monday through Friday excluding public holidays. The preventive maintenance *every 3 months* with equal intervals making 4 calls in the contract period of one year shall be carried out.
Before taking fire alarm system for maintenance, contractor shall ask for written permission from the department's engineer in-charge. The system shall be maintained as per the guidelines of BS-5839: Part-1:1998; Testing and Maintenance.
A. **Monthly Inspection:** During the currency of the contract, Contractor shall depute his personnel to visit the site *every month* (not along with quarterly visit and testing) to carry out the following inspection.
   a). Entries in the log book, since the previous inspection visit should be checked and any necessary action, *if required* shall be taken accordingly.
   b). The system should be put on battery backup for confirmation of power supply availability on demand. The current and other parameters of the batteries shall be noted.
   c). The control panel’s indication and display shall be checked for the system information and general faults shall be rectified from the control panel.
   d). The repeater panels shall be checked for their display and screen control.
   e). The manual call points shall be visually checked for the condition of glass and hammers.
   f). The LED indications of the detection devices shall be visually checked.

B. **Quarterly Inspection and Test.** The following check-list and test sequence should be carried out in every three months (4 calls in a year on equal interval):
   a). Entries in the log book since the previous inspection should be checked and any necessary action taken.
   b). Batteries and their connections should be examined and tested to ensure that they are in good serviceable condition.
   c). Primary batteries, including reserves, should be tested to verify that they are satisfactory for a further period.
   d). The alarm function of control and indicating equipment should be checked by the operation of a trigger device in each zone. The operation of alarm sounders and any link to a remote manned centre should be tested. An ancillary function of the control panel should also be tested where practicable. All fault indicators and their circuits should be checked preferably by simulation of fault conditions. The Control and Indicating equipment should be visually inspected for signs of moisture Ingress and other deterioration.
   e). The tightening of all hardware and joints shall be carried out.
   f). Cleaning of all devices as specified by manufacturer shall be carried out.
   g). Function checks of all detectors with approved aerosol spray and for optical and thermal source for heat detectors shall be carried out. Each detector (along with response indicator) shall be checked for correct operation in accordance with the manufacturer’s recommendations.
   h). Replacement of defective devices and detectors with new ones, if found damaged/defective (no repairing).
   i). A visual inspection should be made that structural or occupancy changes have not affected the requirements for the string of trigger devices (manual call points, smoke detectors and heat detectors). The visual inspection should also confirm that a clear space of at least 750 mm radius is preserved in all directions below every detector, that the detectors are preferably sited and that all manual call points remain unobstructed and conspicuous. Any defect should be recorded in the log book and reported to the responsible person, and action should be taken to correct it.
   j). The thorough cleaning of the control panel and repeater panel shall be carried out and all the connection inside the control panels shall be checked and tightened to ensure their smooth working.
k). The defective loop card, touch-screen, or other components shall be replaced with new one (no repairing).
l). The software update and correction shall be carried out.
m). All the manual call points (MCP) shall be checked with test key without breaking the glass to check the operation of actuating mechanism.
n). All connection inside each MCP shall be tightened to ensure the proper functioning of the MCP, including cleaning of the MCP.
o). Broken glasses shall be replaced and damaged/defective MCPs PVC/metallic boxes shall be replaced with new ones
p). All the maintenance/replacement records w.r.t. detectors, software updates/correction, addition, deletion etc. shall be entered systematically in the logbook and if any observation is lodged by the department in the logbook shall be checked and remedial action shall be taken.

C. Annual Inspection & Tests: The following checks and test sequence should be carried out once in a year along with quarterly maintenance:
a). Operation of 100% of the detectors in an installation should be checked each year and the selection should be done in such a way that all the detectors in an installation shall have been checked once in a years – replacement by a new one after 5 years.
b). Visual inspection should be made to confirm that all cable fittings and equipment are secure, undamaged and adequately protected. At least once in every a year at the annual inspection, the electrical installation should be tested. Any defect should be recorded in log book and suitable remedial action should be taken. On completion of the annual inspection, the entry should be made register in respect of defects found. After the defects are rectified, the entries should then again be made.

4. Job description
The bidder should familiarize himself fully with the job before quoting the rates.

(i) The Annual Maintenance Contract is non-comprehensive i.e. the major parts (detectors, base plate, controller parts) required to be replaced during the scope of work will be supplied by the department (free of cost) & replaced by the contractor at his own cost.

(ii) The consumable material supplied (by the contractor - free of cost) and used (MCP glass, cleaning and testing aerosol, tools etc. consumables required for maintenance) by the contractor should be of standard make as per same specification.

(iii) The components (consumables) found to be of inferior quality and or not being according to the specification will be rejected at the cost of contractor.

(iv) Contractor shall have to maintain a logbook of maintenance of each system/site and make entry of all their site visits with a mention of inspection made by them and their comments if any. The site must be inspected at-least once in a month in addition to calls made for defects/faults reported by the In-charge of the building & record kept. During the visit of site, he may check the following points/accessories of the system:-

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Site</th>
<th>Date</th>
<th>Main Control Panel</th>
<th>Reaper Panel</th>
<th>Multi Sensor Smoke Detector</th>
<th>Optical Smoke Detector</th>
<th>Heat Detector</th>
<th>Response Indicators</th>
<th>Hooter &amp; Flasher</th>
<th>MCP</th>
<th>Battery</th>
<th>Found</th>
</tr>
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</table>
(v) All the works are to be carried out as per manufacturer's specification and to the entire satisfaction of Engineer in-charge of the unit.

