

**NOTICE INVITING TENDER**

1. Online e-tenders are invited by Dy. General Manager-Engg., SCOPE on behalf of Constituents of SCOPE MINAR, Laxmi Nagar Delhi- 110092, for the following work:-

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|-----|--|---|
| 1.1 | Name of the work   | : <b>AMC for Pumps, Pipes &amp; Fire Fighting Systems at SCOPE Minar, Laxmi Nagar District Centre, Delhi.</b> |
| 1.2 | Estimated Cost   | : Rs. 50,58,217/- per Annum (incl. GST @ 18%).  |
| 1.3 | Earnest Money  | : Rs. 1,02,000/-  |
| 1.4 | Tender Processing fee                                      | : Rs. 3794/-  |
| 1.5 | Duration of Contract                                       | : Two Years from date of LOI.   |
| 1.6 | Cost of Tender   | : Rs. 1120/-  |
| 1.7 | Commencement of downloading E-Bid                          | : 15.03.2019 from 10.00AM   |
| 1.8 | Last date of downloading of E-Bid                          | : 29.03.2019 Up to 10.00AM  |
| 1.9 | Last date of E-Bid submission                              | : 29.03.2019 Up to 03:00PM  |
| 2.0 | Last date of submission of hard copy of EMD & Tender Cost. | : 29.03.2019 Up to 03.00PM  |
| 2.1 | Tender opening date & time(technical)                      | : 29.03.2019 at 03.30PM   |
| 2.2 | Tender Opening date & time (Financial)                     | : To be intimated later   |

2. Bidders have to download the Bid documents from the e-procurement portal i.e. [www.tenderwizard.com/SCOPE](http://www.tenderwizard.com/SCOPE) after registering themselves on portal and submit e-bids after payment of bid processing fee & Bid document fee before last date & at time of downloading the e-bids online. Bidder can also view the NIT, scope of work on [www.scopeonline.in](http://www.scopeonline.in). For E-tendering support:- 8800991840, 8800991868.

**3. Bids shall be submitted through e-bidding mode only. No other mode of bid submission shall be accepted.**

4. Tender document shall be accepted only from and reputed ,specialized Contractors/ manufactures working with CPWD / PWD / MES /Railway / PSUs / Autonomous Bodies/SCOPE who fulfill following pre-qualification criteria & showing their original document in this regard:

4.1 Proof of having successfully completed similar works during the last 5 years ending last day of the month previous to the one in which applications are invited:

Three similar completed works, each costing not less than the amount equal to 40% of estimated cost put to tender.

OR

Two similar completed works, each costing not less than the amount equal to 60% of the estimated cost put to tender.

OR

One similar completed works of aggregate cost not less than the amount equal to 80% of the estimated cost.

**Similar works means, Operation, Maintenance & handling of Pumps & pump house, Pipelines and fire fighting systems of high rise buildings.**

4.2 The tenderer must be registered under ESI, PF, GST & Income Tax act and PAN No. copies of registration papers along with details need to be furnished latest ESI & PF deposit with challan authority is also needed.

4.3 Average annual financial turn over should be at least 1.5 times of the estimated cost during the immediate last 3 consecutive financial year.

4.4 Balance sheet for previous three years with ITR.

4.5 Copies of similar works executed / in hand for multi-storied office building & industry during last five years along with work order & clients performance certificate.

4.6 Bank solvency Certificate of the amount equal to 50% of the estimated cost of work. In any case it should not be older than 12 Months from the last date of issue of NIT.

4.7 All the above certificate / documents shall be submitted by the firm duly signed & self attested subject to verification with original documents.

- 4.8 Hard copy of the "Form of the tender" duly signed & stamped must be submitted along with Tender Cost & EMD.
- 5 The tender shall be submitted: thorough portal only i.e. [www.tenderwizard.com/SCOPE](http://www.tenderwizard.com/SCOPE).
- 6 Tenderers are invited to submit their offers strictly based on the terms & conditions and specifications given in the tender document and instruction to bidder.
- 7 Cost of tender & Earnest money mentioned above should be paid by crossed Demand Draft/Pay orders from any nationalized /Schedule Bank in favor of "MMO SCOPE Minar". Tenders without Earnest Money Deposit will be summarily rejected and the representative of such tenderers will not be allowed to attend tender opening.
- 8 Pre-bid Conference shall be held at 12.00 PM on 28.03.2019 if required.
- 9 SCOPE reserves the right to reject any or all tenders without assigning any reasons.

