



**TENDER FOR PREMISES AND FACILITY MANAGEMENT  
SERVICES CONTRACT FOR SIDBI'S OFFICE BUILDING AT  
BKC, MUMBAI**

**(PART II- Technical Bid)**

**LAST DATE OF SUBMISSION April 13, 2017  
UPTO 1500 HRS.**

Issued to :-

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The Dy. General Manager  
Small Industries Development Bank of India (SIDBI),  
MSME Development Centre,  
5<sup>th</sup> Floor, Premises Vertical,  
Plot No-C-11, 'G' Block,  
Bandra Kurla Complex,  
Bandra (East), Mumbai-400 051  
Phone No. 6753 1325/1146/1214

## **1. Instructions to the Bidders**

**All the intending Bidders are requested to note the following important provisions-**

- 1.1 The Part-II of the tender document i.e. Technical Bid is to be read alongwith prequalification document (Part-I) and price bid (Part-III).
- 1.2 The Part –II of the tender document shall be taken into consideration of only eligible prequalified agencies selected after scrutiny of their applications, supporting documents vis-a-vis the prequalification criteria and other requirements as indicated in the Part-I of the tender document.
- 1.3 All the intending bidders, agencies should visit the site, go through the scope of work, schedule, manpower, intent, various compliance, etc. and quote accordingly in the price bid i.e. Part-III.
- 1.4 Provisions applicable for Micro and Small Enterprises (MSEs).
  - a. SIDBI is governed by Public Procurement Policy for Micro and Small Enterprises (MSEs) as circulated by The Ministry of MSME, GoI.
  - b. These provisions shall be applicable to Micro and Small Enterprises (MSEs) registered with District Industries Centers or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small and Medium Enterprises (MSMEs).
  - c. If deemed fit, the Bank may procure minimum of 20% of the contract value of any goods or services from MSEs. Further, the Bank reserves the right to procure part work/services ( about 4% out of above 20%) to MSEs owned by SC and ST entrepreneurs, if found suitable. Provided, these MSEs quoting price within the price band of L1 +15% & bringing down their price to L1 price, in a situation where L1 price is from someone other than a MSEs. In case of more than one such MSEs, the supply shall be shared proportionately at the discretion of the Bank.
  - d. Further, such MSEs would also be entitled for tender sets free of cost and exemption from payment of earnest money deposit. In case of any issue on the subject matter, the MSE's may approach the tender inviting authority to resolve their grievances.

Agencies desirous of availing preference under above provisions should submit a copy of proof of Registration as MSEs/ and ownership of the same by SC/ST along with the tender/RFP.

- 1.5 This document contains following Annexures which should be read and understood carefully while quoting the rates in the price BOQ i.e. Part III .
  - a. **Annexure A-** Minimum staff strength at site for various works.
  - b. **Annexure B-** Rate for supply of additional labours.
  - c. **Annexure C-** Break up Calculation of Wages for manpower .

- d. **Annexure D-** List of Manpower- Indicative Minimum Wages as per Central Govt. Minimum wages Act.
- e. **Annexure E-** List of cleaning Materials & Aids.

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**Annexure-A**

**Minimum Staff Strength at Site**

**1. Cleaning of office premises with following labours**

(Strength indicated is minimum, however, contractor is required to increase the same based on the need and scope of work).

**Duty time:**

**Shift one - 7:00 Hrs to 15:00 Hrs**

**Total staff - 11 Nos.**

- Three ladies and Eight Male staff for TOILET/ CLEANING/ MOPPING / TERRACE/ BASEMENT CLEANING.

**Shift Two: 12.00 Hrs to 20:00 Hrs**

**Total staff - 6 Nos.**

- Three LADIES and three Male staff FOR TOILET/ CLEANING/ MOPPING PLUS/TERRAC/Both Basement/Courtyard/Surrounding cleaning.

For deduction purpose, @ `600/- per day per cleaning staff shall be recovered in case the strength of the staff is less than as indicated.

Shift Timings and number of staff to be deployed may be changed with the approval of SIDBI for efficient services / utilization of manpower.

**2. Water Boy/Girl- 03 Nos 8:30 Hrs to 16:30Hrs\***

- Three Boy/Girl will be deployed for providing drinking water supply to Bank's staff or as may be decided by the Bank.

\*Water boy/girl can be given additional work of photocopying, moving files from one desk to another etc.

For deduction purpose, @ `600/- per day per staff shall be recovered in case the strength of the staff is less than as indicated.

Shift Timings and number of staff to be deployed may be changed with the approval of SIDBI for efficient services / utilization of manpower.

**3. Electrician - 3 No. (08 Hours each x 3 shift duty), 7 DAYS A WEEK**

For deduction purpose, @ `750/- per shift (8 hours) shall be recovered in case the strength of the staff is less than as indicated. He should have valid electrical license and possess minimum 5 years experience of managing various mechanical & electrical installations. They should also be provided with a mobile phone so as to contact him in case of emergency.

**4. Plumber - 1 No. minimum 06 days a week**

For deduction purpose, @ `750/- per day shall be recovered in case the strength of the staff is less than as indicated. Plumber should have a valid plumbing license / experience of 5 years

**5. Carpenter 1 No. minimum 03 days a week or as and when required**

For deduction purpose, @ `750/- per day shall be recovered in case the strength of the staff is less than as indicated.

**6. Gardner - 1 No. Full Time (6 days a week)**

For deduction purpose, @ `750/- per day shall be recovered in case the strength of the staff is less than as indicated. The person should be well experienced.

**7. Lift Man - 1 No. full time 6 days a week, should be available at site from 8.45 am to 6.30 pm daily or otherwise instructed and shall be responsible for operation of executive lift in the office premises. Absence of liftman on a particular day shall attract a levy of compensation of @ `750/- per day.**

**8. Diploma Electrical Engineer - 1 No. Full Time, 9:00 am to 6:00 pm (6 days a week)**

To manage complete electrical and mechanical set up or in case of emergency whenever required. He should also be provided with a mobile phone so as to contact him in case of emergency.

He will be responsible for the monitoring all technical staff and related works and reporting to Facility Manager and SIDBI officer in the office premises. He will be responsible for all documentation and record keeping of all Electrical/ Mechanical equipments and machines.

For deduction purpose, @ `1,500/- per day shall be recovered in case of absence.

He should be at least diploma holder in Electrical Engineering with minimum 3 years experience of managing various mechanical & electrical installations in office / commercial buildings. He should also be provided with a mobile phone so as to contact him in case of emergency.

**9. BMS Operator - 1 No. Full Time (6 days a week)**

To manage complete BMS set up. He should also be provided with a mobile phone so as to contact him in case of emergency.

For deduction purpose, @ `1,000/- per day shall be recovered in case the strength of the staff is less than as indicated.

He should have atleast HSC passed having minimum 2 years experience of managing various BMS software i.e., Chiller, AHU for temperature control, Pumps on/off, Door access control and other BMS software parameter monitoring. He should also be provided with a mobile phone so as to contact him in case of emergency.

**10. Manager - 1 No. should be available at site from 10:00 am to 6:30 pm. daily and shall be responsible for the entire work in the office premises. He will be provided with local landline & PC connection with E mail facility.**

For deduction purpose, @ ` 1,700/- per day shall be recovered in case of absence. He should be at least a diploma/graduate with 5 years experience in Facility Management Services of similar types of buildings. Alternatively, a mature person with proven capabilities and 10 years experience in Facility Management Services, subject to SIDBI's approval can be considered. **He should also be provided with a mobile phone so as to contact him in case of emergency.**

11. **Supervisor** - 1 No. should be available at site in morning shift from 7:00 am to 03:30 pm. and shall be responsible for the monitoring all staff work and reporting to Manager in the office premises.

For deduction purpose, @ ` 1,000/- per day shall be recovered in case the strength of the staff is less than as indicated. He should be at least a diploma/graduate with 3 years experience in Facility Management Services of similar type of building. Alternatively, a mature person with proven capabilities and 7 years experience in Facility Management Services, subject to SIDBI's approval can be considered. **He should also be provided with a mobile phone so as to contact him in case of emergency.**

**Notes:**

1. Contractor shall replace the manpower not acceptable to SIDBI with other suitable resources.
2. Office area cleaning work should commence at 7.00 AM and should be over by 9.30 AM on working days or otherwise instructed.
3. 1<sup>st</sup> shift cleaning staff should be available up to 15.00 hrs and 2<sup>nd</sup> shift cleaning staff up to 20:00 hrs and shall also assist the Bank staff for misc. shifting of stationery, computers, files etc.
4. The penalty / deductions as indicated above is a minimum and can be increased at the discretion of the Bank if there is no improvement in the performance.
5. No overtime shall be paid to any of the worker.