(vi) No skilled/unskilled staff will be provided to the contractor for carrying out the maintenance/servicing.

(vii) In periodic testing, heat detectors should be visually examined for damage or other conditions (such as heavy coats of paints, etc.) likely to interface with the correct operation.

(viii) Each smoke detector should be tested to initiate an alarm at its installed location with smoke or other approved aerosol which demonstrates that the smoke can enter the chamber and initiate an alarm.

(ix) In order to ensure that each smoke detector is within its sensitivity range, it should be tested using either:
    a) A calibrated test method, or
    b) A manufacturer's/supplier's approved calibrated sensitivity test instrument, or
    c) Approved control equipment arranged for the purpose, or other approved calibrated sensitivity test method.

(x) Detectors found to have sensitivity outside the approved range should be replaced.
    NOTE — Detector sensitivity cannot be tested or measured using any spray/smoke producing device that administers an unmeasured concentration of aerosol/smoke into the detector.

(xi) **General Points about Detectors:** It is essential *(particularly for installations involving life hazard)* to ensure specified range of sensitivity of the detectors being installed and that the correct degree of sensitivity is maintained, contactor should ensure themselves on this point. Sensitivity range should be checked on equipment as already specified. It is essential to apply frequent sensitivity checks and routine tests as prescribed in the code so that the correct sensitivity levels/degree is maintained during the entire service span of the installation.

(xii) **Cleaning and Maintenance:** Detectors require periodic cleaning to remove dust or dirt that has accumulated. The frequency of cleaning depends upon the type of detector and local ambient conditions (required in every quarter). In any case, the interval should not exceed a period of 3-months. For each detector, the cleaning, checking, operating and sensitivity adjustment should be attempted only after consulting manufacturer's instructions. These instructions should detail methods such as creating vacuum to remove loose dust and insects, and cleaning heavy greasy deposits, following partial disassembly or the cleaning or the washing of detectors to remove contamination, the sensitivity test requirements in accordance with the relevant clauses should be performed.

(xiii) **Tests Following an Alarm or Fire:** All detectors suspected of exposure to a fire condition should be tested in accordance with the provisions contained in the code pertaining to annual inspection tests. In addition, a visual check of the battery charger should be carried out to ensure perfect serviceability; however, a check should be made to the extent of damage, if any, to the cables and other components and also the operation of the systems as a whole.

(xiv) **System Disconnection:** During testing care should be taken to minimize the disruption of the normal use of the building by alarm sounding during detector testing. If detectors are removed for testing or servicing, replacement detectors should be provided.
Price Schedule
AMC for fire detection & alarm system.

<table>
<thead>
<tr>
<th>Description of work</th>
<th>No. of system</th>
<th>Annual rates per system/site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non- Comprehensive AMC of fire detection &amp; alarm system (8-Loop main fire control</td>
<td>01</td>
<td>Rs ____</td>
</tr>
<tr>
<td>panel, smoke detector, optical detector, heat detector, Response indicator, Hooter,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual call point &amp; all other accessories) except life expired battery.</td>
<td></td>
<td>Rs ____</td>
</tr>
</tbody>
</table>

Note:
1. Specification along with terms & conditions must be signed by the bidder.
2. Specific rates should be quoted. Bare statement like “At scheduled rate”, At actual cost, as decided by you etc. should not be quoted.
3. Overwriting & cutting should be avoided.
4. The quoted rates should include all types of expenses & transportation charges etc.
5. Taxes, duties, if any, applicable shall be indicated separately.
6. The quantum of work may also vary as per requirement.
## Rate of spare parts (BOSCH make & specification)
For reference only (not required under AMC).

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Rate per item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 26 AH, 12V DC Battery Maintenance Free) with one year warranty</td>
<td>Per Bty.</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>2 Multi-Sensor Smoke detector</td>
<td>Per piece</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>3 Dual Optical detector</td>
<td>Per piece</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>4 Heat detector</td>
<td>Per piece</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>5 Response Indicator</td>
<td>Per piece</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>6 Hooter &amp; Flasher</td>
<td>Per piece</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>7 Manual call point</td>
<td>Per piece</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>8 Exit sign.</td>
<td>Per piece</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>9 Cooper cable 2x1.5 mm²</td>
<td>Per Mtr.</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td></td>
<td>3x1.5 mm²</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>10. Gland</td>
<td>Per piece.</td>
<td>Rs _______ Rs _______</td>
</tr>
<tr>
<td>11. Consumables, glass, aerosol etc.</td>
<td>Per piece.</td>
<td>Rs _______ Rs _______</td>
</tr>
</tbody>
</table>

Certified that the above quoted rates are inclusive of all taxes & FOR at site.

(A. K. Lal)
Scientific Officer - H
Head, Project Planning & Engineering Support Section
For and on behalf of President of India

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