Tender Document for

Annual Maintenance Contract of Fire Fighting System installed at OCAC Tower

Tender Enquiry No. : OCAC-CAD-26/2017/17044

ORISSA COMPUTER APPLICATION CENTRE
PLOT NO.-N-1/7-D, ACHARYA VIHAR SQUARE, P.O.-RRL,
BHUBANESWAR- 751013
PHONE: 2567283/2567064 FAX: 91-0674-2567842

Important dates/activities of the Tender

Event	Remarks
Availability of Tender documents at OCAC website	08-10-2017 to 30-10-2017 up to 3 PM
Last date for submission of Tender Document	30-10-2017, 3:00 PM
Place of submission of Tender document	Orissa Computer Application Centre Plot No.-N-1/7-D, Acharya Vihar Square, RRL Post Office, Bhubaneswar-751 013
Last date of submission of Pre Bid Queries	13/10/2017 at 5:00 P.M
Pre Bid Conference	16/10/2017 at 4:00 P.M.
Pre Bid Clarification (If required)	19/10/2017
Date and time for opening of Bids	30-10-2017, 4:30 PM
Cost of Tender Document	Rs 1000/- (Rupees One Thousand Only) to be submitted along with Bid
Earnest Money Deposit (EMD)	EMD for Rs 50,000/- (Rupees Fifty Thousand Only) to be submitted with General Bid

NOTE: The dates are subject to change according to the convenience .

NOTICE INVITING TENDER

Annual Maintenance Contract of Fire Fighting System installed at OCAC Tower

OCAC is in process of hiring agencies for Annual Maintenance Contract of existing Fire Fighting System installed in OCAC Tower. Reputed service agency having enough experience is required to quote their best AMC prices. The tender document is available at our website **www.ocac.in** which duly filled in, should be submitted at OCAC latest by 30-10-2017, 3PM, along with prescribed tender document fee. The bids will be opened in presence of bidders at 4.30 PM on 30-10-2017. The authority reserves the right to accept or reject any or all tender without assigning any reason thereof.

GENERAL MANAGER(ADMN.)
ORISSA COMPUTER APPLICATION CENTRE
Plot No.-N-1/7-D, Acharya Vihar Square,
P.O.-RRL, BBSR-751013

TENDER FOR COMPREHENSIVE OPERATION AND MAINTENANCE OF FIRE ALARM AND FIGHTING SYSTEM OF OCAC TOWERS, BHUBANESWAR.

Odisha Computer Application Centre invites tender for Comprehensive Operation and Maintenance of Fire Alarm and Fighting System of OCAC Tower. The Building is located in an area 1,88,575 sqft Super built-up area. (Basement + Ground Floor + 6 Floors). The detail about the complex is as follows:

OCAC Tower
Basement including parking – 34,215 sqft
Ground Floor- 20632 sqft
1st Floor- 20733 sqft
2nd Floor- 22599 sqft
3rd Floor- 22599 sqft
4th Floor-22599 sqft
5th Floor-22599 sqft
6th Floor-22599 sqft
Over head Tank-24 Nos- 3000 Lt s Capacity each
Fire Hydrant Sump- 1,00,000 Ltrs Capacity

The specialized agencies having experience of 5 years in providing comprehensive operation of fire fighting and maintenance services and turn over not less than Rs.1.00 Crore per year in fire fighting system and having experience of execution in similar nature of work in Govt. Building, Multistoried Apartment, Business Center, Malls, Railway Station / Air Port not less than 50,000 Sqft (Super Built-Up Area) needs only apply for providing following comprehensive operation and maintenance services of Fire Alarm and Fire Fighting Services for OCAC Tower, Bhubaneswar.

The scope of work for as detailed in Annexure - I and Annexure - II shall be applied to the following fire alarm and fire fighting system of OCAC Tower.