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**Annexure-B**

**Rate for supply of additional labours**

<b>Sl. No.</b>	<b>Activity</b>	<b>Rate admissible per day (all inclusive) ( ` )</b>	<b>Remarks</b>
1	Supply of <b>unskilled worker (For full Time)</b>	` 450.00 all inclusive	As and when required
2	Supply of <b>semiskilled worker (For Full Time)</b>	` 500.00 all inclusive	As and when required
<p>Note:</p> <p>1.The contractor is required to arrange for the required labour at a short notice on advice of the Bank. Payment shall be released only for the number of days actual work done and if this work is not covered in the contract.</p> <p>2. Additional 10% over the above rates shall be provided towards contractors profits, overheads, taxes etc.</p>			

**Signature and Seal:**

**Annexure-C**

Break up Calculation of Wages for manpower

Sl no	Description	Details	Unskilled (Rs per Month)	Semi Skilled (Rs per Month)	Skilled (Rs per Month)	Highly Skilled Supervisor (Rs per Month)	Electrical engineer (Rs per Month)	Facility Manager (Rs per Month)
A	<b>Wages</b>	<b>As per Minimum Wages (Central Govt.) including Variable Minimum dearness Allowance</b>						
B	EPF	___% of A						
C	ESI	___% of A						
D	Bonus							
E	Uniform charges							
F	TOTAL							
G	No of staff (Nos)		20	1	6	2	1	1
H	Total wages							
I	Reliever , National Holidays and other Charges if any							
J	Total							
K	Service Tax							
L	Total							
1. Other Facilities like Gratuity, Conveyance, Washing Allowance, Food Allowance may be added as per company rules. 2. Any increase in Labour Rates , Bonus, Taxes etc. to be borne by the contractor								



**ANNEXURE- D**

**List of Manpower: Indicative Minimum Wages as per Central Govt. Minimum wages Act:**

Type of manpower	Nos.	Minimum Wages	Description
Un skilled	20	Basic: ` 180/- Variable Dearness Allowance: ` 194/- <b>Total: ` 374/- per day</b>	17+3(water girl/boy)=20 nos Housekeeping staff
Semi skilled	01	Basic: ` 200/- Variable Dearness Allowance: ` 214/- <b>Total: ` 414/-</b>	Lift Man(01)
Skilled	06	Basic: ` 220/- Variable Dearness Allowance: ` 236/- <b>Total: ` 456/- per day</b>	Electrician (03)/ *Plumber (01)/Gardener (01)/ Carpenter (01)
Highly Skilled-	02	Basic: ` 240/- Variable Dearness Allowance: ` 255/- <b>Total: ` 495/- per day</b>	Supervisor(01) / BMS operator (01)
Electrical engineer (Diploma)	01	<b>Basic: ` 20,000/-</b> Others facility as per company rule	
Highly Skilled-Facility Manager	01	<b>Basic: ` 28,000/-</b> Others facility as per company rule	
1. Necessary Technical tool kit to be considered. 2. Any increase in Labour rates, Bonus, taxes etc. to be borne by the Contractor			

Annexure-E

**List of cleaning Materials, Tools & Equipments.**

**Consumable Brand- Johnson/Taski/Other environment friendly reputed brand.**

Sr No	Item	Monthly Quantity ( Approx. Qty)
1	PHENYL	10 ltrs
2	ROOM SPRAY (PREMIUM)	5 bottles
3	AUTO SPRAY- Air refreshner	30 bottles
4	ODONIL	05 box
5	Urinal CUBES	10 packets
6	Naphthalene BALLS	1 kg.
7	Sodium Hypochlorite	50 g
8	Hand Wash Liquid	15 ltrs
9	Toilet Roll paper	150 roll
10	Hand Towel-Tissue Paper-C- fold	800 box (100refill)
11	BRASSO	0.5 ltrs.
12	R1 (Bathroom cleaner)	5 ltrs.
13	R2 (Glass cleaner/Colin)	3 ltrs.
14	R4 (Furniture cleaner)	2 ltrs.
15	R6 (Toilet cleaner)	5 ltrs.
16	D-7 (Stainless steel polish)	1 ltrs.
17	DETTOL ANTISEPTIC	0.5 ltr
18	Tissue Box – PRIMIER for cabin use	100 box -100refill
19	Bleaching Powder	1 kgs
20	Garbage Bag	60 kgs
21	Hit/ Baygon/ Mortein Spray	2 bottles
22	Urinal mats for Urinal pots	40 Nos
<p>1. The quantity of above materials is approximate and the contractor has to use above materials as and when required/instructed.</p> <p>2. The following materials are in scope of contractor which are to be replaced periodically:                      Dustpans, mops, buckets, wipers, gloves, dusters, scrubbers, sponge, brooms, brushes, safety gear and belts, Swabbing cloth, Washing brush, Mop stick, Coconut broom, Dust cleaning stick, dust collector brush, soft broom, WC round brush, Rubber wiper, cotton swab, Toilet/ kitchen vacuum pump, nylon scrubber, vacuum cleaner, metal broom, shovel, Glass duster, Big Plastic drum, Ladder, garbage trolley etc. as required for regular housekeeping purpose.</p> <p>3. The following machineries are in scope of contractor:                      Scrubbing machine, Auto scrubber machine, Marble/mirror polishing machine, Wet/ dry vacuum cleaning machine, Lawn mower machine with roller and necessary tools &amp; tackle for horticulture works.</p> <p>4. Besides above, necessary tools and plants should also be provided with the electrician, plumber, carpenter etc.</p>		

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## **2. Broad Responsibilities and scope of work**

### **2.1 SCOPE OF WORK**

- 2.1.1 PFMS contractors are required for manning and maintaining of office premises including various services at SIDBI, MSME Development Centre, Plot No. C-11, G-Block, Bandra Kurla Complex, Mumbai such as electrical, housekeeping, plumbing, pest control, carpentry, provision and care of outdoor and indoor plants/flowers, laundry services, supply of water to officers, etc.
- 2.1.2 The single point responsibility at the cost of contractor shall cover Cleaning of all common areas including canopy glass laid at entrance porch at GF & lounge at 8<sup>th</sup> floor, interior areas of office, working places, toilets, electrical rooms, floors, walls, columns, furniture, chairs, tables, litter bins, lifts, staircases, basements, terraces at all level, parking, driveway, stores, telephone instruments, computers, partitions, mirrors, light fittings (internal & external), grills, diffusers, sanitary wares, washbasins, sinks, soap dispensers, pantry etc. Basement floors may be washed once in a month and all the storage area must be cleaned.
- 2.1.3 Building maintenance and cleaning - windows, Aluminium frames, internal faces of glasses, granites, stills, stairwells, lobbies, toilets, pantries and lighting system, internal & external pest control services, etc. Cleaning of all drainage pipelines (washbasin, sinks, urinals, etc.).
- 2.1.4 Deep Cleaning as also regular/general cleaning of Granite Stone Façade, Cleaning of external structural glazing , ACP, Italian marble polishing, Stone Cladding with necessary tools , plants and scrubbing material etc.
- 2.1.5 Maintenance and servicing of all the doors, floor springs / door closures, furnitures and attending day to day miscellaneous carpentry, electrical and plumbing work.
- 2.1.6 Providing and arranging of flower/bouquets for cabins of senior officers viz. CMD, DMD, CEO, CGMs and GMs with the approval of Bank.
- 2.1.7 Washing of towels provided for senior executives(CGM,GM and CEOs- about 35 Nos.), Canteen/Lounge on 1st and 8<sup>th</sup> floor, toilets at 7th and 8th floor levels. The frequency of replacement and washing shall be twice a week or as required, whereas for toilets and canteen shall be daily.
- 2.1.8 Depositing Payments to local statutory authorities and service provider viz. TATA Power, MTNL, Reliance Power, Municipality, MMRDA etc. whenever required. No separate conveyance will be paid.
- 2.1.9 Making arrangement for additional bouquets as and when required, cost of which shall be reimbursed on actual basis.
- 2.1.10 Provision of supply of drinking water to all officers/ Staff members.

- 2.1.11 Termite, Pest Control, Rodent Control and Fumigation of office premises and compound.
- 2.1.12 Provision of trained lift man (1 No.) for smooth operations of the lift for Senior Executives and coordination with M/s.KONE.
- 2.1.13 Coordination and monitoring of HVAC system of the building during working hours Monday to Saturday or otherwise instructed as well as coordination with M/s. Voltas
- 2.1.14 Monitoring of Electrical panels, UPS and other installations through electricians and Diploma engineer.
- 2.1.15 Operation of diesel generator set, water pumps, related set up, of the building by appointing experienced and qualified staff including testing etc. and coordination with DG AMC vendor.
- 2.1.16 Maintenance and upkeep of garden & plants in the premises and on various floors by deploying an experienced gardener. Scope of work also includes daily watering, dressing of lawns / plants, change of earth, provision of fertilisers, etc. Contractor has to make all the arrangements and only water shall be supplied by the Bank. Cost of new plants planted in the garden at the instructions of Bank will be reimbursed by the Bank. 100 nos. potted **plants (Indoor / Outdoor) of approved** quality shall be provided and maintained by the Contractor so as to have a corporate ambience..
- 2.1.17 Periodical cleaning of drains - at least once in six months.
- 2.1.18 Supply of additional manpower as and when required at the rates as indicated at **Annexure B.**
- 2.1.19 Scope of work also includes repairs of taps, jet spray, valves, flush tanks, bottle traps, soap dispenser, waste pipes in case the same are not in serviceable conditions at the discretion of SIDBI. Replacement of these items will also be in the scope of contractor. However, the cost of the item will be paid separately after market verification / item will be arranged.
- 2.1.20 Scope of work also includes repair/ replacement of switches, sockets (power/telephone/data), indoor / external light fittings, lift lights including chokes, capacitors, fuse, lamps, Distribution Board fittings viz. MB / ELCB / MCB (All capacities) for internal lightings in case the same are not in serviceable conditions at the discretion of SIDBI. However, the cost of the item will be paid separately after market verification/ item will be arranged.
- 2.1.21 Annual inspection of HT & LT electrical installations at BKC office by PWD Electrical Inspector and obtaining necessary certificate.
- 2.1.22 Scope of work related to annual inspection includes Liasoning, coordination with PWD inspector whenever called for, testing and inspection of earth pits, lightning arrestors, rising mains as follows:

- a) IR values of main distribution board, distribution panels and obtain clearance from PWD engineer once in a year
- b) Testing & inspection of 6 nos. earth pits and submit reports once in a year,
- c) Testing & inspection of LA and submission of reports once in a year,
- d) Testing, inspection and submission of reports once in a year for 2 nos. of rising mains,
- e) IR value and submission of report once in a year for incoming cables to main distribution board,
- f) IR value report and inspection of Main distribution panel once in a year,
- g) IR value report and inspection of DBs once in a year.

