

Amendment-2 to Tender for Fire Hydrant, Sprinkler, Gas Type Fire Suppression Systems, Fire Pump Room and Associated Civil Works at Circle Office Building, Teynampet, Chennai.

Extension of Timelines

Bid Details - NIO Clause 5,6,7

Events	Existing	Amended
	Date & Time	Date & Time
Period of issue of documents	19.06.2019	27.06.2019
Last Date of Submission of Tender	20.06.2019, 3.00 PM	28.06.2019, 3.00 PM
Opening of Tender	20.06.2019, 3.30 PM	28.06.2019, 3.30 PM

1. SCOPE OF WORKS UNDER DEFECT LIABILITY PERIOD AND AMC PERIOD:-

Annual maintenance of Fire hydrant and Sprinkler system along with Complete Fire pump room equipments, external Hydrant pipes, Hydrant valves & accessories as per applicable standards like IS 13039 / NBC / TAC / NFPA and submission of reports by every quarter and also during any emergency visits carried out with following scope of works.

No.	Installation details	Scope of Work
1.	Pumps and control panels	Proper Checking for functioning of the pumps, pressure testing, maintenance etc. complete. (Excluding Electrical Repairs but necessary assistance to get the system in order if required)
2.	Fire Hydrant System	<ol style="list-style-type: none"> a. Checking of system leakage & line pressure in all gauges b. Checking of hoses and Branches pipes & operation of all auxiliary units c. Checking the setting of the pressure switches and all the pumps by operating d. Checking of hydrant valves washers and Brass lock e. Starting the Pump manually through the control panels f. Operating the pumps in Auto Mode and checking the System g. Checking of isolation valves for glands leakages h. Checking up Diesel in stock, battery connections and Fluid level, correct it, if necessary i. In case of issuing maintenance report to Customer and advising the customer about



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		deficiency
4.	Fire Jockey Pump	a. Servicing, Overhauling, checking and testing of pump
5.	Fire Extinguisher	a. Refilling, Servicing, checking, validating etc. complete
6.	Fire doors and Bucket	a. Servicing, checking, greasing and painting
7.	Fire Hydrant with hose reel	a. Checking including hose pipe, hose reel drum, jet shut off Nozzle, Branch pipe nozzle, cabinet door servicing, cleaning, painting, installation changing of gasket/ nut bolts if required.
8.	Fire Hydrant sprinkler	a. Checking including hose pipe, hose reel drum, jet shut off Nozzle, Branch pipe nozzle, cabinet door servicing, cleaning painting, installation changing of gasket/ nut bolts if required.
9.	Air vessel	a. Checking including servicing, cleaning of pressure gauge, pressure switches, ball valves, piping servicing, installation and painting.
10.	Sprinkler Valve	a. Servicing, cleaning, installation, flashing attending minor leakages.
12.	Pipe Line (Including all risers)	a. For Hydrant pump, Sprinkler pump, Jockey Pump, Booster pump, including butter fly valves, NRV, CI Brackets and hook bolts,/ sprinkler system, alarm Bell, Servicing, checking, greasing and painting and replacement of gaskets if required attending minor leakages, Flashing, testing, commissioning both system.
13.	Spare parts	a. Required material/ spare for repairing, new work as per approved unit rate/ actual invoice/ cash memo of materials.



14.	Daily Inspection	Experienced person holding fireman license.
15.	Inspection Reports	<p>a. Training of firefighting system to our security personal twice a year, at the starting of AMC contract & after 6 months.</p> <p>b. All above installation and their reports Monthly with counter signature of agency's responsible person.</p> <p>c. Annual report based on Monthly report with counter signature of agency's responsible person and necessary submission of the same to Local Fire authority including Licensing with fire authority.</p> <p>d. Demonstration of firefighting system quarterly.</p> <p>e. Maintaining inspection register based on fire manual.</p> <p>f. Complaint to be attended within 24 hours.</p> <p>g. Emergency call shall be attended immediately.</p> <p>h. Required spare /components shall be arranged / supplied on urgent basis without disturbing the regular services.</p> <p>Installations register with proper location and also inspection register.</p>

Objective

To keep the entire system fully operational and functional at all times. In case full system cannot be kept functional for unavoidable reason as much as possible, the installation shall be retained functional by isolating the defective section.

A- Maintenance Requirement Of System Components

For maintaining firefighting system following points are to be take n care of: -

- To ensure the availability of water in fire hydrant system tank 24 hrs.
- To ensure the piping system is free from leakage. Any portion found to be leaking is to be isolated, rectified and connected with healthy system in shortest possible time.
- To ensure all pumps are in good running condition. Any pump found to be defective is to be isolated by closing valves and attended immediately and put in to service in minimum time.
- To ensure availability of power for electrical pumps, working of starters,



switchgear and other electrical components.

- To ensure healthiness of diesel engine starting system, battery voltage, battery charger and availability of adequate diesel for engine operation.
- To check all landing valves of internal and external hydrants, isolating valve s and replace the defective ones whenever necessary.