THE EXISTING FIRE FIGHTING SYSTEM OF OCAC TOWER ARE AS FOLLOWS :

INVENTORY OF FIRE FIGHTING SYSTEM INSTALLED AT OCAC TOWER

Sl. No	Description	Make	Unit	Pump House	Yard	Sub-station	Basement	G.F	1st Floor	2nd Floor	3rd Floor	4th Floor	5th Floor	6th Floor	Terrace	Total
1	Disel Engine No-1208031207543 Pump No.-81232337/30/1	GREAVES Mather platt	Set	1												1

2	Hydrant pump No.-81232337/50/1 Motor No.-NADP93110	Mather platt CGL	Set	1												1
3	Sprinkler pump No-81232337/50/2 Motor No-NADP225	Mather platt CGL	Set	1												1
4	Jocky pump No-81232337/10/1 Motor No-1822J	Mather platt CGL	Set	1												1
5	Butterfly valve(150NB)	H sarkar	Nos		2		2									4
6	Butterfly valve(100NB)	H sarkar	Nos				2	2	2	2	2	2	2	2		16
7	Gate valve(150NB)	H sarkar	Nos	5	3		2									10
8	Gate valve(100NB)	H sarkar	Nos		1										2	3
9	Gate valve(80NB)	H sarkar	Nos	1												1
10	Gate valve(50NB)	H sarkar	Nos	7			2	2	2	2	2	2	2	2		23
11	NRV(200NB)	H sarkar	Nos	1												1
12	NRV(150NB)	H sarkar	Nos	3												3
13	NRV(100NB)	H sarkar	Nos												2	2
14	NRV(50NB)	H sarkar	Nos	5												5
15	Pressure gause	ANI Instrument	Nos	4												4
16	Pressure switch	Indfos	Nos	5												5
17	Y strainer(150NB)	Technico	Nos				2									2
18	Water flow switch	Hony well	Nos				2									2
19	Air release valve	H sarkar	Nos			1									2	3
20	4 way fire brigade connection	Technico	Nos		2											2
21	SS short branch pipe with nozzle	New age	Nos		24	4	4	4	4	4	4	4	4	4		60
22	Fire hose pipe	New age	Nos		24	4	4	4	4	4	4	4	4	4		60
23	Hose box	Ghosh Engg	Nos		12	2	2	2	2	2	2	2	2	2		30
24	Hose reel drum	Ever safe	Nos			2	2	2	2	2	2	2	2	2		18
25	Sprinkler (upright)	Tyco	Nos				245									245
26	Sprinkler(pendent)	Tyco	Nos					124	134	154	144	144	144	144		988
27	Sprinkler out let	Tyco	Nos					106	116	136	126	126	126	126		862
28	Alaram valve	HD Fire	Nos				2									2
29	MCC panel	EAP	Nos	1												1
30	Disel Engine panel	EAP	Nos	1												1
31	Exit Sign	Local Make	Nos				10	4	4	4	4	4	4	4	2	40
32	MFA panel	Notifier	Nos				1									1

33	Smoke detector	Notifier	Nos				4	22	12	76	12	12	12	12		162
34	Heat detector	Notifier	Nos				10	6	6	8	6	6	6	6		54
35	Control module	Notifier	Nos				2	7	5	10	6	6	6	6		48
36	Isolator module	Notifier	Nos					2	1	4	1	1	1	1		11
37	Manual pull station	Notifier	Nos				2	3	2	6	2	2	2	2		21
38	Audio visual strobe	Notifier	Nos				2	3	1	6	2	2	2	2		20
39	Ball valve (25NB)	Zolto	Nos			3	2	2	2	2	2	2	2	2	2	21
40	Ball valve (15NB)	Zolto	Nos	9												9
41	Foot valve (200NB)	H sarkar	Nos	3												3
42	Foot valve (80NB)	H sarkar	Nos	1												1
43	Double headed hydrant/landing valve	New age	Nos		12	2	2	2	2	2	2	2	2	2		30
44	PVC tank	Reno	Nos	1												1
45	Fire extinguisher (6kg ABC)	Kanex	Nos				2	2	2	2	2	2	2	2		16
46	Fire extinguisher (9 ltr water CO2)	Kanex	Nos				4	4	4	4	4	4	4	4		32
47	Fire extinguisher (9 ltr mechanical foam)	Kanex	Nos	1			1									2
48	Fire extinguisher (4.5kg CO2)	Kanex	Nos	1			3	2	2	2	2	2	2	2		18
49	flexi drop (1000mm)	Fire shield	Nos					29	14	53	6	6	6	6		120
50	flexi drop (1500mm)	Fire shield	Nos					10		62						72
51	flexi drop (1800mm)	Fire shield	Nos					9		24						33

The intended bidder may submit their "Technical Offer" in Packet - I containing the Earnest Money (EMD) of Rs.50,000 (Fifty Thousand) in shape of Bank Draft drawn on any Nationalized Bank in favour of "Odisha Computer Application Centre" payable at Bhubaneswar along with Experience Certificate of execution of similar nature work from the agencies. Agency intended to participate in the tender must be certified by Fire prevention Deptt. either State Govt. / Central Govt. Company Brochure, Bank Solvency, Balance Sheet of last Three years, PAN, TIN, EPF, ESI Registration and GST Registration, Certificate from Deptt. of Central Excise & Customs, the detail of proposal for engagement of Man Power for operation of Fire Alarm and Fire System for 24 x 7 to the building.

