

Government of India
BHABHA ATOMIC RESEARCH CENTRE
Waste Management Division
Waste Management Facilities, Trombay

Ref.: - WMD/WMFT/ETP/EE&I / 2018-19/

Date- 26-10-2018

Subject: Tender Inquiry for Minor Fabrication Work

Sealed quotations are invited by for and on behalf of President of India by Chief Superintendent WMD, Trombay, WMD, BARC, Mumbai from the approved and eligible Contractors having adequate experience in works of similar nature with the units of DAE, NPCIL, or Public Undertakings.

Description of Work: Removal, through dusting and cleaning, overhauling & maintenance of installed live PCC, MCC, MCCB, PDB, LDB with bus bars & starters, maintenance and measurement of resistance of earthing pits, preventive maintenance, cleaning, testing of three phase induction motors with starters and preventive and breakdown maintenance of lighting fixtures and power points at ETP, DC and RSMS WMFT, Trombay. The technical specification is given in the Annexure - A

Venders may telephonically contact on 25594624/4707/6305 for any queries regarding the above work.

The last date for display of the tender is **12/11/2018** and receiving of the sealed quotation is **16/11/2018 up to 12.00 Hrs.** The sealed quotation will be opened on **16/11/2018** at **14.00 hrs** in the office of Account Officer, NRG, BARC, Trombay.

Terms and Conditions:

1. Quotation should be submitted on printed letter head indicating GST registration no., PAN Card No. of the firm.
2. Sealed quotations should be submitted only through *registered post / speed post* through *Indian Postal Services*.
3. Sealed envelope should clearly indicate Name of Work, Ref. No. & Due Date of submission of quotation. Address on envelope should read

Kind Attention: Shakti Kumar Mishra (SO/E)
ETP Building, Deed Complex, Waste Management Facilities,
Waste Management Division,
BHABHA ATOMIC RESEARCH CENTRE, Trombay, Mumbai
400085

4. Your offer shall be valid for minimum period of 30 days from the date of opening and quoted price shall remain firm during the period of execution of the order.
5. Taxes, duties, levies, other charges etc. if any, shall be clearly mentioned.
6. Payment will be made within 45 days after successful completion of work. It may be noted that the income tax @ 2 % and surcharge on income tax as applicable and educational cess on IT & SC as applicable shall be deducted from your bill.
7. Work shall be completed within 12 months from release of the work order.
8. Chief Superintendent WMD, Trombay reserves the right to accept / reject any or all quotations without assigning any reason.
9. Contractor who have PVC and valid entry in BARC can quote only for this work.



Thanking you,
Yours faithfully.

(Shakti Kumar Mishra)

SO/E, WMD/WMFT

Annexure - A
TECHNICAL SPECIFICATIONS

1. Scope of work:

Removal, through dusting and cleaning, overhauling & maintenance of installed live PCC, MCC, MCCB, PDB, LDB with bus bars & starters, maintenance and measurement of resistance of earthing pits, preventive maintenance, cleaning, testing of three phase induction motors with starters and preventive and breakdown maintenance of lighting fixtures and power points at ETP, DC and RSMS WMFT, Trombay.