Periodical testing

Periodical Maintenance to be carried out as per chart below:

Sr.No	System Component	Activity	Duration
1	Water Tanks	(i) Level Check	Daily
		(ii) Cleaning	Once in a year
2	Pumps	(i) Running	Daily
		(ii) Test flow	Quarterly
		(iii) Lubrication	Quarterly
3	Engine	(i) Running	Daily
		(ii) Lubrication	Quarterly
		(iii) Battery	Weekly
		(iv) Fuel Tank/ Radiator	Daily
		(v) Servicing	As per engine manufacturer's recommendations
4	Motor	(i) Running	Daily
		(ii) Starter	Weekly
		(iii) Insulation Resistance	Twice in a year
5	Piping	(i) Pressure	Weekly
		(ii) Flushing	Once in a year
6	Valves (landing and isolation)	(i) Operation	Monthly
7	Control System	(i) Operation	Monthly
		(ii) Connection and System Components	Quarterly
8	Hose Reel and Hose Pipes	(i) Physical check	Weekly
		(ii) Operation check	Quarterly
		(iii) Replacement	Depending upon physical condition,
10	Instantaneous coupling	(i) Physical Check	Monthly
		(ii) Lubrication	Once in Six Months
11	Painting	(i) Out Door	Once in a year



		(ii) In door	Once in a year
12	Mock drill	To be carried out	Once in Six Months

Log book should be maintained, verified and certified by Bank's authorized person.

PROCEDURE

Water for firefighting purpose shall be changed / cleaned as per exigencies. Maintaining Diesel Engine is very important for the system operation. Maintenance shall be through Authorized service center of manufacturer. Adequate diesel should either be available in the pump house or nearby so that operation is not discontinued for want of diesel - Management is required.

If any out let is found to be defective and replacement is not easily available the whole assembly should be removed and be replaced so that the systems remain operational. Hose reels shall be subjected to regular inspection to ensure that all valves are functional, out let nozzle not chocked. All isolating valves shall be checked for operation. The valves in closed position be opened and closed couple of times and the hosepipes and their coupling shall be checked to ensure there is no leakage during their use. The female coupling cam tooth mechanism be operated and lubricated for ensuring ease of operation. Power supply to the pump house is not to be discontinued for any reason. It has to be ensured that there are no obstructions in front of the hydrants impending accessibility.

B Maintenance of Automatic Sprinkler System

Maintenance of firefighting installation has been described at A, which hold good for sprinkler installation also. In addition following points shall be taken care.

- Sprinkler shall not be reconditioned or repaired. Used / or defective sprinklers shall be replaced by new ones.
- Sprinklers shall not be painted after installation.
- Spare Sprinklers - A stock of spare sprinklers shall be kept in Fire control Room so that prompt replacement is possible after operation/ damage of a sprinkler head. A minimum of 5% of the installed capacity or 25 sprinklers of all types, whichever is more, shall be kept in stock.
- Spanners for sprinklers and Teflon tape shall also keep along with spare sprinklers in readiness. The in operative part, if defective shall be attended to and connected with the operative system.
- **Action following Sprinkler operation:** Following the operation of sprinklers, the operated head shall be replaced with new ones and water supply shall be restored. The sprinklers in the vicinity of the operated sprinklers shall also be checked for



damage by heat or any other cause and replaced if necessary. The sprinkler pump shall not be shut off until complete extinguishments of the fire. The starting of the pump shall be automatic but the stopping of the pump after extinguishments shall be manual. All piping shall be examined to determine its conditions at least after 3 month

- All installation valves and associated equipment shall be serviced and tested annually. Discharge test of sprinklers shall be carried out at least once in three months. Manual testing of the system shall be carried out once in six months. When normally opened valves are closed following system operation or test, suitable procedure shall be instituted to ensure that they are re -opened.
- The entire system shall flush at least once in a year.
- The sprinkler bulbs shall be kept free from paint or dust.

C Fire Pump House (Ground Floor)

- The glands/ packing of pumps, sluice valves shall be maintained in good condition and any leakage there in shall be stopped immediately.
- Special care is to be taken to check working of non -return valves. Bearing caps shall be checked weekly and topped up.
- Correct type of oil/grease must be used as per lubrication survey. Starter contacts shall be checked weekly and be replaced if necessary.
- Insulation resistance of motors shall be checked once in 6 months and record shall be maintained. Starting mechanism of diesel engine, battery, chargers must be checked regularly.
- As far as possible the starting mechanism and its auxiliaries shall be uniform for all the diesel engine driven fire pumps. There shall at least one set alternative available for immediate replacement.
- Diesel tank provided inside the fire pump room shall be checked every day and maintained to full capacity.
- Level of water in prime tank shall be checked daily.
- In case of negative suction, leaking of foot -valve may cause serious problems for starting of pump. Auto filling arrangement for priming tank shall be ensured and checked -up every day.
- Sump pump provided in the fire pump room shall also be kept in good working condition.