Packet - II containing Comprehensive Operation and Maintenance charges of Fire Alarm & Fire Fighting System with cost break-up per month and rate valid for 2 (Two) years as per detail at PART-C (Financial Bid) and both the packets to be put inside one sealed envelope super scribing on the top "Tender for Comprehensive Operation and Maintenance of fire alarm and fighting System of OCAC Tower. So as to reach the Odisha Computer Application Centre, Bhubaneswar - 751013 on or before XX-XX-XXX during office hours. The Technical Offer of the firm will be opened on XX-XX-XXXX at 04.30 P.M. in the VC Room of Odisha Computer Application Centre, Bhubaneswar in presence of bidders or their authorized representatives, who ever intends to remain present during the opening. If the office happens to be closed on the date of receipt of the bids will be received and opened

on the next day at the same time and venue. The Financial Offer will be opened only technically, qualified bidders on the day of opening of technical offer or any other day under intimation to the bidder. Intended bidders may visit the site on any working day and contact Sri Amaresh Mishra, Project Assistant for details. For other details and scope of work and download the tender document, Website of OCAC www.ocac.in may be visited.

Successful Bidder must submit the Bank Guarntee (BG) of 10% of the total contract value within 7 days of receipt of Work Order. The EMD shall be refunded within one month after receipt of the B.G.

Deployed manpower for the above purpose should have at least Diploma certificate in Fire Safety from reputed institute.

Payment Terms:

i) Payment of AMC charges shall be released monthly basis on submission of invoice, filled up forms towards job done for the month as per Annexure-A which should be certified by the Agency in charge of maintenance of OCAC Tower and verified by the Officer from OCAC in charge of OCAC Tower.

ii) Payment towards deployed manpower shall be released monthly basis on submission of invoice, filled up form towards Job done for the month as per Annexure-B which should be certified by the Agency in charge of maintenance of OCAC Tower and verified by the Officer from OCAC in charge of OCAC Tower.

Service Level Agreement:

PERFORMANCE METRICS

UPTIME FOR FIREFIGHTING SYSTEM

Uptime for Fire fighting system. (On a monthly basis)

Service level 0	This level is for the purpose of escalation of severity from level of 1 to zero with enhanced downtime. There are no response and rectification times defined for this level.
Service level 1	Uptime of Fire fighting system
Service level 2	Uptime of Fire fighting system

TRACKING REQUESTS PER DEPARTMENT

Tracking Number of Requests (On daily basis)

Email
Telephone

Severity for critical components

Severity levels for some of the services are given below. OCAC reserves the right to define severity levels of services not mentioned below. The severity level of each component defines by its importance in the infrastructure and its impact in case of failure as detailed below.

Severity Level - 1: *Denial of services/ Standard Compliance due to total breakdown/ failure of any one of the equipment/ component installed in OCAC Tower.*

The indicative list of such incidents/ request is as given below:

- Diesel Engine Failure
- Portable Fire Extinguisher Failure
- Failure of Pumps and Motors
- Failure of fire detection sensors
- Power Failure to equipments

This is an indicative list and not exhaustive.

Severity Level - 2: Denial of services/ Standard Compliance due partial breakdown/ failure of any one of the equipment/ component installed in OCAC Tower. The indicative list of such incidents/ request is as given below:

Equipments/ Services covered under this level are

- Failure of power supply to equipment
- Failure of sensors
- Failure of Battery
- Dropping of voltage of incoming supply
- Dropping of Level of lubricant Oil in diesel pump
- Water leakage of Hydrants
- Failure of yard hydrants
- Failure of first aid hose reel
- Failure of automatic operation of main electric pumps
- Failure of controls
- Blockage of all hydrant nozzles
- Failure of starting panel
- Failure of valves (inlet / outlet)