Sr. No.	Description of work	Unit	Qty	Frequency
01	Overhauling & maintenance of following existing installed live <u>PCC-ETP-01</u> in ETP, Trombay <u>PCC-ETP-01</u> having 3 nos. of Air Circuit breaker of 1600 Amp 415 Volt 50Hz , L&T make as 2 in comer, and one Bus coupler	Nos.	01 PCC with 03 ACB	Yearly
02	Overhauling & maintenance of following existing installed live <u>PCC-ETP-01</u> in ETP, Trombay <u>PCC-ETP-01</u> having 18 nos. of MCCBs of different rating of outgoing modules as a feeder.	Nos.	01 PCC with 18 MCCB	Yearly
03	Overhauling & maintenance of following existing installed live <u>MCC-ORWIN-01& 02</u> in ETP, Trombay <u>MCC-ORWIN-01& 02</u> having 2 nos. of SFU of 400 Amp, 415 volt 50Hz , L&T make as incomer and 33 Nos. of DOL Starter with SFU relay, Indication lamps.	Nos.	02 MCC with 33 DOL starters	Yearly
04	Overhauling & maintenance of following existing installed live <u>MCC-ETP-3-(LLT)</u> in ETP, Trombay <u>MCC-ETP-3-(LLT)</u> having 2 nos. of MCCB of 250Amp, 415 Volt, 50 Hz . Schinder make as incomer, and 23 Nos. of DOL Starter of 2HP to 20HP with relay, mcb, Contactor Indication lamp	Nos.	01 MCC with 2 MCCB & 24 DOL Starters	Yearly
05	Overhauling & maintenance of following existing installed live <u>MCC-ETP-4(CF)</u> in ETP, Trombay <u>MCC-ETP-4(CF)</u> - having 1 nos. of MCCB of 250Amp, 415 Volt, 50 Hz , L&T make as incomer, and 08 Nos. of DOL starter of 2 HP to 20 HP with SFU, relay, Contactor Indication lamp.	Nos.	01 MCC with 01 MCCB & 8 DOL starters	Yearly
06	Overhauling & maintenance of following existing installed live <u>MCC-ETP-5 (MLT)</u> in ETP, Trombay <u>MCC-ETP-5 (MLT)</u> - having 01 nos. of MCCB of 250 Amp, 415 Volt, Hz , L&T make as incomer, and 05 Nos. DOL Starter of 2HP to 20HP with MCCB, relay, Contactor Indication lamp.	Nos.	01 MCC with 01 MCCB & 05 DOL starters	Yearly
07	Overhauling & maintenance of following existing installed live <u>MCC-ETP-2 (CHEMICAL TREATMENT)</u> in ETP, Trombay <u>MCC-ETP-2 (CHEMICAL TREATMENT)</u> - having 1 nos. of MCCB of 250 Amp, 415 Volt, 50Hz , Schneider make as	Nos.	01 MCC with 01MC CB & 26	Yearly

	incomer, and 26 Nos. of DOL Starter of 2HP to 3 HP with MCCB, relay, Contactor Indication lamp		DOL Starters	
08	Overhauling & maintenance of following existing installed live MCC- ETP-1(SLUDGE ROOM) in ETP, Trombay MCC-ETP-1 (SLUDGE ROOM) having 1 nos. of MCCB of 400 Amp, 415 Volt , 50 Hz, Schineder make as incomer, and 07 Nos. of DOL starter of 10HP with MCCB relay, Contactor indication lamp.	Nos.	01 MCC with 01 MCCB & 07 DOL starters	Yearly
09	Overhauling & maintenance of following existing installed live MCC- ETP-1 EXT-(SLUDGE ROOM) in ETP, Trombay MCC-ETP-1 EXT (SLUDGE ROOM) having 1 nos. of MCCB of 160 Amp, 415 Volt, 50 Hz, Schineder make as incomer of, and 14 Nos. of DOL starter of 10HP with MCCB, relay, Contactor indication lamp.	Nos.	01 MCC with 14 DOL Starters	Yearly
10	Overhauling & maintenance of following existing installed live PCC- DC-01 in DC, Trombay PCC- DC-01 having 1 nos. of MCCB 800 Amp, 415 Volt, 50 Hz, Schineder make.	Nos.	01 PCC with 01 MCCB	Yearly
11	Overhauling & maintenance of following existing installed live PCC- ETP-01 in ETP, Trombay PCC- DC-01 having 20 nos. of MCCBs of different rating (32Ampt to 400 Amp) of outgoing modules as a feeder.	Nos.	01 PCC with 20 MCCB	Yearly
12	Overhauling & maintenance of following existing installed live PCC- RSMS -01, Trombay PCC- RSMS-01 having 15 nos. of FSUs of different rating (32Ampt to 400 Amp) of outgoing modules as a feeder.	Nos.	PCC with 15 FSU	Yearly
13	Overhauling & maintenance of following existing installed live MCC- RSMS -1.1, Trombay MCC- RSMS-1.1 having 06 nos. of DOL of different rating (11KW to 18.5 KW) of outgoing modules as a feeder.	Nos.	01 MCC with 06 DOL starter	Yearly
14	Overhauling & maintenance of following existing installed live MCC- RSMS –Alpha plant, Trombay MCC- RSMS –Alpha plant having 06 nos. of DOL of different rating (2.25 KW to 7.5 KW) of outgoing modules as a feeder.	Nos.	01 MCC with 06 DOL starter	Yearly
15	Overhauling & maintenance of following existing installed live MCC- RSMS –Fire Hydrant Pump, Trombay MCC- RSMS –Fire Hydrant Pump having 04 nos. of DOL of different rating (7.5 KW to 45 KW) of outgoing modules as as feeder.	Nos.	01 MCC with 04 DOL starter	Yearly
16	Preventive maintenance, and measurement of earth resistance of Earthing pit located at various point at DC, ETP, and RSMS Site	Nos.	16	Half Yearly
17	Overhauling & maintenance of following existing installed live LDB in ETP, DC,	Nos.	12	Yearly