### **3. Schedule of Work**

A broad schedule of work shall be as follows:-

- 3.1 Cleaning of office premises on a daily basis including wet mopping and scrubbing.
- 3.2 Cleaning of toilets four times daily including posting checklist. It shall be responsibility of the Facility Management contractor to keep the same clean and dry.
- 3.3 Removal and disposal of garbage daily. (if not done, penalty of `2000/- per day will be imposed)
- 3.4 Kitchen and pantry cleaning daily and as and when required.
- 3.5 Cleaning of lift cabins daily and polishing as and when required.
- 3.6 Monthly pest control at office should be carried out through reputed agencies in the field such as **Hi-Care, Pest Control India (PCI)** or approved equivalent. The contractor is also required to carry out the termite control treatment as required for the building. WHO and Central Insecticide Board of India approved chemicals should be used and to cover treatment for all insects, cockroaches, rodents, bed bug, termites, lizards etc. This work has to be carried out through specialised personnel / agency. Rodent treatment in the compound, basements, ducts, pantry, Kitchen and other office areas to be done at least once in a month or more frequently for complete eradication of Rodents. **The contractor is also required to take up fumigation works in basement, staircases and compound**

- fortnightly.** If needed, additional pest control to be done whenever there is a complaint.
- 3.7 Sweeping of open area daily and washing the same weekly.
- 3.8 Cleaning of upper and lower basements daily and washing the same monthly.
- 3.9 Cleaning of terrace daily including 2nd and 8th floor terrace.
- 3.10 Water tank cleaning (over head and underground) once in a six months including disinfection treatment.
- 3.11 Change of bouquets provided for senior officers on alternate days.
- 3.12 Mirror polishing for marble flooring of Area of 6600 sqft (approx.) to be done once in the quarter with approved chemicals and machines. This area covers in lift lobbies of all floor and common area of ground/ 1<sup>st</sup>/ Seventh & Eight floor and office area on 7<sup>th</sup> and 8<sup>th</sup> floor.
- 3.13 Facade (Structural glazing, ACP Panel and Granite Cladding) cleaning – Quarterly.
- 3.14 Garden and potted plants - upkeep and maintenance (including replacement according to the season) – daily.
- 3.15 Maintenance of all electrical, plumbing installations- daily.
- 3.16 Routine Operation and providing toilet fresheners, liquid soaps and other cleaning material of approved quality in all toilets-daily.
- 3.17 Replacement of electrical and plumbing fittings (as detailed out in scope of work) if the same is not in serviceable conditions- as and when required.
- 3.18 Deep cleaning of all the areas as above shall be carried out on Saturday / holidays. All environment-friendly cleaning materials / equipments to be provided by the Contractor.
- 3.19 Contractor is required to maintain a proper schedule as well as record / quality management forms / work register with approval of Premises Vertical for the above activities. All the stationery / photo copying etc., for the purpose, the contractor has to arrange on his own. Contractor shall provide necessary tools and equipments to his workers for performing their work.
- 3.20 The contractor is required to maintain all the essential services in entirety to make the office functional. (Please refer the Price bid/BOQ for quoting the rates).

#### **4. Period of Contract**

4.1 The contract shall be valid for a period of **24 months** commencing from the date of award of contract. However, the Bank reserves its right to review and terminate the same before completion of the said period. The contract shall remain effective normally for two years. However, SIDBI reserves the right to renew the contract after completion of 1<sup>st</sup> year (i.e.12 months) depending on satisfactory performance of the contractor.

After completion of two years of contract period, the contractor will continue with the arrangement for a reasonable period at the discretion of SIDBI at mutually negotiated rates till a new contractor is appointed.

#### **5. EMD & Security Deposit**

5.1 Earnest Money Deposit (EMD) for the work is ₹2,00,000/- (Rupees Two lakh only), payable by DD/pay order along with Part-I of the tender (Envelop-1).

5.2 The EMD of successful bidders shall be returned on submission of Performance Bank Guarantee of Rupees Ten Lakh towards security deposit. No charges shall be payable on this account. The BG should be in the format approved by the Bank and should be kept valid for a period of 24 months with a claim period of 6 months. EMD will be forfeited in the event of any refusal or delay on the part of the successful bidder to accept the Bank's offer for award of work or sign and execute the contract on acceptance of his tender. EMD shall also be liable for forfeiture in case the contractor delay the commencement of work or fails to perform his duties satisfactory as per the contract. BG Should be submitted within 15 days from award of contract. **No payment shall be released till the BG is submitted.**

5.3 EMDs of unsuccessful bidders will be refunded within 60 days from the date of opening of commercial bids or earlier as decided by the Bank.

#### **6. Place of Work**

6.1 Intending bidders shall visit the SIDBI's office and make themselves thoroughly acquainted with local site conditions, nature and requirement of work, present conditions of premises / fittings / fixtures, etc., and make assessment of labour and material, etc. required before submitting the tender.

6.2 A Brief on the office building and various services provider is as given below.

6.2.1 The building has 2 basements, ground and 8 upper floors with total built up area of 10500 sq.mt. (1,13,000 sq.ft.). The total carpet area of the floors including toilet, pantries, lift lobbies, etc. is 50,000 sq.ft. (approx.) while net usable carpet area for office is about 40000 sq.ft.. The present staff strength in the building is around 370. The construction of the building was completed and occupied by the Bank in April 2005.

6.2.2 The Building has been provided with State of the Art Mechanical and Electrical System for HVAC, Fire fighting, Lifts, Security, etc. Building management system is provided so as to control / monitor various functions of the systems sitting in a BMS control room located on the Ground Floor.

6.3 The scope of services work for various contract maintained by other agencies are as follows:-

Sr. No.	Name of contractor	Scope of work	Period details
1	M/s. KONE Elevators (Lifts)	<b>Annual Maintenance Contract (AMC)- Comprehensive</b> 1. Comprehensive Maintenance of Lifts 2. To submit schedule of maintenance 3. P / M history card to be prepared 4. Status Report 5. Painting - 4th year from the date of completion of work. 6. Break down to be attended in 1 hour	AMC - Upto March-2021
2	M/s. Voltas Ltd. (HAVC)	<b>Annual Maintenance Contract (AMC) - Comprehensive</b> 1. To attend all defects / complaints and repairs / replace parts at their own cost. 2. Routine servicing / overhauling etc. at least quarterly and drill / check up of the system (monthly). 3. Routine preventive maintenance schedule to be submitted. 4. History card for Plant & Machinery to be made available. 5. Monthly status report 6. Painting in 1st and 4th year	AMC up to April 2017
3	OUSTFIRE SAFETY ENGINEERS (Fire fighting work)	<b>Annual Maintenance Contract (AMC)</b> 1. To attend all the defects / complaints and repair / replace parts. 2. Routine drill (at least once a month) / check-up of the system and carrying out necessary servicing / overhauling of the system periodically (once in a quarter).	AMC – upto June-2017
4	M/s. G. D. Anklesaria & Co. (DG Set)	<b>Annual Maintenance Contract (AMC)</b> 1. Comprehensive nature. 2. Routine drill at least once a month, check up the system and carry out necessary overhauling and replacing defective parts for smooth and	AMC – upto June 2017



Sr. No.	Name of contractor	Scope of work	Period details
		uninterrupted functioning of the system.	
5	M/s Schneider Electric Pvt Ltd	<b>Annual Maintenance Contract (AMC)</b> 1. Annual Maintenance of electrical panel in LT panel , DBs, & APFC panel, quarterly payment after each successful completion of quarterly service	AMC – upto June 2017
6	M/s Aquacool	<b>Annual Maintenance Contract (AMC)- Comprehensive of water filters in pantry, dining.</b> Quarterly service or call basis.	AMC – upto March 2017
7	M/s Smith Detection	<b>Annual Maintenance Contract (AMC)- Comprehensive</b> X-Ray baggage scanner machine	AMC- upto June- 2017
8	M/s Star Telecom- TADIRAN EPABX	<b>Annual Maintenance Contract (AMC)- Comprehensive</b> Star Telecom- TADIRAN EPABX	AMC- upto July 2017

## **7. ROLES & RESPONSIBILITIES OF PFMS**

It is the sole responsibility of the Premises & Facility Management Services (PFMS) to ensure that the operation, monitoring, maintenance and repairs are performed to the highest standards.

### **7.1 Scope and Responsibilities**

The PFMS is fully responsible for safe operation, effective maintenance of electrical, mechanical, plumbing, sanitation, Health/Hygiene, pest, rodent & termite control, etc.

### **7.2 Operations (excluding HVAC Plant)**

PFMS shall be fully responsible for operation of pumps, equipment and or its accessories and controls in accordance with its requirements and function and keep systems working at all times.

PFMS shall be responsible for observing and maintaining the electrical installations of plant in accordance with state electricity board, electrical inspectorate and other local bodies at all times.

### **7.3 Records of inspection operation and maintenance/repairs, etc.**

The PFMS Contractor shall provide printed comprehensive logbook as per certified standards and procedures, containing tables for daily record of all critical schedules, temperatures, pressures, humidity, power consumption, starting, stopping times of various equipments, daily record of unusual observations.

#### **7.4 Maintenance and repairs**

It is the sole responsibility of PFMS Contractor to ensure that the operation, maintenance and repairs are performed to the highest standards. The PFMS shall submit to the Bank, the preventive maintenance schedules wherever called for.

#### **7.5 Fire safety and Electrical safety audit**

**PFMS Contractor shall carry out annually, fire safety audit and Electrical safety audit as stipulated by local fire authorities, local electrical inspectorate/electricity boards through licensed/registered agencies.** He should also monitor the load factor of the sanctioned demand, optimize the power factor by surrendering the excess demand to achieve economical energy costs.

#### **7.6 Breakdown Maintenance**

Out of breakdown calls received, PFMS Contractor shall give priority to the critical areas, which shall be decided by Bank's representative in restoring the services with the minimum down time. In critical areas such as office areas, servers, utility areas, PFMS shall ensure round the clock functioning of the services.

### **8. Cost of replacement**

8.1 Contractor shall follow the prescribed formats / procedures for receiving complaints, receiving the work slips duly sanctioned and preparation of bills etc., as stipulated by the Bank from time to time.

8.2 The cost of replacement, wherever applicable shall be paid for only on sanctioned work slips issued by the Bank to the Contractor. If any replacement is done without proper sanction, the same will not be considered for payment.

8.3 Under any circumstances, charges for scaffolding, centering, shuttering jhulla and curing will not be paid for extra for any works related to maintenance / repair / replacement.

8.4 Need for replacement of any particular item shall be decided by the Bank's Engineer and the Contractor should carry out the work without any dispute.

**8.5 Electrical Work:** Cost of unserviceable electrical fittings/fixtures such as lamps/ tubes, ELCB, MCB, switches, sockets replaced shall be reimbursed on actual basis on production of bill/ invoice and after verification of the rates in the market. No other charges such as conveyance and labour shall be payable. However, the contractor required to obtain necessary approval from Premises Vertical, SIDBI, before proceeding

with the replacement. The contractor is required to bear the charges of consumable such as tapes, capacitors, fuse, drilling bits etc., costing up to ` 150/- per one job.