SEVERITY LEVELS

APPENDIX A

Severity Level	Explanation Severity	Type	Description
1	Critical	Total Failure of Firefighting System	Total Failure of Firefighting System
2	Urgent	Occupant's area of all floors, North side, South Side and Middle. (Fire fighting System)	Areas affecting failure of Fire fighting System
3	High	Checking of Water level, pumps, diesel engine, portable fire extinguishers, water pressure in sprinklers	Checking of Water level, pumps, diesel engine, portable fire extinguishers, water pressure in sprinklers
4	Low	Replacement of lubricants of diesel engine, filters and batteries. Refilling of diesel tank	Replacement of lubricants of diesel engine, filters and batteries. Refilling of diesel tank

APPENDIX B

SEVERITY LEVELS

Severity Level	Explanation Severity	Response Time	Resolve Time
1	Critical	10 minutes	30 mins.
2	Urgent	15 minutes	1 hours
3	High	15 minutes	2 hours
4	Low	1 Hr	1 day

NOTE: Priority levels may change depending on other task priorities and severities.

SLA Matrix

I. The BIDDER shall provide the required services as per SLA matrix given below: -

SLA Matrix for Prime Business Hours (8AM to 8PM)	
Severity Level	**Max. Rectification Time**
1	0.5 Hour
2	1.0 Hours
SLA Matrix for Extended Business Hours (8PM to 8AM)	
Severity Level	**Max. Rectification Time**
1	1.0 Hours

2	4.0 Hours

II. Downtime would starts from the date and time of reporting of problem to Helpdesk or identified by the Bidder.

SLA Down Time calculation for equipment's of different severity levels

- The calculation of downtime w.r.t. Severity levels is as defined below:

Equipment Severity Level	Time hours factored for SLA
Severity Level-1	Every Thirty minutes of downtime is equal to One hour of SLA downtime
Severity Level-2	Every One hour of downtime is equal to Two hour of SLA downtime
Severity Level-3	Every Eight hours of downtime is equal to One hour of SLA downtime

- In case an equipment/service remains non-functional for more than allowed hours of the severity level, the severity level will go up for the device to the next higher level (i.e. If a equipment of severity level-2 is non-functional for more than 8 hours the 9th hour onward the severity level for the equipment will be calculated based on the Severity level-1) and will keep on escalating to further level if still remains non-functional

1. Penalty for non-achievement of Service Level Requirements

- A penalty on non-achievement of SLA requirements would be deducted from the due quarterly payments as per following table –

Sl. No.	Uptime of all items	Penalty
1.	>=99.00%	Nil
2.	>= 97.50% to <99.00 %	1.00% of monthly dues
3.	>=95% to <97.50%	2.00% of monthly dues
4.	Less than 95%	3.00% of monthly dues

- The Downtime as per the severity level would be calculated for each item. The number of items/services is indicative and the exact number would be finalized after receipt of Inventory report.
- The down time of all equipment's / services shall be calculated on the daily report prepared by the agency basing on the daily report register and certified by the Official of OCAC in charge of OCAC Tower. Total % downtime will be calculated

through following formula

$$\% \text{ downtime} = \frac{\text{(sum of the downtimes of all equipment's in hours)*100}}{\text{(total no. of equipment's * total no. of hours in month)}}$$

- The maximum Penalty will be 5% of monthly dues
- It is the responsibility of the AMC holder to maintain the SLA as per the Tender. Only in case of AMC Holder fails to resolve issues, TAC will be from respective OEMs to provide the solution.

OCAC reserves the right to cancel any or all the bids without assigning any reason thereof.

General Manager(Admn.)
OCAC, Bhubaneswar

Scope of Work for operation of Fire Alarm & Fire Fighting System

1) Fire Supervisor

(i) He shall be responsible for maintenance and upkeep of Fire Alarm system and Fire fighting installations.

(ii) He shall organize periodical fire drills with the assistance of local Fire Brigade at least once in six month. In the event of fire he shall take overall command of the fire fighting and evacuation operations. He shall position himself in the control Room and give necessary instructions to the Floor Wardens etc. on public address system / telephone. He shall be responsible for ensuring that the Fire brigade has been notified of the fire. On arrival of the Fire Brigade he shall direct them to the fire floor and act further according to their instructions.