**Dy. General Manager-Engg**

## **SCOPE OF WORK**

- 1) The scope of work shall include Operation & Maintenance of GI & MS Pipelines of the building, Fire Fighting systems and Operation & Maintenance of water supply pumps in pump house and drainage pumps in sump chambers and Bore well pumps (as detailed in Technical Specifications) and shall include the deployment of duly qualified skilled manpower with all necessary tools & tackles and day-to-day Operation & Maintenance of the complete system. The manpower shall be deployed in three shifts to operate the pumps round the clock i.e. from 6.00 AM to 6.00 AM. The tenderer shall note that he have to Operate and maintain 31 nos. pumps in pump house, 18 nos. are in sump chambers and 3 nos. bore wells are located out side the building to cater ground water to under ground water tanks. Each system i.e. Domestic water system, flushing water system, fire fighting systems etc. have Jockey pumps & standby pumps, alternately each pump should be run to cater water supply to different networks so that each pump can be checked and kept in running condition However, the regular maintenance shall be carried out for all the systems mentioned in the scope of work.

The tenderer shall depute adequate no. of supervisors, technicians, operators skilled and semi- skilled to take overall responsibility of satisfactory O&M services at various levels of operation as per requirement and as mentioned at Sl. No. 17 Deployment of Manpower. In addition to regular O&M staff, the tenderer shall also arrange to depute any manpower / expert service for carrying out any job not specifically mentioned but necessary to carry out overall O&M function without any price implication.

- 2) Maintenance of all fire extinguisher including cost of supply of accessories i.e horns, wheel, washer, high pressure tube, safety pin etc.
- 3) Repair & Maintenance of GI & MS pipelines network running throughout the building in each core and bore well pumps. Excluding down pipes from over head tanks to toilets, pantries and AHU's & insulated pipelines of HVAC system and including the cost of M.S flanges, Nut & Bolts, Required fittings, other consumables i.e. Welding electrodes , oxygen & Acetylene cylinders etc and .
- 4) Testing / calibration of various mounted meters.
- 5) Attending break downs, failures & faults in the equipment /system, replacement/repair etc and restoration of systems with in the shortest possible time.
- 6) Repairing of faulty items as & when required.
- 7) Procurement & Supply of spares in time so that operation and maintenance is not held-up for want of spares
- 8) Preventive Maintenance of equipment including planning, drawing-up Preventive Maintenance / Periodical Maintenance schedules etc. This would include all checks/works ,servicing/overhauling as per manufacture's manuals as available with Engineer-In-Charge.

- 9) Co-ordination with other agencies operating at site , statutory authorities etc. for carrying out the work including arrangement for shut-down's etc.
- 10) The contractor shall Maintain log book / registers records the various Maintenance Checks being carried out daily , weekly , monthly , half yearly , and get certificates of the Engineer – in – Charge of having carried out the checks.
- 11) Any other work required for efficient O&M of the systems which is not mentioned above or as directed by the Engineer.
- 12) The scope of work also comprises inspection, checking, reconditioning, repairing of parts if any and conducting performance testing of system.
- 13) **MINIMUM FREQUENCY FOR MAINTENANCE CHECKS**

For efficient operation & Maintenance of the systems the minimum frequency for attending to the various activities (List is, however, not exhaustive) is given below:-