**8.6 Plumbing Work:** Cost of unserviceable plumbing fittings such as taps, valves, jet sprays, spindles, flush tank, soap dispensers including pump, bottle traps, and waste pipes, replaced shall be reimbursed on actual basis on production of bill/ invoice and after verification of the rates in the market. No other charges such as conveyance and labour shall be payable. However, the contractor required to obtain necessary approval from Premises Deptt, SIDBI, before proceeding with the replacement. The contractor is required to bear the charges of consumable such as washers, screws, pins, cement, fevicol, Teflon tapes, drilling bits etc., costing upto ` 150/- per one job.

## 9. Raw Materials

**9.1** Contractor shall use environment friendly Standard / ISI Branded quality materials / chemicals / detergents of standard quality / make for cleaning and other allied purposes. If the materials are not of desired quality, the contractors are required to replace the same on the instructions of the Bank.

**9.2** As regards maintenance, replacement of consumable items shall be done as indicated above and defined in the scope of work. **Also, no conveyance / labour charges / transportation charges will be payable for maintenance and replacement works.** If contractor do not take up such works, SIDBI reserve the right to take up the same through other agency at the risk and cost of contractor besides imposing penalty at the rates specified in the tender/decided by the Bank.

**9.3** For the items not covered in the scope of work, the contractor shall be reimbursed actual cost of materials on production of bills/cash memos, rate analysis and after verification in the market. A nominal overhead and profit of 10% on procurement cost shall be payable for such items. No additional payment shall be released for labour / conveyance, transportation, etc. as also towards overtime. Standard OT will be paid to the contractor on the minimum wages as per the GOI guidelines for the particular class of workmen.

**9.4** Decision of the Bank in this matter shall be final and binding on the contractor.

**Material Brand-** Following consumable materials of reputed brands shall be supplied by the PFMS contractor for day to day cleaning:

- Floor Cleaner – CLEANSO
- Bathroom Cleaner cum Sanitizer – R1 TASKI
- Hard Surface Cleaner – R2 TASKI
- Glass Cleaner – R3 TASKI
- R4 TASKI
- Toilet Bowl Cleaner – R6 TASKI

- R7 TASKI
- Spiral TASKI
- **EMERALD for steel shine-up**

## **10. Manpower / Staff**

10.1 The contractor shall always employ a minimum strength of experienced staff at site for efficient and smooth operation as given in **Annexure-A**. Necessary grooming/training of staff should be done before posting the staff at site. The provisions of all labour legislations shall also be complied by the contractor. Receipt of any complaint on this ground shall be viewed seriously. No additional payment shall be made, if the contractor keep more staff at site for completing the pending work or if the minimum staff strength is not able to perform satisfactorily as per contract provisions.

10.2 The workers / staff employed should wear colour code uniforms, pant+shirt+shoes+cap+gloves for male and suit / saris+aprons+cap+gloves for ladies staff. Any indecent behavior / suspicious activities of the Staff employed shall be viewed seriously and a suitable penalty shall be levied on the contractor. The contractor is also required to submit the list of the workers with photo ID, educational qualification, address proof etc. before deputing the workers. **He is also required to carry out police verification of his staff at his cost before posting at site .**

10.3 Contractor shall be solely responsible for the credentials / acts of his staff / workers.

10.4 Contractor is required to submit daily labour report duly signed by Asst. Care Taker/ Care taker to the Bank and other reports (Operation & maintenance service) in desired format from time to time.

10.5 Contractor is required to make timely payment to his staff including various statutory authorities as per applicable minimum wages notified by the Central Govt. The Bank reserves a right to check the same.

## **11 Compensation towards non-attentiveness / delay**

**11.1** Contractor shall maintain a proper Record / Register indicating reasons for not attending to any particular complaint within time schedule, failing which appropriate compensation shall be recoverable. The expected period of completion of the various items of work and the amount of deduction beyond that period for pending complaints will be as under :-

Nature of work	Time of completion from the date of complaints	Compensation for delay
<b>Clearing</b> Drainage Congestion - inside building	1 day	₹ 1,000/- per day
<b>Clearing</b> Drainage Congestion - outside building	1 days	₹ 2,000/- per day
Replacement of electrical and plumbing items from the scope of work	2 days	₹ 1,000/- per day
Replacement of electrical and plumbing items not in the scope of work	2 days	₹ 1,000/- per day
If the garbage is not lifted as per defined mode & scheduled	1 day	₹ 1,000/- per day
Staff not in Uniform/ without I Card	1 day	₹ 200/- per worker per day
If it is found that no action is been taken within One hour after the complaint of Unclean premises and improper housekeeping	per complaint	₹ 200/-
Misbehaviours by the housekeeping staff to Bank employee or visitors	per incident	₹ 1,000/- per incident
Recurring of irregularities given Double the penalties amount Mentioned		

11.2 It is, therefore, essential that contractor should maintain a sufficient stock of frequently used materials at site and keep proper inventory / records. Levy of compensation as above shall not absolve the contractor from his responsibilities.

11.3 Further, a sum of ₹ 500/- (minimum) per incidence shall also be charged as compensation towards non completion of the any other routine activities indicated in the scope of work. Maximum Ceiling on penalty /Compensation towards non attentiveness/delay shall be 10% of the total monthly bill amount. General Manager (Premises) shall be the final authority for decision in such matters which cannot be challenged.

## 12 Emergency work

It shall be contractor's responsibility to attend to emergency works in time. No extra payment will be made for working on odd hours / emergency works.

### **13 Additional work**

13.1 If employer decides to place work order for additional scope of work in the same premises or amend the original contract for additional scope of work in the same premises, the contractor shall be bound to accept the same at rates accepted in the original work during the currency of the contract.

As regards additional labours deployed by the contractors on advice of the Bank, the payment shall be made as per the minimum wages notified by Central Govt. which shall not exceed the rates given in **Annexure B**.

13.2 Non completion of any activity shall attract a levy of penalty up to 150% of the value quoted by the contractor or actual value incurred by the Bank whichever is more.

### **14 Payment of Minimum wages.**

The Contractor shall pay applicable minimum wages to its employees/staff posted at sites as notified by the Central Govt. from time to time. Necessary undertaking in this regard shall be submitted by the contractor to the Bank every month along with the bills. The Bank reserves the right to check and verify the records/proof of such payments.

### **15 Rates, Taxes and Duties**

All the rates furnished in the tender shall be inclusive of all labour and material including all duties, royalties, service tax, Work Contract Tax (WCT) or any other taxes or local charges, if applicable. No extra claim on this account will in any case be entertained. New taxes and increase in existing tax if any, as per the government guidelines after award of work shall be paid on production of specific proof/ receipt/ challan etc.

### **16 Payment Terms**

16.1 The bill shall be prepared by the contractor in the form prescribed by the Bank on monthly basis after completion of month and will be settled by SIDBI within 15 working days after deducting necessary TDS, taxes, retention money etc. The bill, in proper form, must be duly accompanied by details of work carried out in that month and must show deduction for all previous payment. On completion of monthly service, all supporting documents like energy audit reports, audit reports, inspection reports and service report should be submitted along with the bill, failing which liable for deduction of appropriate penalty.

16.2 The Contractor's Bills should be prepared based on the actual joint measurements certified by the Bank's Engineer and accepted by the Contractor. The Contractor's bill enclosing the sanctioned work slips duly certified by the ACT / CT and Bank's Engineer only should be submitted to SIDBI, failing which the bill will not be accepted.

16.3 Monthly Bill to be submitted by the 1<sup>st</sup> week of every Month & the same will be checked and passed within 15 days from date of receipt of bill along with all the supporting documents. SIDBI may release part payment if the bill is incomplete as also to deduct suitable amount for the activities not completed.

## **17 Compliance with all Statutory requirements**

17.1 The Contractor shall comply with all statutory requirements like labour laws, ESIC, Insurance ,PF etc., prescribed by the local as well as central government authorities from time to time and submit a monthly report along with all the required proof of compliance to the employer along with the monthly invoice. The contractor shall produce all the relevant statutory documents for inspection by the employer and the government authorities.

## **18 Insurance**

18.1 The P&FMS shall keep the employer, its servants or agents indemnified against claims, actions or proceedings brought or instituted against the employer, its servants or agents by any of contractors' employees or any other third party in connection with relating to or arising out of the performance of the services under the agreement.

18.2 The contractor is also required to obtain the third party insurance for each incident as follows:-

- a. Personal injury - ` 3.00 lakh
- b. Property Damage - ` 3.00 lakh

18.3 Besides covering all employees of contractor under ESIC scheme, the contractor shall also require to obtain a workman compensation policy for an amount at least ` 2 Lakh per employee and covering all the staff during the contract period deployed at site. If contractor fails to comply with the above provisions, SIDBI reserves its right to deduct suitable amount from the contractor's payment and pay the insurance company.

## **19 Indemnity**

19.1 The contractor shall keep SIDBI indemnified against claims, if any, of the workmen and all costs and expenses as may be incurred by the SIDBI in connection with any claim that may be made by any workmen. The Contractor shall also execute an indemnity bond in favour of SIDBI, in the approved format, in this regard.

## **20. Occupational Health and Safety:**

20.1 With regards to occupational health and safety, the PFMS Contractor shall adhere to the following:

- Issue Identity cards and uniform dress with caps to all of his employees.
- Comply with applicable local regulatory requirements
- Comply with applicable Banks requirements specified in the contract and appendices.
- Police verification of workmen/staff posted at site.
- Correct all health and safety non-compliance's in a timely manner, and where there is an immediate danger to health or life, to stop work immediately.

20.2 Be liable for liabilities arising due to non-compliance of contractor employees, agents or subcontractors with applicable requirements

**21 Safety Management:**

- 21.1 Initiate and maintain safety management programs to protect contractor's employees from hazards through procedures, practices, and regular inspection of the work areas, materials, equipment and work practices and to protect employer's employees exposed to similar hazards.
- 21.2 Provide suitable material, equipment, information and training necessary for safe work performance as well as **SWATCH BHARAT ABHIYAAN**.
- 21.3 Maintain records including but not limited to contractor employees training, hazard assessments, communications, permits, licenses and accidental investigations.
- 21.4 In instances, where such work is carried out, implement permit to work programs, including but not limited to hot work, cold work, entry into confined spaces, work on fire suppression systems and work on high voltage and live electrical equipments.