2) Fire Man / Assistant Fire Man

(i) The Fire Man / Assistant Fire Man shall familarise himself with the Fire Alarm and extinction appliances on the floor, location of exit etc. Damages if any noticed shall be immediately reported by them to the Fire safely officer.

(ii) They shall check for obstructions, if any, in the escape routes and arrange to remove them promptly.

(iii) In the event of fire or fire alarm, the Fire man shall ascertain the location of the fire and take steps to extinguish the fire with available appliances. They ensure that the supervisor Fire man / Assistant fire man Officer is notified immediately. In case evacuation becomes accessory, they shall organise evacuation operations on the floor. The floor Warden shall check the environment in the stairs prior to evacuation. If it is affected by smoke, alternative stairs shall be used.

3) Fire Safety Plan

(i) The Agency shall be responsible for the drawing up of fire safety plans for the building with reference to the existing plan available with OCAC and for nominating Fire man / Assistant fire man Officers.

(ii) The fire safety plan shall be drawn up in consultation with the local Fire Brigade and the concerned Electrical Units. Inadequacies in the fire alarm and fire fighting appliances shall be made good at the earliest.

(iii) The Fire Safety Plan shall include printing and displaying of fire safety instructions to the staff.

(iv) The fire safety plan shall specify action to be taken by different categories of staff in cases of fire e.g. supervisor floor man, fire fighters, watchman, air-conditioning staff, liftmen, pump operators, sub station staff and other remaining staff.

4) Records

Systematic records shall be maintained in connection with inspection, testing and maintenance of fire fighting and alarm appliances.

(i) Log Book of Fire Alarm System

The log book shall be a record of inspection note details of replacements, modifications, abnormal behavior observed, corrective measures taken etc.

(ii) Log Book of Wet Riser System

The log book shall be a record of inspection notes of pump, Wet Risers, static water tanks etc. The log book shall indicate the results of trial runs of the system, deficiencies noticed, replacement etc.

(iii) Log Book of Fire Extinguishers

The log book of fire extinguisher shall indicate Sl. No. of the extinguishers, type of extinguishers, location, date of purchase, details of tests, inspection, repairs and recharging.

(iv) A copy of the fire safety plan of the building incorporating details of the fire safety organization, details and locations of alarms, fire extinguishers, floor plans etc. shall be always available with the Fire fighting supervisor and in the Control Room.

5. Surveillance

The Fire fighting supervisor should inspect the buildings once every day to check house- keeping and cleanliness. The Fire Man / Assistant Fire Man shall also check obstructions if any on escape route and fire safety appliances. After departure of the staff, each day, the premises shall be inspected by official / officials nominated by the fire supervisor to see that there is no collection of waste paper of any other inflammable material likely to cause fire. It shall be ensured that all electrical appliances such as heaters, water coolers, air-conditioners, soldering irons are switched off and disconnected.

6. Reporting of fire to the higher authorities

In all events of outbreak of Fire in OCAC Tower, the Deputy General Manager (Civil) in charge of the building should be informed through officer in charge (OCAC) / Facility Manager of agency in charge of O/M of the building. The Deputy General Manager (Civil) in turn will intimate GM (Admn.) telephonically in case of serious interruption to communications or extensive damage.

General Manager(Admn.)
OCAC, Bhubaneswar

PART - A

Annexure-II

Scope of Work for Maintenance of Fire Alarm & Fire Fighting System

The fire fighting equipment shall be kept in good working order at all times and maintenance schedule of the system should be drawn up by the agency and circulated to all the concerned for proper monitoring and execution. Fire supervisor shall be responsible the proper monitoring of the fire detection and fire fighting system and its general cleanliness.

A log book to record inspection notes, details of replacements, modifications, abnormal behaviors observed, corrective measures taken etc should be maintained.

Some important points as under should be test checked during inspection to be carried out by the Fire Supervisor:-

1. Fire alarm and detection system minimum (Once in a month and as per requirement)

(i) Functional tests on / from Control Panel(s)

(ii) Working of the manual fire alarm points.

(iii) General Cleanliness of the system particularly the detector heads.

2. Wet Riser system

(i) Hydrant mains shall be tested once a fortnight for its satisfactory operation.

3. Hose Pipes and Nozzles

(i) All hose boxes / hose stations shall be inspected externally once a week to ensure that equipment installed therein is intact.

(ii) Fire protection hoses shall not be utilized for any other purpose.