#### 13.1 ROUTINE CHECKS

- a) Check fire pumps to develop required pressure ( to be run daily) and automatic operation of pumps is to be checked through by pass pipe arrangement with concurrence of Officer – In – Charge.
- b) Check periodicity of operation of jockey pumps. Checking battery voltage for diesel engine and control panels.
- c) Checking all valves for their smooth operation and maintaining the same for effective and leak proof working.
- d) Checking healthiness of circuits and rectifying the fault if any exists.
- e) Check fire hydrant accessories located in different cores and floors and rectify as required.
- f) Check and note the reading of pressure gauge located in pump house for hydrant pumps and sprinkler pumps.
- g) Check and note the reading of pressure gauges installed in sprinkler lines and hydrant lines at different cores and floors.
- h) Check and adjust the pressure switches located in pump house.
- i) Checking of water pressure at terrace level for hydrant and sprinkler and purging of air if required.
- j) Checking and replacing defective items / component like relay, fuse , single phase preventor , indicating lights , switch and burnt wire.

- k) Checking the whole pipe network with all accessories for any for leakage and rectifying the same.
- l) Check the charging of battery installed in diesel pump for hydrant specific gravity of electrolyte and its level and charge if required.
- m) Checks all NRVs located in fire fighting lines and take necessary action if any.
- n) Run the diesel pump set for 5 minutes every week and observe its deficiency and to take necessary action if any.
- o) Change the old oil , oil filter, diesel filter and air filter with new.
- p) Checking pumps for healthiness of the gland / mechanical seal ,bearing , motor ,impeller if any thing found abnormal the same is to be set right.
- q) Checking and rectifying all safety control of the system. Any other work required and assigned by OIC time to time for proper O & M.
- r) Keeping the whole fire system neat , clean and in operative condition is the responsibility of contractor.
- s) Contractor will carry out routine maintenance on electrics of whole fire system.
- t) The change in the quality of existing fire trace tube is to be checked as and when required.

### 13.2 PERIODICALLY CHECKS TO BE EXERCISED BY THE AGENCY:

#### 13.2..1 DAILY CHECKS:-

1. The agency shall carry out checking for over heating/abnormalities of bearings terminals connection, cables of all motors, starters, panels etc. and to take necessary action if any.
2. Checking of water level and ensure undisturbed water supply to entire building.
3. All the valves at the pipe network in pump house and in sump chambers are open except those of the stand by equipment.
4. Check condition of flexible coupling / greasing of bearings and vibration of pumps.
5. Check functioning / repair of water level indicators.
6. The supply of voltage is within permissible limits for operation of all the equipment.
7. Daily operation of pumps as per the requirements of MMO and the instruction of Officer In-charge. The agency shall interact with operator of Building Automation System designed and installed for automatic operation of pumps.

8. The agency shall maintain log book for running of pumps and water levels daily reading in different tanks / sumps.
9. Check pump discharge pressure.
10. The agency shall carry out any other work required for proper functioning of the system and instructions of Officer In-charge.
11. Any other work related to water supply and drainage pumps specified by Officer In-charge.
12. Any other work required for proper O & M.
13. Checking and replacement of defective items / component like relay , fuse , single phase preventor indicating lights , switch and burnt wire etc.

#### 13.2.2 WEEKLY CHECKS :-

1. Checking of alignment and to rectify/ repair if required, and also tightening of nuts & bolts of mechanical equipment.
2. Checking of pump gland/seal for leakage and to take necessary action if required.
3. Checking of leakages and operation of all valves and to rectify if required
4. Check oil ring / oil level for all lubricated bearings.
5. Check rated current , actual current drawn and record the same.
6. Inspection of control valves for leakage and proper functioning.
7. Check overheating of the motor
8. Check the bearing temperature by hand.
9. Check any undue noise or vibration.
10. Run the diesel pump set for 5 minutes every week and observe its deficiency and to take necessary action if any

#### 3.2.3 MONTHLY CHECK :-

1. Check glands, adjust as necessary.
2. Check mechanical seals for any leakage.
3. Check the security of all keeps and fasteners.

4. Check voltage at terminals.
5. Check foot valves installed in tanks for proper functioning.
6. The agency shall carry out cleaning of pump house , sump & bore well pumps including motors , starters , pumps , panels , pipe racks etc.
7. Checking of all Safety Control, operation and also the set points of all controls.
8. Checking and cleaning of contract points in starters.
9. Checking of gland/seal, coupling of pumps , sumps, piping and general area, check sound and level of vibration, motor temperature, operation of the motor, drive shaft.
10. Greasing of all pumps and motors and other rotary equipment and replacement of bearings if unserviceable.
11. Any other work specified by Officer In-charge.
12. Any other work required for proper O & M.