**22. Emergency telephone Nos**

The contractor shall provide an emergency telephone number for normal and out of hours operations with a maximum of two hour response time during any breakdowns to essential utility services like cable fault, burst water mains etc.

**23. Facility Manager / Supervisor**

Contractor shall employ and post at least one experienced qualified Facility Manager & one experienced Supervisor for proper supervision, coordination and monitoring the work in the premises. They shall be provided with a Mobile and accessible for 24 hours.

**24 Subletting the work**

24.1 The contractor shall not sublet the work without the prior permission of the Bank. However, he may be required to depute specialised agencies for a particular work, approval of which may be sought from the Bank before appointing. It shall be entirely



contractor's responsibility to pay timely such agencies without any implication on the work.

## 25. Stationery

25.1 The contractor has to bear the cost of all the stationery, telephone, etc. required for proper execution and maintenance of record for the work. If found using SIDBI's material, bank may recover an appropriate amount from the contractor's bills.

## 26 Termination of Contract

If the contractor fails to perform any of the obligations under this contract and if the Bank is not satisfied with the services, the Bank shall forfeit the security deposit and terminate the services of the contractor with a notice of winding up and the contractor shall vacate the premises within a period of one month of written notice. Bank should not be held liable for any cost, damage, expenses or any loss whatsoever that the contractor may suffer on being served with the winding up notice.

The contractor is required to give 3 months' notice in case he does not want to continue with the contract. However, under such situation, **Security Deposit shall be forfeited.**

## 27. Dispute & Differences

Decision of the **Chief General Manager, Premises Vertical**, SIDBI, Mumbai Office regarding disputes and differences arising out of performance of contract, levy of compensation for delay and payments for contract work of extra work done shall be final and binding on the contractor. All disputes or differences whatsoever which shall at any time i.e. during the execution of the contract or maintenance thereof till total completion of the contract, between the parties hereto concerning the works shall be referred to the Chief General Manager, Premises, Mumbai Office who will be acting as arbitrator and his decisions shall be binding upon both the parties.

## 28. INTEGRITY PACT

In order to avoid corrupt practice by following a system that is fair, transparent and free from any influence/prejudice dealing prior to, during and subsequent to the currency of contract, an Integrity Pact shall be signed between the bidder and the employer (SIDBI) on the standard format attached as Proforma-IV to Part-I of the tender.

**29. LIST OF MATERIALS TO BE KEPT FOR DAY TO DAY CLEANING WORK:**  
**( ADEQUATE QUANTITY FOR ONE MONTH)**

1. Liquid soap for hand wash
2. Disinfectant / phenyl (Tiger brand white)
3. Material for cleaning floors(Teepol)
4. Naphthalene balls / Freshner
5. Urinal cakes /Freshner
6. Air purifier/room spray/Premium
7. Baygon Spray, etc. (Mortein)
8. Vim or equivalent
9. Surf or equivalent
10. Mild Acid etc. for W/Cs
11. Toilet paper for Toilets
12. Brasso .
13. Colin
14. Harpic/Sanifresh
15. Bleaching Powder
16. Wiper
17. Hockey type brush
18. Round brush.
19. Steel wool
20. White duster (big) appx.36"x36")
21. Yellow duster (big) appx.36"x36")
22. Floor duster
23. Soft broom
24. Hard broom
25. Garbage bags(big size)
26. Rubber pump
27. Jala Brush
- 28 Scotch Brush
29. Carpet Brush
30. Thinner
31. Batti
32. Lift cleaner.
33. Floor polilshing compound
34. Industrial, Mechanical scrubbing machine.
35. Vacuum Cleaner.
36. Floor Scrubbers (Electrically operated )
37. Spray pun for cleaning glass panes etc.
38. Hand Trolley
39. Buckets 16 ltrs.
40. Plastic Mugs.
41. Big Dustbins/Plastic containers.
42. Wooden planks/bamboo/Bucket/Coir Rocks

**Approximate Quantities of above mentioned materials are given in Annexure E.**

### 30. Meaning / Definitions

- i) Tenderer / Bidder/Contractor / Agency / PFMS where ever mentioned herein shall mean the "Contractor" selected by the Bank for the work described in this tender.
- ii) Employer / SIDBI / Bank - shall mean Small Industries Development Bank of India (SIDBI).
- iii) Office / Premises - shall mean SIDBI's Office premises at MSME Development Centre, C-11, G- Block, BKC, Mumbai - 400 051.
- iv) Contract value - Amount as quoted and accepted by the Bank for **two** years.

### 31 SPECIFICATIONS/ FURTHER DETAILS

#### A. Housekeeping

1. Cleaning immediate periphery around the building
2. Cleaning the entire common area
3. Cleaning of office spaces
4. Sweeping and mopping of staircases, lift lobbies, passages etc.
5. Cleaning of glass panes, windows and other glass surfaces
6. Disposal of garbage
7. Cleaning of elevators
8. Polishing of metal surfaces
9. Weekly washing down of the compound area, driveways and basement of the building
10. Weekly scrubbing and cleaning of walls, floors and removal of cobwebs
11. Damp moping of tiles, vitrified floors, sidewalls and reception areas.
12. Emptying all waste paper baskets, ashtrays (if applicable from the office premises.
13. Cleaning of glass table tops, cabin doors, cabin partitions and glass accessories.
14. Wipe clean all boards of meeting rooms, conference rooms, workstations, etc.
15. Wipe clean all table tops of workstations, cubicles and other furniture and fixtures.
16. Vacuuming of all rugs, carpets and blinds.
17. Thorough cleaning and sanitization of toilets, bathrooms and wash basins.
18. Keeping all surfaces free of grime, soap mud and smudges.
19. Quarterly Facade Cleaning including Glass and ACP with necessary equipments/materials/safety provisions.
20. **External granite stone facade cleaning**
  - a. One time cleaning of Granite Stone exterior Cladding surface (flame finished) using mechanical brushes/grinder with water and special cleaner for stone (PH neutral) and removal of all accumulated dust, stains due to dirt etc to be removed to whatever extent possible including scaffolding/Jhula etc. With all safety accessories/precautions at any height.

- b. Opening of joints and removal of sealant/grout (wherever opened, damaged, leaked) already filled and cleaning of the joint. This work has to be taken up in consultation with the officials of the Bank.
- c. Placing of backer rod and filling the joints of Granite Stone Cladding wherever required using silicone sealant (Dow corning or GE (silpruf) in the approved shade with manufactures using masking tape etc. Depth of sealant will be maximum 6mm.
- d. Providing and applying transparent coating of SS Solv Aqua or approved equivalent in two or more coats on the cladded surface after cleaning the stone surface including scaffolding /Jhula with all safety accessories/precautions etc complete as per manufacturers recommendations so as to have smooth water proof , dustproof, shining coating on the surface of the granite stone.

The above work is necessarily is to be executed for improvement of external facade and is to be completed in totality.

**Special conditions for above item:**

**This work is one time and it should be done through a specialized agency experienced in such works.** However, the Contractor has to make necessary arrangement for safety belts, scaffolding, Jhula etc. as required for smooth execution of works and contractor has to ensure all safety measures and also submit the Contractor's All Risk Insurance Policy (At least for Rs. 10 lakh) before commencement of work.

Contractor has to prepare sample and obtain the approval for the same before carrying out entire work. Electricity will be provided by the Bank at a single point supply/source. However, the contractor has to make own arrangement for distribution from that single point source.

The chemical/materials to be used should be safe and certified for its purpose cleaning/joint filling etc besides environmental friendly. Contractor has to obtain prior approval from the Bank to use any material/chemical etc.

- e. Thereafter, quarterly cleaning of Granite Stone cladding with water jet , brush and cleaning material should be carried out in the contract period including extended period if any.

**B. Lift-operation**

1. Operate the elevators
2. Monitor movement of visitors
3. Monitor movement of goods & ensure that the goods cause no damage to the elevators.
4. Handle emergencies.
5. Ensure that the elevators are not misused by carrying heavy items.

## **C) ELECTRICAL INSTALLATION WORKS**

### **EARTHING**

#### **A.1 Requirement**

- i) It shall be ensured that the following equipments are earthed:
  - 1) All metallic conductor enclosures.
  - 2) Under any of the following conditions, exposed non-current-carrying metal parts of the fixed equipment which are liable to be earthed.
    - a) Where the equipment is supplied by means of metal clad wiring
    - b) Where equipment is located in a wet location and is not isolated
    - c) Where equipment is located within reach of a person who can come in contact with any earthed surface or object.
    - d) Where equipment is located within reach of a person sending on the ground
    - e) Where equipment is in a hazardous location
- ii) All metal enclosures of electrical equipment in sub-stations shall be effectively earthed.
- iii) Before starting work on underground cables, all its conductors shall be discharged effectively and it's both ends are earthed. Dead cables shall be identified by available means and the adjacent cables, if any, shall be provided suitable protection.
- iv) Static condensers shall be disconnected from the source of supply, discharged and then earthed before starting work on them. If they are charged, heavy sparks will be drawn from them. To discharge them completely, earthing rods shall be used and contact made with each terminal in turn and the same shall be repeated until no spark is observed.

#### **A.2 MAINTENANCE**

- i) The earthing device shall first be connected to an effective earth provided for the purpose and the other end of the earthing device shall then be connected to the conductors of the apparatus to be earthed. The process of removing the earth device shall be reverse of that adopted for placing the earth.
- ii) The earthing of all electrical apparatus and equipment in sub-station, distribution stations, etc. shall be periodically tested and inspected. Ordinarily a Megara Test to check continuity of earth will suffice and shall be done once in six months. Earth tester suitable for three electrode method of testing earths shall be used wherever required or as per local regulations. Where no such regulation is in existence this shall be done once in two years.
- iii) All earthing systems shall, before electric supply lines or apparatus are energized, be tested for electrical resistance to ensure efficient earthing.