4. Fire Pumps.

(i) A trained person shall be available at all hours of the day and night to operate the pump when required. The services of such a person can also be utilized for other maintenance operations.

(ii) Pump sets shall be run at least five minutes every day.

(iii) The level of water in the priming tank shall be checked daily to ensure that the foot value is not leaking.

5. Portable Fire Extinguishers.

Routine inspection maintenance and testing of existing fire extinguishers should be carried out by properly trained personnel once a month and the supervisor should test check the functioning of the extinguishers for their proper working.

6. Daily attention by the Agency. A check should be made every day to ascertain that:

(a) The panel indicates normal Operation: if not, that any fault indicated is recorded in the log book and is receiving urgent attention: and

(b) Any fault warning recorded the previous day has received attention.

General Manager(Admn.)
OCAC, Bhubaneswar

7. Weekly attention by the Agency- The tests should be made every week to ensure that the system is capable of operating under alarm conditions:

(a) Once a week, at least one rigger device or end of line switch on one zone circuit should be operated to test the ability of the control and indicating equipment to receive a signal and to be should the alarm and operate other warning devices. If there is more than one Zone on a system having unmonitored wiring, each unmonitored zone should be tested each week, but without sounding the alarm more than once. For systems having monitored wiring zones, each zone should be tested. It is preferable that each time a particular zone is tested, a different trigger device that has been used to initiate the test. If the operation of the alarm sounders and, or the transmission of the alarm signal has been prevented by disconnecting, then a further test should be carried out to prove the final reinstatement to the sounders and if permissible, the alarm transmission circuits.

(b) A visual examination of the battery and connections should be made to ensure that they are in good condition. Action should be taken to remedy any defect, including law electrolyte level.

Any defect should be recorded in the log book and reported to Deputy General Manager (Civil) and action should be taken to correct it.

8. Quarterly inspection and Test by the agency- The following check-list and test sequence is carried out.

(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 insure that they are in good serviceable condition.

(c) Where applicable, secondary batteries should be examined to ensure that the specific gravity of electrolyte in each cell is correct. Necessary remedial action should be taken and an appropriate entry in the log book. Care should be taken to ensure that hydrometers, vessels, etc used in the servicing of alkaline secondary cells are not contaminated by acid and vice-versa. Contamination of electrolyte can ruin a cell.

(d) Primary batteries, including reserves, should be tested to verify that they are satisfactory for a further period.

(e) The alarm function of control and indicating equipment should be checked by the operation of a trigger device in each zone as described. The operation of alarm sounders and any link to a remote manned centre should be tested. All ancillary function of the control panel should also be tested where practicable. All fault indicators and their circuits should be checked preferably by the simulation of fault condition. The control and indicating equipment should be visually inspected for signs of moisture ingress and other deterioration.

(f) A visual inspection should be made that structural or occupancy changes have not aggected the requirements for the sitting of trigger devices (manual call points, smoke detectors and heat detectors). The visual inspection should also confirm that clear space of at least 750mm radius is preserved in all directions below every detector and that the detectors are 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.

General Manager(Admn.)
OCAC, Bhubaneswar

9. Annual Inspection Tests- The following checks and test sequence should be carried out

(a) The instruction and test routines detailed in Annexure-A (Annual (i to vi)).

(b) Operation of at least 20 percent 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 on installation shall have been checked once in every 5 years- replacement by a new one.

(c) Each detector should be checked for correct operation using specified test equipment and method, except non reset table detectors. The checks to be carried out are specified as below in 1 to 4 in respect of heat detectors and 5 and 7 in respect of smoke detectors.

1. Restorable heat detectors and restorable elements of combination detectors should be tested by a heat source, such as a hair dryer, or a shielded heat lamp until it responds, making sure that the sensing elements is not damaged. After each heat test, the detector should be reset. Precautions should be taken to avoid damage of the non-restorable fixed temperature element of a combination rate of rise / fixed temperature detector.

2. Non reset table fixed temperature heat detector which are not to be heat tested should be tested mechanically or electrically for fire alarm function.

3. Heat detector with replaceable fusible alloy element should be tested first by removing the element to see whether contacts operate properly and then reinserting them in proper position.

4. In periodic testing heat detectors should be visually examined for damage or other conditions such as heavy coats of paints, etc likely to interfere with the correct operations.