	RSMS, Trombay Each LDB consist 1 nos of 3 phase neutral, 440 Volts incomer (ACB/SFU) & 10-15 nos(approx.) of different rating MCB of outgoing modules as a feeder.			
18	Overhauling & maintenance of following existing installed live PDB in ETP, DC, RSMS, Trombay Each PDB consist 1 nos of 3 phase neutral, 440 Volts incomer (ACB/SFU) & 10-15 nos (approx.) of different rating MCB of outgoing modules.	Nos.	12	Yearly
19	I.D fan of ORWIN 30KW, 3 phase, 440 V induction motors, FLC 50 amp, RPM 2955 Make, Crompton & Greaves	Nos.	02	Half Yearly
20	F.D Fan of ORWIN, 30 KW, 3 Phase, 440 V induction motors 50 Amp, Rpm 2940 Make, Crompton & Greaves	Nos.	02	Half Yearly
21	Centrifuge, 3 phase, 22 Kw 440 V induction motors, 40 Amp, Rpm 1454, Crompton & Greaves.	Nos.	01	Half Yearly
22	Centrifuge, 3 phases, 22 Kw 440 V induction motors, 40 Amp, Rpm 1454, Crompton & Greaves.	Nos.	02	Half Yearly
23	Vacuum Pump of Sludge Room, 3 Phase, 18.5 Kw 440V induction motors, 34.4 Amp, Rpm 1455, Make REMI	Nos.	01	Half Yearly
24	Cement suction of ORWIN, 3 Phase, 18.5 Kw ,440V, Induction motors,33 Amp,1460, Make REMI	Nos.	01	Half Yearly
25	Discharge Pump of LLT, 3 phase, 15 Kw,440V induction motors,26 Amp, Rpm 2920 Make Crompton & Greaves	Nos.	04	Half Yearly
26	C.F Transfer, 3 Phase, 15 KW, 440V induction motors, 26 Amp, Rpm 29220, Crompton & Greaves	Nos.	02	Half Yearly
27	MLT Area, 3 Phase, 15 KW, 440V induction motors, 26 Amp, Rpm 29220, Crompton & Greaves	Nos.	02	Half Yearly
28	Air Compressor Circus Pump House, 3 Phase, 15 KW, 440V induction motors, 26 Amp, Crompton & Greaves	Nos.	02	Half Yearly
29	Exhaust Fan ETP Building, 3 Phase, 15 KW, 440V induction motors, 27.6 Amp, Crompton & Greaves, Make Kirloskar	Nos.	01	Half Yearly
30	Vacuum Pump LLT of area, 3 Phase, 11 KW, 440V, induction motors, 20 Amp, Rpm 1460, Crompton & Greaves	Nos.	01	Half Yearly
31	Exhaust Fan ORWIN, 3 Phase, 11 KW, 440V induction motors, 20 Amp, Rpm 1460 Crompton & Greaves	Nos.	02	Half Yearly
32	Exhaust Fan ETP, Building, 3 Phase, 18.5 KW, 440V induction motors, 33.6 Amp, Rpm 1470 Make Oxford	Nos.	01	Half Yearly
33	D.C Supply Fan, 3 Phase, 11 Kw, 440 V,	Nos.	02	Half