- iv) All earthlings in systems shall be tested for affectivity on a dry day during dry season at least twice a year.
- v) All earthlings in systems shall be maintained and if upon testing, resistance is found to be higher than the prescribed values, immediate, steps shall be taken to rectify the faulty earth:

S.No.	Installations	Maximum Resistance to earth (in Ohms)
1	Sub-section earthing stations	2
2	Steel poles and supports of low and medium voltage local distribution system	5
3	6.6KV & 11KV transmission lines supports	5
4	U.P.S. / EPABX	1

- vi) In case of pipe / plate electrodes earthing arrangement, three or four buckets of water shall be poured into the sump through the watering funnel once a month to keep the soil surrounding the earth pipe / plate permanently moist.
- vii) Care shall be taken to protect the earth wire against mechanical damage and possibility of corrosion particularly at the point of connection to earth electrode or earth continuity conductor. Remedial measures shall be taken, wherever necessary.
- viii) Periodical visual inspection of all earth, electrode connections wherever available, shall be carried out to ensure their rigidity and to check any other signs of deterioration.
- ix) Where installations are earthed to a metal sheath of the supply cable, it shall be verified periodically that the earth fault loop is in a satisfactory state.
- x) Monthly record of tests carried out shall be maintained as per the proforma given below and these shall be preserved for a minimum period of 2 years from the date of testing.

#### Maintenance of earthing System

Month	Watering of stations	Visual check of system	Megger Test	Remarks	Initials of electrician / A.C. & Maintenance Engineer
January					
February					
March					
April					
May					
June					

July					
August					
September					
October					
November					
December					

**B. TRANSFORMER / SUB-STATION**

The building is having power supply from TATA Power with Transformer under their scope. PFMS Contractor is required to coordinate with them as also ensure following precautions.

**B.1 Safety precaution and Physical inspection.**

Before starting any maintenance work, the transformer shall be isolated from the supply and the terminal earthed. No combustible material shall be kept near the transformer, while any maintenance work is being carried out. The following physical inspection shall be carried out:

- i) Bushings – The bushings both on H.T. and L.T. sides shall be checked for cracks and chips. Slight chip can be ignored but for major cracks, it is desirable to replace the bushings. Stock of the bushings shall be kept in consultation with the manufacturers. Bushings shall be checked quarterly and cleaned periodically.
- ii) External connection – It shall be ensured that all the connections are tight. If the connection strips are observed to be black and corroded they shall be removed, cleaned with emery paper and given heavy grease coating. If the connection strip is bluish it is an indication that it has been hot for some time. This means that either the connection has become loose or the conductor.
- iii) The physical check up of cables may be done on alternative or any peak load condition by touching so as to ascertain the normal or abnormal temperature with due precautions.
- iv) Remove dust from external surface monthly.
- v) Check up winding temperature daily (when indicator is provided).
- vi) Clean the coils and remove any deposits within the ventilation passage through which cooling air flanks.
- vii) General – General superficial conditions of the connecting cable on sides, cables joint box, etc. shall be checked half yearly.
- viii) Earth continuity particularly in case of transformers with neutral earthing and general earthing of the metal structure shall be checked annually. Records of the earth test results shall be kept.
- ix) A Log Book for transformer readings shall be maintained.
- x) The over load if any shall be only for specific duration as per manufacturers standard and remaining period rated load.

### C. SUBSTATION AND INTERNAL ELECTRICAL INSTALLATIONS

From the point of view of safety of life and materials, various checks that shall be carried out are tabulated below:-

i)	General House keeping of the area to avoid collection of foreign materials like paper, rag waste, oil / grease and other inflammable materials.	Weekly
ii)	Verification of transformer tank, oil circuit breaker and other oil carrying equipments against oil leaks.	Monthly
iii)	Effectiveness of oil drainage system including piping and soak pit, where provided.	Six monthly
iv)	Checking of operation of all trip circuits, relays and instruments like voltmeters and ammeters by stimulating conditions	Six monthly
v)	Checking of internal wiring for control circuits of circuit breakers and tightening all loose connections (ensure that none of the controls and safeties (trip) circuits are by-passed at any time).	Six monthly
vi)	Against physical damage to main boards, switches and distribution boards and rising mains.	Six monthly
vii)	Tightening of all internal connections of cables in DBs, switch boards, rising mains, etc.	Six monthly
viii)	Survey of lighting fixtures against physical damage to chokes, holders, internal wiring, etc.	Six monthly
ix)	Survey of point wiring against physical damage to conduit / batten / wires / supporting arrangement.	Six monthly
x)	Insulation resistance test of wiring system and equipment	Six monthly
xi)	Check against improper sizes of protective fuses	Six monthly
xii)	Check loads on mains, sub-mains, sub-mains and feeder points with long tester to ensure that there is no over-loading.	Six monthly

### D. EMERGENCY LIGHTS

- i) The power plug points to be checked for proper single phase 230v supply is available.
- ii) The manufacturer's standard instruction shall be strictly followed

### E. SWITCHGEARS, CABLES AND FIXTURES, ETC.

Whenever any additional load is added to electrical installation, the main switch, bus bar chamber, sub-main cable, circuit main, etc. shall be checked against overload.

The various periodical checks to be carried out in respect of switchgears, cables and fixtures, etc. are tabulated below:



### E.1 BUS BAR CHAMBER

i)	Superficial inspection for abnormal temperature rise	Weekly
ii)	Cleaning the bus bar chamber (for dust and other foreign materials)	Half yearly
iii)	Checking the copper bus bars for any carbon deposits	Half yearly
iv)	Tightening the outlet jumper connection including resoldering wherever necessary	Half yearly
v)	Checking the bus bar insulators for breakage / failure	Half yearly
vi)	Megger testing (phase and phase to earth)	Yearly

### E.2 FITTINGS

i)	Physical cleaning of luminaries (Fluorescent, incandescent fixtures) including the lamps	Half yearly
ii)	Checking of choke, etc. for overheating due to failure of insulation, etc. and replacing defective chokes wherever necessary.	Half yearly
iii)	Checking the terminal connections and internal wiring of the fixtures.	Half yearly

### E.3 CABLES AND CABLE JOINTS

i)	Superficial checking of the cable and cable joint for abnormal temperature rise and any physical damage	Quarterly
ii)	Checking the condition of the bituminous compound (in case of cable joints for paper insulated cable).	Quarterly
iii)	Megger testing for insulation resistance between phases and phase to earth.	Yearly
iv)	Check the load on the cable (with Ampere meter / Tong tester).	Yearly

### TROUBLE SHOOTING CHART (ELECTRICAL)

Control	Trouble	Probable causes	Corrective steps
1. Contacts	Chatter	i) Low voltage  ii) Poor contact in control circuit	Check voltage. Check momentary voltage dip during starting. Check coil voltage rating.  Check push button station (stop button contacts), auxiliary switch contacts and over load relay contacts. These can be tested with test lamp. If control circuit contacts are defective the

		iii) Defective or incorrect coil	<p>contactor will operate properly when these contacts are by passed. Check for loose connections in control circuits.</p> <p>Replace the defective coil. Coil rating must include system's nominal voltage frequency.</p>
	Welding	<p>i) Abnormal in rush of current.</p> <p>ii) Low voltage preventing magnet from sealing</p> <p>iii) Short circuit</p>	<p>Check for grounds and shorts in system as well as other components such as circuit breaker.</p> <p>Correct the voltage condition</p> <p>Remove the fault and check the fuse breaker size.</p>
	Short push button life and / Dr. over heating of contacts	<p>i) Filing for dressing</p> <p>ii) Discolored contacts, caused by insufficient contract pressure, loose connections etc.</p> <p>iii) Excessive jogging or cycling</p> <p>iv) Dirt or foreign materials on contact surface</p> <p>v) Short circuit</p> <p>vi) Sustained over-load</p>	<p>Do not file silver tips. Rough pots of discoloration will not harm tips or impair their efficiency.</p> <p>Replace contact springs, check contact carrier for deformation or damage.</p> <p>Clean and tighten connections.</p> <p>Eliminate excessive jogging or cycling</p> <p>Clean it with carbon tetrachloride</p> <p>Check the fuse of breakers and remove fault.</p> <p>Check for excessive motor load current.</p>
2. Coils	Open Circuit	<p>i) Mechanical damage</p> <p>ii) Burnt-out coil due to over voltage or defect.</p>	<p>Handle and store carefully. Do not handle coils by the leads.</p> <p>Replace the coil</p>

	Overheated Coil	<ul style="list-style-type: none"> <li>i) Over-voltage or high ambient temperature</li> <li>ii) Wrong coil</li> <li>iii) Shorted turns caused by mechanical damage</li> <li>iv) Under voltage failure of magnet to seal in</li> <li>v) Intermittent duty coil energized too long</li> </ul>	<p>Check application and circuit</p> <p>Check rating (Voltage and frequency), if incorrect, replace with proper coil</p> <p>Replace the coil</p> <p>Correct the system's voltage and install new coil.</p> <p>Check application.</p>
3. Magnets and other mechanical parts	Worn out or broken parts	<ul style="list-style-type: none"> <li>i) Too much cycling. Dust and dirt or mechanical misuse.</li> </ul>	<p>Replace the part and correct the cause of damage.</p>
	Noisy magnet (humming)	<ul style="list-style-type: none"> <li>i) Defective coil</li> <li>ii) Magnet faces not meeting correctly.</li> <li>iii) Dirt, oil or foreign materials on magnet faces.</li> <li>iv) Low voltage.</li> </ul>	<p>Replace the coil.</p> <p>Replace magnet assembly. Humming magnet armature and rotating by 180 Deg.</p> <p>Clean magnet faces with carbon tetrachloride.</p> <p>Check system's voltage and voltage dips while starting.</p>
	Failure to pick-up and / or seal	<ul style="list-style-type: none"> <li>i) Low Voltage</li> <li>ii) Open or shorted coil</li> <li>iii) Wrong coil</li> <li>iv) Mechanical obstructions</li> </ul>	<p>Check system's voltage and voltage dips while starting</p> <p>Replace the coil</p> <p>Check coil voltage rating which must include system's nominal voltage and frequency.</p> <p>With power off, check for free movement of contact and armature assembly. Remove foreign objects</p>

		v) Poor contact in control circuit	or replace the contractor. Check and rectify.
	Failure to drop out	i) Gummy substance on pole faces, or in mechanism ii) Voltage not removed from control circuit iii) Worn out or rusted parts causing binding eg. Coil guides linkages, etc. iv) Residual magnetism, due to lack of air gap in magnet path. v) Improper mounting of starter	Clean with carbon tetrachloride  Check control circuit  Replace the contractors  Replace the contractors  Remount the starter as per installation instructions.
4. Overload relays	Tripping	i) Sustained overload ii) Incorrect heater, or ambient temperature varies a good deal iii) Motor and starter in different ambient temperature iv) Loose connection on heater screws on lead wires.	Check for grounds, shorts or excessive motor current. Select the correct size heater.  Install motor and starter nearer each other, make temperature same for both or use ambient compensated overload. Clean and tighten.
	Failure to trip	i) Mechanical binding, dirt corrosion, etc. ii) Wrong heater or heaters omitted and jumped wired used.	Replace overload and heater.  Check ratings and heater tables and apply proper heater.

		iii) Relay previously damaged by short circuit. iv) Motor and relay in different ambient temperatures.	Replace overload relay and heater.  Install motor and relay nearer each other, make temperature same for both or use ambient compensated overloads.
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**F) DG SET**

It shall be checked for their proper working condition once a week. Sufficient stock of diesel shall be kept. A log book showing details of weekly inspection / running purchase and use of diesel, etc. shall be maintained. A cross check of quantity of diesel consumed and running time of generator set shall be carried out quarterly.