5. Each smoke detector should be tested to initiate an alarm at its installed location with smoke of proper approved aerosol which demonstrates that the smoke can enter the chamber and initiate an alarm.

6. In order to ensure each smoke detector in within its sensitivity range it should be tested using further.

(i) A calibrated test method or

(ii) A manufacturers / suppliers approved calibrated sensitivity test instrument of

(iii) Approved control equipment arranged for the purpose or

(iv) Other approved calibrated sensitivity test method.

7. Detectors found to have a sensitivity outside the approved ranged should be replaced.

(i) Visual inspection should be made to confirm that all cable fittings and equipment are secure, un-damaged and adequately protected.

(ii) At least once every three years at the annual inspection, the electrical installation should be tested. Any effect should be recorded in log book and suitable remedial action should be taken.

(iii) On completion of the annual inspection, the entry should be made in register in respect of defects found. After the defects are rectified, the entries should then again be made.

10. 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. Users should satisfy 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.

General Manager(Admn.)
OCAC, Bhubaneswar

11. Cleaning and Maintenance- Detectors require periodic cleaning to remove dust or dirt that has accumulated, the frequency of cleaning depending on the type of detector and the local ambient conditions. 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 creating should details methods such as creating vacuum to remove loose dust and insects, and washing heavy greasy and grimy deposits. Following partial disassembly of the washing of detectors to remove contamination, the sensitivity test requirements in accordance with the relevant clauses should be performed.

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

13. 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.

General Manager(Admn.)
OCAC, Bhubaneswar

PART- B

MAINTENANCE OF FIRE FIGHTING PUMP AND ITS ACCESSORIES

The following points to be followed for fire fighting pump sets and its controlling system along with the Fire Alarm installed inside the OCAC Tower, Bhubaneswar.

1. The maintenance job involves operation and maintenance of fire fighting and fire alarm system including operation of Jokey pump fire fighting pump during round the clocks for the whole year.
2. The Agency has to take possession of total Fire fighting installation including pumps and motors and Fire alarming system connecting to the fire fighting in complete as per detail Inventory list.
3. The Agency has to engage at least 4 Fire fighting trained personnel (3 will be in three shifts and one as leave reserve) who have adequate knowledge in operation Fire fighting system operation of Hydrant valves and Fire fighting extinguisher etc. and should have at least Diploma certificate in Fire Safety from reputed institute.
4. The Agency has to replace the proper fuses, other minor spares from the control panel and motor and pump at his own cost during the maintenance period including minor repair like pipe line, leakage, valve leakage, gland packing replacement of pump etc.
5. Any problem like false over cable faults, wiring fault of control panel faults, pump and motor suction ball and other main faults have to be attended by the agency without any delay at his own cost.
6. All the terminals in the control panel, terminals of the motor are to be cleaned twice in a month positively by the Electric driven blower and the same should be noted in the log book.
7. The suction pipe priming is most important which may be checked in each shift.
8. The motor and pump coupling for freeness of the pumping set has to be checked twice in a month.
9. The stag line should be loaded by the agency by operating the jocky pump in each two day interval.
10. The Agency has to maintain the pumping set by replacing the grease, change of gland packing (when necessary) checking of alignment of the pumping set, checking the foundation nuts and bolts once in a month at his own cost by engaging the license hold Electrician and plumber. All the maintenance work should be noted in the log book.
11. The Agency has to operate the Main fire fighting pumping set once in week (on Sunday) by releasing the water at the Ground floor point. All sluice valves installed in the stag line operated once in week to keep always free, if found jam, the agency should make it free immediately.
12. The Agency should note the voltage in three phase power supply line before starting the Fire fighting pump. If the in-put voltage goes below than the operation voltage he should operate the pumping set through the Generator set to avoid the damage in the Motor winding of side by side the same should be noted in the log book. The Agency has to check the pressure gauge pressure switch bearing lamp, proper rating current in the Motor winding and leakage through gland packing.

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13. The Agency should provide the following measuring instruments and safety equipments to the operator which may be kept inside the control room.

(a) Rubber Gloves

(b) Line Tester

(c) Test lamp

(d) Rubber shoes

(e) Tongue tester

(f) Electrical Driven blower for cleaning the dust.

14. All the Fire Alarm cable should be checked once in a week especially on the Sunday and if found any fault, should be attended by the Agency without any delay.

15. The Agency should always keep the fire fighting underground sump filled with the water, daily records to be maintained.