D General Terms

- A tenderer shall deem to have full knowledge of installations whether he inspects it or not.
- The agency shall attend unlimited breakdowns.
- The scope of this contract includes all major and minor repairs (spares will be installed only after approval from corporation and the payment will be made on producing bills)
- The contractor shall submit his tender only after carefully examining the whole of the tender documents and the conditions of tender and of contract.
- The contractor shall co-ordinate with SBI -Life Insurance, SBI Bank, Bank of Baroda (CCI's tenants) for systematic operation of firefighting system at all floors.
- The contractor shall co-ordinate with our electrical AMC contractor for any electrical related concern.
- The party shall make the evacuation plan for the building and submit the same after the award of work.
- The party should handover necessary layouts/drawing for maintaining fire orders.
- The party should carry out mock drill once in six months.
- Taking the NOC/ fitness certificate from the Fire department is the sole responsibility of the party.
- The submission of B FORM for taking the NOC twice a year is the sole responsibility of the party.
- The party shall ensure that the process of renewal of NOC/fitness certificate must be initiated in advance so that the NOC/fitness certificate is issued by the fire department within time.
- All the tools, tackles, scaffolding, high rise ladders, safety equipment etc. required for proper maintenance has to be provided by the party.
- Transportation and loading/ unloading for refilling of fire extinguishers is the sole responsibility of the party.
- Filling of sand in the fire buckets and replacement of damaged fire buckets will be sole responsibility of the contractor as and when required.
- The inspection shall be carried out in accordance with the IS 13039 and other applicable standards.
- Checking the hydrant valve status by opening & closing, Lubricating and flushing out water in hydrants.
- Checking the availability and condition of disk washer, gasket, blank cap and



accessories.

- Condition of Hydrants and Isolation valves, performance tests of the same will be conducted.
- Examination for obvious physical damage, corrosion, leakage of valves and ensuring hydrants are free from any obstruction and readily accessible in case of emergency.
- Checking the condition of hose and hose box for physical damage and corrosion.
- Performance test by operating the hose and nozzle with hydrant valve.
- Complete drying and cleaning of fire hose and lubricating the couplings. Re folding of hoses.
- Ensuring hose and boxes are in good working condition and free from any obstruction.

- Checking the condition of monitor, pick up tube and foam tank for obvious physical damage.
- Checking 360* rotation operation of monitors, performance test for pick up tubes and monitors.
- Checking the condition of tyre in case of movable trolley mounted monitor.
- Quantity and Concentration of foam and quality of foam generated will be examined.
- Checking the Suction and delivery valve condition and status. (Open / Close position)
- Checking the motor/pump shaft, pump gland, love joy coupling and other accessories status.
- Examining the condition of motor terminals and lugs, cables, MCC panels and controllers. Cleaning and greasing of the same.
- Checking the voltage and current flow when pump with different loads.
- Checking the Pump AUTO/MANUAL Operation status, pressure switch and cable status.
- Checking the battery voltage and acid level. Auto charging condition of charger and battery.
- Checking coolant oil, radiator water level, diesel level in the tank and pressure and temperature of the oil and water.
- Checking AUTO/MANUAL mode operation of the engine pump, pressure switch and accessories.
- Overall operational status of pump room equipment and all accessories for



proper operation of the pump sets and overall cleanliness of the pumps and equipment.

2. TECHNICAL SPECIFICATION CLARIFICATIONS:-

Sl. No.	Comments	Clarification
1.	All fittings to be used in connection with steel pipe lines shall be UL / FM approved.	All fittings to be used in connection with steel pipe lines shall be galvanized iron as per local codes and standards (General practice).
2.	Pump Room size requirement	The pump room size shall be 7m(L) x 3m(W) x 3m(H)
3.	NOVEC 1230 gas requirement for electrical room in ground floor (Previously Basement).	NOVEC 1230 shall be installed in the electrical room as per local codes and standards (General practice). Gas shall be approved from a third party certificates like UL, FM & etc.
4.	Summary of Gas Suppression System	It's general indicative only, Contactor can choose the availability size based on their standard products.
5.	Butterfly Valve - Type	All butterfly valve shall be Gear operated type with minimum PN16.
6.	Electrical room in Basement Floor. (NOVEC1230 protected)	Electrical room location is changing from basement to ground floor. The volume of the room also changed, the new volume is approx. 65.1618 cu.m.
7.	Scaffolding Requirements	All scaffolding material required for the execution of the entire fire system (inside and outside the building) shall be considered by the contractor.
8.	Fire Doors - Civil works	Installation of Fire Doors includes all the civil works required for the fire door installation.
9.	Fire hose box	Fire hose box shall be Mild steel or Fibre-reinforced plastic.
10.	Fire license Requirement	Obtaining Fire license for the building from local authority is under the contractor scope of works
11.	Fire Release Valve Makes	HAWA, AAAG or equivalent