#### 13.2.4 QUARTERLY CHECKS :

- 1 Cleanout and refill the pump bearings with oil or grease.
- 2 Renew the gland packings.
- 3 Check coupling alignment, coupling components for signs of wear or damage.
- 4 Check oil level in the wet vertical pumps of sump chamber.
- 5 Inspect entire system for any unusual conditions such as noise, vibration etc and to take necessary action if required.
- 6 Inspect all safety controls and adjust, if required.
- 7 Inspect all operating controls and adjust if required.
- 8 Review daily operating logs maintained by operating personnel and submit a report to MMO. Log operation of machine.
- 9 Submission of report to MMO in writing for all activities.
- 10 Inspect starter contacts , motor terminals , check connection in starter. Tighten motor terminal control circuit terminals , check motor winding and connecting wiring for continuity meg motor and connecting wiring on each lug and to take necessary action if required.
- 11 Any other work required for proper O & M.
- 12 Checking the insulation of motor if it is suspected to be low.
- 13 Servicing the motor according to the instruction of manufacturer manuals.



### 13.2.5 HALF YEARLY CHECKS:

1. De-scaling / cleaning and painting of pumps and motors including control valves.
2. Remove greases from all bearing , clean repack and to rectify if necessary.
3. Check and clean all strainers and to rectify if necessary.

### 13.2.6 YEARLY CHECKS:

1. Inspect the pumps thoroughly i.e. checking of fan assembly , mechanical seal , checking the load of motor , fan rebalance , alignment of pump , replacement of oil in case of wet vertical pumps( change oil half yearly), check the operation of the motor , motor drive shaft, check level of vibration , sound motor temperature and to take necessary action if any.
2. Inspect starter contacts and motor terminals, check connections, tighten motor terminal, and check motor winding and connecting wiring for continuity. Megering motors and connecting wiring on each lug , inspect , calibrate and adjust to original specifications of all safety and operating controls including low temperature ,high pressure cut outs , motor protector , oil pressure control etc.
3. Overhaul.
4. Check tighten hold down bolts and anchorages.
5. Check cabling for loose contacts.

### 14) Cost of material/ items included in scope of work:

- i. Daily consumables, lubricating oil /greases.
- ii. Cost of all cleaning/testing materials required.
- iii. Cost of all tools & tackles manpower etc (as mentioned in the scope of work) required for Maintaining and Operating the pumps, pipeline and fire fighting system.
- iv. Cost of all lubricants oil -filter and strainer, seals, glands and calibration of gauges including cost of gauge etc. required to maintain the system.
- v. Cost of nuts, bolts washer, gaskets, 'Q' ring sets, required in functioning of the system.
- vi. Cost of repair /rectification of gate valves, NRVs, rubber coupling /coupling stars, Mechanical seals and Gland packing etc.
- vii. Cost of de-rusting, painting the pumps and motors and control valves in pump house & sump chambers.
- viii. Complete maintenance of pumps, oil & bearings replacement.

- ix. Cleaning of all pumps and pump house, sump pumps and sump chamber free from dust.
- x. Overhauling of pumps as per schedules.
- xi. Maintaining Logbook for daily operation & maintenance of pumps including cost of stationery.
- xii. General items specification:  
Oil: SAE 30 or Equivalent  
Grease: Caltex  
Gland packing Size: - 5/16" square, 3/8" square and 1/2" square.  
Rubber Packing for Couplings: - Lovejoy
- xiii. Cost of repair / rectification / rewinding of motors of pump house, sump chambers and bore wells.
- xiv. Maintenance of all fire extinguisher including cost of supply of accessories i.e horns, wheel, washer, high pressure tube, safety pin etc.
- xv. Repair & Maintenance of MS water pipeline as mentioned in the scope of work including cost of MS flanges, required fittings, other consumables i.e welding electrodes , oxygen & acetylene cylinders, Nut & Bolts etc.