16. The agency should keep contact with fire service Department for periodical operation and demonstration in each month so that the Agency staff and fire service staff will be well acquainted with the Building for Emergency operation as and when required.

17. The firm will submit safety certificate from local fire officer once in a year the above arrangements should be made by the Agency at his cost and record maintained for such demonstration to be signed by the officer of the Fire service.

18. The priming arrangement made for the purpose is to be checked regularly ensuring immediate use for the pumps during the case of emergency. The repair to leakage of pipe lines replacement of washer in foot valves and other connected fixtures including cost of materials and labour are to be attended immediately of his own cost. In case of any major replacement of parts of the system is to be brought to the notice of officer-in-charge of the work immediately and get the work done by personal permeation, Likewise the vertical risers are to be maintained certain water pressure thorough jockly (round the clock for 365 days.) This is to be ensured regularly by the Agency through the maintenance procedure.

19. The Fire fighting personnel should be regularly trained weekly / fort-nightly in consultation with Orissa Fire Brigade Services, along with demonstration of use of the equipments. Fire fighting system, time to time changes and development of the procedure of improvements in maintaining the system to clearly imported of referring to the stage fire brigade service (i.e. operation of Fire hose, Hydrant Valves, different type of fire Extinguishers, its filling and operation).

20. As this system is operated in emergency, the maintenance of the system is to be done on top priority basis and relevant records (Such as Attendance Register of staff engaged in shifts log book for operation of pumps. Log books of day to day maintenance etc duly signed by the Agency and Officer-in-charge on duty from OCAC Authority) to maintain correctly and regularly and copy of which is to be produced by the agency during the submission of monthly payments.

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PART-C

FINANCIAL BID

Sub :- All inclusive comprehensive Operation and Maintenance of Fire Fighting and Protection & Detection System installed at OCAC Tower

S.No.	Description of work	Qty	Unit	Rate Per month Rs.	GST _____%	Amt. Per annum Rs.
1.	All inclusive comprehensive Operation and Maintenance of Fire Fighting and Protection & Detection System at the Office of OCAC Tower, Bhubaneswar. Spares, materials and refilling of fire cylinders, fire detecting sensors, pumps and all other materials as per requirement for smooth operation of the entire Firefighting System	12	Months			
2.	Deployment of man power (4 Persons)	12	Months			

N.B.: Bidders are requested to visit the site, verify the existing Firefighting System of OCAC Tower. If found any non functional equipment which needs repair before taking the System under maintenance, detail cost estimate to be furnished to make all the defective equipment operational in a separate format which will be evaluated along with the Operation and Maintenance of the above System.

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Annexure-A

PERIODICAL TESTING AND MAINTENANCE CHART

Daily

i) Check water level in U.G Fire Tank
ii) Check water pressure in sprinkler & yard hydrant ring mains
iii) Check voltage of incoming electric supply
iv) Check operation of Jockey Pump
v) Check level of fuel in diesel storage tank
vi) Check level of lubricant oil in diesel engine
vii) Check starting battery voltage
viii) Check Healthiness of fire detection system

Weekly

i) Check water leakage in hydrants, if any
ii) Check and operate yard hydrants
iii) Check and operate first aid hose reel
iv) Check automatic operation of main electrical pumps

Monthly

i) Check automatic operation of diesel engine
ii) Check air filter of diesel engine
iii) Check setting of controls
iv) Cleaning of all hydrants & nozzles
v) Clean the starting panel
vi) Tighten glands & replace gland dori if required of all pumps & valves
vii) Check operation of fire brigade inlet and outlet valves
viii) Check the conditions of portable Fire extinguishers

Annual

i) Check all sluice & gate valves and descale
ii) Grease all the bearing of pumps & motors
iii) Check connections of all the cables, switches and starters
iv) Drain water of U. G tank & cl ean
v) Replace suction water strainers in U.G tank
vi) Paint yard hydrant cabinets and exposed pipes, motors & pumps etc.

Annexure-B

Daily

i) Check water level in U.G Fire Tank
ii) Check water pressure in sprinkler & yard hydrant ring mains
iii) Check voltage of incoming electric supply
iv) Check operation of Jockey Pump
v) Check level of fuel in diesel storage tank
vi) Check level of lubricant oil in diesel engine
vii) Check starting battery voltage
viii) Check Healthiness of fire detection system