**G) Plumbing**

Plumber's Job responsibility is:

1. Maintain all supply and drainage pipes, ensure that there is no chokage and the system is working at self cleansing velocity without surcharging at the Manholes / Inspection chambers.
2. Maintain all valves, taps, floats and other plumbing and sanitary / fittings along the perimeter wall free from leakages.
3. Maintain all fixtures (cistern, basin, commode, urinals, taps, etc.) and pipes in the toilet.
4. Ensure that the pressure of water supply for the fire fighting system is maintained at the required level.
5. Check supply and drainage to and from water cooler and water filter.
6. In co-ordination with the upkeep personnel, help to control pests by opening the drainage chambers if any, adjacent to the building, to spray insecticides as and when required.
7. Before each monsoon, check and clean terrace, storm water drain and pipes of silt, debris and dry leaves.
8. Clean all waster tanks, at least twice every year, and disinfect, specially, before the start of the rainy season.
9. Test the drinking water clinically every 6 month for portability and take corrective measures, at best efforts basis, to the best of ability if the impurity level is high.
10. The plumber shall in the course of his duty shift:
  - Monitor the water level
  - Place order for tanker water when required if directed by the bank.
  - Maintain a day-to-day record of tanker water supply whenever ordered for.

## **H) FIRE PROTECTION SYSTEM**

PFMS contractor shall be responsible for observing and maintaining co-ordination with firemen and respective AMC Contractor for maintenance and timely renewal so that following system is always maintained in working condition.

### **H-1. WET RISER SYSTEM**

#### **Routine**

- i) Check and clean hydrant valves, hose reels fire shafts and replace parts, if any, immediately. Keep the system in working condition at all times.
- ii) Inspect the system for any leakage with special attention to fittings, valves, pipelines, joints, air valves and set them right immediately, if required.
- iii) Check the fuel tank of diesel engine driven fire pump and maintain log book duly signed by supervisor.
- iv) Check the batteries for proper charge, level of electrolyte and good terminal connections and maintain log book.
- v) Check the level of the water in the static water tank for firefighting purposes.
- vi) Check the automatic working of all pumps and maintain log book.

#### **Weekly**

- i) Check the gland pickings
- ii) Check the lever of water in the priming tank and replenish it, if required.
- iii) All metal parts should be cleaned by grass.

#### **Monthly**

- i) Check the automatic operation of the hydrant system.
- ii) Operate all the hydrant valves and check washers, plugs, couplings, nozzles, etc.
- iii) Check C.I. Valve gland packing and adjust / replace, if required.
- iv) Check rubber hoses giving special attention to couplings, washers, plugs and canvas jacket and swivel arrangement of the rubber hose reel.

#### **Quarterly**

- i) Drain the Wet Riser System thoroughly. Set it to the required pressure. Check the air valves for efficient functioning. Check the operation of various pressure switches by stimulating conditions. Clean all contact areas of pressure switches.
- ii) Unroll the hose reels completely. Allow the water to pass through the rubber tubing / canvas hoses. Check for leakage, wash and dry them without subjecting to the direct sunrays. Re-roll the hose reels properly. French chalk powder to the rubber tubing shall be applied before re-rolling.

#### **Half yearly**

- i) Check all contacts and termination points of cables on starter and switches and motor side and tighten all loose connections.

- ii) Check and ensure that all fuses are in good condition and contact surfaces are free from pitting.
- iii) Megger the electrical system for effective insulation resistance.
- iv) Check current drawn by motors to ensure that it is not beyond the rated value.
- v) Check earthing system for its effectiveness
- vi) Service all the valves.
- vii) Inspect suction pipe, intakes and foot valve to ensure that they are free from obstructions, foreign materials, etc.
- viii) clean the static water storage tanks six monthly while doing so sufficient separate storage arrangements or standby arrangements are made during the cleaning operation to meet any emergency etc.

#### Annually

- i) Test the gauges on the installation by comparing them with a test gauge.

## **H-2 SPRINKLER SYSTEM**

#### Routine:

- i) Check main controlling valve, inspect for any leakages in fittings, valves, pipelines, joints, air valves to get designed water pressure in the system.
- ii) Check the level of water in the static water tanks to ensure that the tanks are full at all times.
- iii) Check the reading on pressure gauges with reference to standard reading and maintain log book.
- iv) Clean and check the piping to ensure that is free from any damage, corrosion, dust and other foreign materials, etc.

#### Weekly

- i) Check flow – alarm device. The small valve, controlling the water supply to alarm device shall be in open position.
- ii) Test the alarm by operating gang bell.
- iii) Start the pump by opening test valve to ensure dependability of the pump, bearings, stuffing box, suction pipe and strainers.

#### Monthly

- i) Clean the sprinkler glass bulbs with spirit.
- ii) Inspect and service the installation valve.

#### Quarterly

- i) Drain the sprinkler system thoroughly and set and set it to the required pressure.

#### Half yearly

- i) Inspect suction pipe, intakes and foot – valve s to ensure that they are free from obstructions, foreign materials, etc.
- ii) Clean the tanks thoroughly
- iii) Test the system by actuating one of the sprinkler heads

iv) Test the gauges on the installation by comparing them with a test gauge.

For pressure switches, pumps and other similar gadgets, instructions listed out in the case of wet riser system shall apply.

### **H-3 FIRE BRIGADE INLETS (BREACHER CONNECTION)**

The fire brigade inlets are provided on the external of the compound / building at convenient place for the local fire engines to pump water into the installation / tank by lapping external source.

Routine

- i) Clean and check the water inlets for any damages
- ii) Ensure that the water inlets are covered with blank caps

Quarterly

Pass water under pressure through the inlets. Check for any leakage in the pipe line and the non-return valve. Drain the pipe line.

### **H-4 FIRE FIGHTING PUMP INSTALLATIONS**

In order to maintain the fire pumps in operating conditions it shall ensure that installations are tested periodically keeping in view the following guidelines.

- i) The approach to the fire pump room shall be kept near and clear of debris, etc. The approach shall be adequately illuminated.
- ii) The key of the Fire Pump Room shall be easily available at the time of emergency.
- iii) The Fire Pump Room shall be kept near and clean and shall not be used for any other purpose. No other material except fuel and lubricants, spares for the engine and the pump, shall be stored in this room. An emergency lamp in good working condition shall always be available in the room.
- iv) It shall be ensured that the fuel tank is always full and a stock of fuel equivalent to the capacity of the tank shall be available in the pump room. The engine oil shall be checked periodically and replaced, if necessary. A log book for recording receipt and consumption of fuel engine oil shall be maintained by the person operating the pump.
- v) If the pump-set fails to function on any day, immediate action shall be taken to get it repaired and commissioned, keeping the down time to minimum.
- vi) The person responsible for operating the pump shall maintain a Log Book containing the information about the date and time of operating of fire pump, details of defects if any noticed with time and date action taken to set right the defects, the time of which the pump set was put back into operation.
- vii) All Log Books shall be produced before the Assistant General Manager / Deputy General Manager once a month.
- viii) As far as possible the procedure laid down in the Tariff Advisory Committee's Fire Fighting Manual shall be followed for operation and maintenance of the fire fighting pumps and installations.



## H-5. FIRE EXTINGUISHERS

### a) Carbon Di-oxide Extinguisher

#### **Routine Quarterly**

- i) Clean the body, horn and wheel-locking pin
- ii) Weight the extinguisher. If the weight of the contents is reduced by more than 10% it shall be sent for recharging.
- iii) Clean and polish the body with wax
- iv) Check tube, horn, joints, locking pins. Apply chalk powder for the tube externally.

Whenever the extinguisher is sent for recharging, it shall be ensured that the same is pressured tested by the gas charging company by subjecting it to a pressure up to 210 kgs. / cm<sup>2</sup>.

### b) Other Extinguishers if any

Periodical maintenance as per manufacturer's specification

All the fire fighting installations shall be maintained in perfect serviceable condition so that their utility in emergency is availed of. The Facility Manager shall be over all in charge of such installations and he in turn shall get himself well acquainted with the use and operations of these equipments and train all Security Service Personnel as well as those of staff members desirous of learning their operations, if need be, by requisitioning the services of local Fire Brigade personal / agencies who supply and service periodically such units.

Fire is everybody's concern and as such all members of staff must be made aware of Fire hazards and fire fighting installations provided in the premises and their operation to fight fire in its incipient stages. A fire sense is required to be imbibed in each and every staff member.