The rate quoted by the agency shall include the entire cost including taxes etc. Nothing shall be payable extra on account of above materials.

**15) Cost of materials not included in the scope of work:**

Materials / items which have not been covered under the above head Vide SI.No. (I) To (xvii) like spares of pumps, valve etc, which shall be required under the scope of work, shall be supplied by the agency as and when required. The cost of those spares shall be paid extra with 10% transportation / handling charges.

## 16) TOOLS &amp; TACKLES

The agency shall have to arrange the following tools for Operation & Maintenance of Pumps.

Sl. No.	Description	Nos.
1	Portable screw driver set with electrical line	3 Sets
2	Set of spanners	3 Sets
3	Digital multimeter	2 Sets
4	Continuity tester	3 Sets
5	wrench 12"	2 Sets
6	wrench 18"	2 Sets
7	wrench 24"	2 Sets
8	wrench 30"	2 Sets
9	Puller	3 Sets
10	Hammer 2 lbs , 4 lbs & 8 lbs	1 no. each
11	Screw driver set	3 Sets
12	Electrical tester , Test Lamp , Meggar , Insulation tape ,CRC oil	As per requirement
13	Pliers	3 Sets
14	Dial gauge for alignment	1 set
15	Gas Cutting Set	1 set
16	Welding Set	1 Set
17	Weighting Machine (0-30Kg)	1 No.
18	Digital Display Thermometer	1 no.
19	Portable Drilling Machine	1 Set

Any other tools & tackles required for smooth operation & maintenance of the system shall be arranged by Agency as and when required. Nothing shall be paid extra on this account.

## 17) DEPLOYMENT OF MANPOWER

The contractor will be required to deploy the following "minimum" personal at site for the above the works.

SL	Manpower	Minimum Qualification	Minimum Working Experience	Nos.
1.	Supervision	Diploma in Mech. Engineering or Bsc.	5-year in O&M of pumping system	1
2.	Welder	Welder certificate in the trade of welding	3- year experience of welding of water pipeline	1
3.	Plumber/Fitter	Matric	3-years in mtc of pipelines, valves etc	2
4.	Operators	Matric	3- year as operator of pumps/FF system	3
5.	Electrician	ITI(Elec.)	3-year in Electrical installations	1
6.	Helper	Semi-skilled	2-year in maintenance of pumping/FF system	9

The manpower deployed by the contractor shall be dressed in uniform. The manpower for Operation and Maintenance shall be deployed round the clock including Sunday and holiday in shift (A shift, B shift, C shift and General shift). However the Agency shall follow all the labour laws / rules for deployment of manpower for prescribed weekly rest. Working hours for man power deployed for all days shall be as follows:

General shift 9.00Hrs to 17.30Hrs

'A' shift 6.00Hrs to 14.00Hrs

'B' shift 14.00Hrs to 22.00Hrs

'C' shift 22.00Hrs to 6.00Hrs (Next day)

Manpower deployed in A, B&C shift shall not leave unless relieving manpower arrives. Overtime shall not be paid under any circumstances.

## SCHEDULE OF QUANTITIES

**Sub. : “AMC for pumps, pipes & fire fighting systems at SCOPE Minar, Laxmi Nagar, Delhi-110092”.**

Sl	Description	Unit	Qty.	Rate		Amount	
				In fig.	In words	In fig.	In words
1.	Annual Operation & maintenance of fire fighting system, which includes Fire Hydrant / sprinkler system, complete with pipe line network and attached accessories and 11 nos. fire pumps both motor driven as well as diesel engine driven and all types of fire extinguishers. Operation & maintenance of utility Pumps installed in pump house containing 20 nos. pumps, gate valves, NRVs complete, and 18 nos. sump pumps including motors, gate valves/ NRVs in Sump chambers and three nos. of bore well pumps located outside the building. (As elaborated in scope of work).	Lumpsum per Annum	1	<b>To be quoted in “Price Bid” only</b>			
GST @ 18%				.....(Rs.....)			
Total including GST				.....(Rs.....)			