## H-6 FIRE ALARM / PUBLIC ADDRESS SYSTEM

S. No.	Description	Daily	Quarterly
	Fire Alarm System		
1	Acknowledge all the alarms	Yes	
2	Check the supply voltages phase neural, phase earth & neutral earth		Yes
3	Check the battery voltage and its backup made operation		Yes
4	Check the fire and other alarm condition		Yes
5	Check functioning of all hooters		Yes
6	Check and ensure that all interlocks with AHU's and access doors are working		Yes
7	Clean detectors depending on the analogue value of		Yes

	detectors		
8	Clean all the detectors in the system		
	<b>Public Address System</b>		
1	Ensure power to amplifier is on	Yes	Yes
2	Check the functionality of amplifiers		Yes
3	Ensure music volume is at desired level		Yes
4	Check the functionality of speakers		Yes

### 32. SCHEDULE OF EQUIPEMNTS

#### Electrical Installation

The package consists of the following:-

2 Nos. H.T. indoor vacuum circuit breakers  
 1 No. 1000 KVA V9674/3 indoor dry type  
 2 Nos. ACB Panel 2500 ATPN Manual non draw out

Main Distribution Board-Incomer-2000A-2 nos & 800A-2 nos, Bus Coupler-2000A-3 nos, Outgoing- 630A-3 nos, 400A-5 nos, 200A-5 nos, 125A-1 no, 100A-10 nos & 63A-1 no, 1000 ampere ACB and bus coupler, feeder pillar, DG & Auxilliary panel.

1 No. 1200 ampere ACB for air conditioning main.  
 1 No. 600 ampere rising main (normal)  
 1 No. 400 ampere rising main (emergency)

Ventilation fan panels 06 Nos. for upper and lower basement. (2 in upper, 4 in lower basement).

Capacitor Control Panel 145 KVAR 2 Nos.

UPS 30 KVA – 3 Nos.

3 Nos. sets of 2 volts, 125 ohms 60 cells each set battery cells and 2 Nos. battery chargers.

Earth pit 12 Nos.

Lighting fixtures – Dark light, 2x36W CFL, GE D/I P R-300 HF, 2'x2' -287 Nos.-INDOOR

**Telecommunications**

- 1 EPABX having capacity of 200 analouge & 72 digital intercom & 3 ISDN PRI lines.
- 3 Field MDD of 100 pairs- Datacenter & Dealing Room
- 9 Field MDD of 50 pairs @ each floor.

**Diesel Generator Plant**

Diesel Generator set of 500 KVA, water cooled engine, 604 BHP. 1500 RPM with alternator rated 415 V, 50 Hz. 3 Phase, 0.8 Power factor and supplied with 990 litres fuel tank with acoustic insulation incl. FRP cooling tower of 281000 K.Cal/Hr heat rejection capacity & .

AMF Panel 800 amperes 4 Pole ACB 1 No.

**LIFTS**

**Particulars of lift service**

Sr. No.	Particulars	Type of lifts			Remarks
		Executive	Staff/ Common	Passenger	
1	Capacity	13 persons 884 KG	13 persons 884 KG	8 persons 408 KG	Passenger Lift: Has 11 stops: Gr. to 7 <sup>th</sup> opens front & LB, UB and 8 <sup>th</sup> fl. Opens rear side
2.	Number of lifts	1 No.	2 Nos.	1 Nos.	
3	Speed	1.5 mtr. Per second	1.5 mtr. Per second	1.75 mtr. Per second	
4	Travel	30.1 m	30.1 m	41 m	
5	Floor travel	Ground floor to 8 <sup>th</sup> floor	Ground floor to 8 <sup>th</sup> floor	Upper / Lower basement to 8 <sup>th</sup> floor	
6.	Hoist way	2500mm (W) x 1950 mm (D)	2500mm (W) x 1950 mm (D)	1900mm (W) x 1650 mm (D)	

**FIRE PROTECTION SYSTEM**

Pumps :

Fire Hydrant Pump – 1 No. (Electric driven)

- Type : ET-4
- Head : 88 m
- Capacity : 10.8 M3/Hr

Speed : 2900 rpm  
Motor : Mather+Platt – 3 ph induction motor

Fire Hydrant Jockey Pump – 1 No. (Electric driven)

Type : ET-19  
Head : 88 m  
Capacity : 10.8 M3/Hr  
Speed : 2900 rpm  
Motor : Mather+Platt – 3 ph induction motor

Sprinkler System Pump – 1 Nos. (Electric driven)

Type : ET-4  
Head : 88 m  
Capacity : 10.8 M3/Hr  
Speed : 2900 rpm  
Motor : Mather+Platt – 3 ph induction motor

Sprinkler Jockey Pump – 1 No. (Electric driven)

Type : Monoblock  
Head : 40 m  
Capacity : 900 lit/minute  
Motor : Mather+Platt – 3 ph induction motor

Booster Pump – 1 No. (Electric driven)

Type : ET-26L  
Head : 88 m  
Capacity : 10.8 M3/Hr  
Speed : 1800 rpm  
Motor : Mather+Platt – 3 ph induction motor

Diesel driven pump (common for hydrant / sprinkler system)-Greaves make

Type : YDC-Mk-3  
Head : 88 M  
Speed : 1800 rpm  
Engine Type : 3YDC MK 3

**Landing valves –**

6 Nos. at lower basement  
06 Nos. Court yard hydrants

1 hydrant risers at East and West Wing have – 1 Nos. landing valve  
1 Nos. – Hose reel drum with 30 m long 20 mm dia high pressure reinforced rubber  
1 Nos. – Branch pipe lined hose with shut off nozzle  
2 Nos. –Canvas hose of 15 m long 63 mm dia controlled percolation hoses with instantaneous coupling.

### **Sprinkler system**

Sprinkler-599 nos., Smoke & Heat Detector-354 nos

At LB, UB, Gr. To 8<sup>th</sup> floor connected to G.1. Pipes, 'C' Class with necessary isolation valve, flow switches and flushing / drain valve at all floors. Sprinklers are thermo sensitive glass bulb actuated type and shatters at 68 degree C temp. Types of sprinklers are pendant type.

### **Portable Extinguishers**

- 1) Dry chemical power (DCP) type to capacity 5 kg / 10 kg.
- 2) CO2 type fire extinguisher of capacity 4.5 kg. / 9 kg.  
Buckets painted Red.

### **Fire Detection System**

System consists of Integrated Fire Detection and early warning system.

Integrated system consists of the following

Analog addressable Ionisation smoke detectors  
Analog addressable Thermal detectors  
Analog addressable photo electric cum Thermal detectors

Addressable monitor module. Addressable control module, Analog addressable main fire control panel, Enunciator, voice evacuation and massager including hooters, sirens, etc.

A public address system complete with Amplifiers, wall mounted ceiling mounted ceiling mounted speakers, microphone suitable for connecting to the voice evacuation and message system.

Connectivity to the Building Automation System like AHU, staircase and shaft pressurizing fans.

Fire alarm system consist 1 No. Addressable fire alarm control panel with 6 loops. The panel is intelligent, addressable with 8 analog loops with battery back up of 4 hrs. each loop handling 125 detectors.

### **33. FORMATS RECOMMENDED FOR USE FOR OPERATION, MAINTENANCE & REPAIR RECORDS**

<b>Sr. No.</b>	<b>Description of Format</b>	<b>Remarks</b>
1.	Daily Report	To be submitted by PFMS Contractor
2	Monthly Consumable / spares Consumption Statement	To be submitted by the PFMS contractors every month
3	Daily Attendance Sheet	To be submitted by PFMS Contractor

S No	NAME OF RECORD ( As applicable including coordination with other agencies)
1	Customer Complaint Register/ Job Request Register for PFMS
2	Monthly Report Format for O & M Team
4	Daily Report for Electrical Services
5	Water Level Daily Report
6	Housekeeping Schedule
7	Pest Control Schedule
8	Work Instructions for House Keeping PFMS Team
9	Checklist for Toilet
10	Checklist for Common Areas
11	Performance Slip
12	Pest Control Log Book
13	Annual Maintenance Schedule
14	Check List for Periodical Audit
15	Break Down Complaint Register
16	Spares Register
17	PFMS – Periodic Preventive Maintenance
18	PFMS Schedule for Electrical Systems
19	PFMS Schedule for Fire Protection System
20	PFMS Schedule for DG Sets
21	Key Register
22	PFMS Checklist – Chiller – Weekly, Monthly, Quarterly, Half Yearly, Annually
23	PFMS Checklist – Chilled Water Pump – Weekly, Monthly, Quarterly, Half Yearly, Annually
24	PFMS Checklist – Air Handling Unit – Weekly, Monthly, Quarterly, Half Yearly, Annually
25	PFMS Checklist – LT Panel– Weekly, Monthly, Quarterly, Half Yearly, Annually
26	PFMS Checklist – Capacitor Panel- Weekly, Monthly, Quarterly, Half Yearly, Annually
27	PFMS Checklist – Distribution Panel- Weekly, Monthly, Quarterly, Half Yearly, Annually
28	PFMS Checklist – Earth Pits- Half Yearly, Annually
29	PFMS Checklist – Diesel Pump – Hydrant – Weekly, Monthly, Quarterly, Half Yearly, Annually
30	PFMS Checklist – Main Pump – Hydrant – Weekly, Monthly, Quarterly, Half Yearly, Annually
31	PFMS Checklist – Main Pump – Sprinkler – Weekly, Monthly, Quarterly, Half Yearly, Annually
32	PFMS Checklist – Jocky Pump – Hydrant – Weekly, Monthly, Quarterly, Half Yearly, Annually
33	PFMS Checklist – Jocky Pump – Sprinkler - Weekly , Monthly, Quarterly, Half Yearly, Annually
34	PFMS Checklist – Booster Pump – Weekly, Monthly, Quarterly, Half Yearly, Annually
35	PFMS Checklist – Sprinkler – Weekly, Monthly, Quarterly, Half Yearly, Annually
36	PFMS Checklist – Fire Extinguisher – Monthly, Quarterly, Half Yearly, Annually
37	PFMS Checklist – Diesel Generator – Weekly, Monthly, Quarterly, Half Yearly, Annually
38	PFMS Checklist – Water Pump – Weekly
39	PFMS Checklist – Ventilation Fan – Monthly, Quarterly, Half Yearly, Annually
40	PFMS Checklist – General Plumbing – Monthly
41	PFMS Checklist – Fire and Raw Water Tank Pumps – Monthly