	induction motors, 20 Amp, Rpm 1460, Crompton & Greaves			Yearly
34	Agitator of LLT Area, 3 Phase, 5.5 Kw, 440 V, induction motors, 11 Amp, Rpm 1460, Make Crompton & Greaves	Nos.	05	Half Yearly
35	Exhaust of ETP Active Lab, 3 Phase, 5.5 Kw, 440 V, induction motors, 10.4 Amp, Rpm 2940, Make Bharat Bijle	Nos.	02	Half Yearly
36	Vacuum of Sludge room area, 3 Phase, 5.5 Kw, 440 V, induction motors, 11 Amp, Rpm 2900, Make Crompton & Greaves	Nos.	01	Half Yearly
37	ORWIN plant, Tank 860 D.M, Water, 3 Phase, 5.5 Kw 440 V, Induction motors, 11 Amp, Rpm 2900, Dynamic canned motor.	Nos.	02	Half Yearly
38	Agitator of sludge room, 3 Phase, 3.7 Kw 440 V, Induction motors, 8.2 Amp, Rpm 1460, Make Remi	Nos.	02	Half Yearly
39	LT Blower of ORWIN plant, 3 Phase, 3.7 Kw 440 V, Induction motors, 7.3 Amp, Rpm 2850, Make Crompton & Greaves	Nos.	02	Half Yearly
40	LLT, CF/MLT, location, 3 phase, 1.5 Kw, 440 V induction motors, 3.45 Amp, Rpm 2900, Make Crompton & Greaves	Nos.	07	Half Yearly
41	Operation of ORWIN plant, 3 phase, 1.5 Kw, 440V, Induction motors, 3.2 Amp, Rpm 2900, Make Crompton & Greaves	Nos.	07	Half Yearly
42	Operation of Chemical Treatment & Sludge room, 3 Phase, 1.5 Kw, 440V, induction motors, 3.30 Amp, Rpm 2900, Crompton & Greaves	Nos.	04	Half Yearly
43	Located at ORWIN, Sludge, LLT, CF, MLT, Chemical Treatment, plant, 3 Phase, 0.75 Kw, 440 V, induction motors, Amp 1.9, Rpm 2850, Kirloskar	Nos.	20	Half Yearly
44	Electrical Hoist, Crane, Trolley, 3 Phase, 0.55 Kw, 440 V, Induction motors, Amp 2.1, Rpm 1460, Make C&G, Kirloskar	Nos.	04	Half Yearly
45	Electrical Hoist, Crane, Trolley, 3 Phase, 1.5 Kw, 440 V, Induction motors, Amp 3.2, Rpm 1460, Make C&G, Kirloskar	Nos.	04	Half Yearly
46	Electrical Hoist, Crane, Trolley, 3 Phase, 0.75 Kw, 440 V, Induction motors, Amp 2.1, Rpm 1460, Make C&G, Kirloskar	Nos.	04	Half Yearly
47	Air Compressor HED, 3 Phase, 5.5 Kw, 440 V, Induction motors, Amp 11.0, Rpm 2850, Make Crompton & Greaves	Nos.	01	Half Yearly
48	Electrical Hoist, Crane, Trolley, 3 Phase, 1.5 Kw, 440 V, Induction motors, Amp 3.2, Rpm 1460, Make C&G, Kirloskar	Nos.	01	Half Yearly
49	Rod Cutting machine, 3 Phase, 0.75 Kw, 440 V, Induction motors, Amp 2.1, Rpm 1460, Make Crompton & Greaves	Nos.	01	Half Yearly
50	Hoist, 3 Phase, 0.75 Kw, 440 V, Induction motors, Amp 3.2, Rpm 1460, Make C&G, Kirloskar	Nos.	01	Half Yearly
51	Exhaust Fan Blower, SWPP bild, RSMS, 22 Kw	Nos.	02	Half

	3 Phase, 440V, Induction Motors, 40 Amp. Rpm 2955, Make Crompton & Greaves			Yearly
52	Supply Fan Blower, SWPP Build, RSMS 15Kw, 3 Phases, 440 V, Induction Motors, 28 Amp. Rpm 2940, Make Crompton & Greaves	Nos.	02	Half Yearly
53	Air Compressor, SWPP Build RSMS, 3 Phase, 30Kw, 440 V, Induction Motors, 55 Amp. Rpm 1454, Make Crompton & Greaves	Nos.	01	Half Yearly
54	MDU Furness, SWPP Build RSMS, 3 Phase, 25 Kw, 440 Heating Element, Induction Motors, 47 Amp. Rpm 1475, Make Crompton & Greaves	Nos.	02	Half Yearly
55	Alpha Unit, SWPP Build RSMS, 3 Phase, 5 Kw, 440V, Induction motors,11 Amp, Rpm 1455, Make REMI	Nos.	01	Half Yearly
56	Mechanical work shop, 3 Phase, 5 Kw, 440V, Induction motors, 11 Amp, Rpm 1460, Make REMI	Nos.	01	Half Yearly
57	Exhaust Fan, Alpha Facility RSMS, 7.5 Kw, 440V, Induction motors, 14 Amp, Rpm 2955, Make Crompton & Greaves	Nos.	01	Half Yearly
58	Exhaust Fan, Alpha Facility RSMS, 5 Kw, 440 V, Induction motors, 10 Amp, Rpm 2955, Make Crompton & Greaves	Nos.	01	Half Yearly
59	Supply Fan, Alpha Facility, RSMS, 5.55 Kw, Volt 440, Induction motors, 7.5 Amp, Rpm 2955, Make Crompton & Greaves	Nos.	02	Half Yearly
60	D. M feed, RF plant, RSMS, 15 Kw, 440 V, Induction motor, 28 Amp, Rpm 2955, Make Crompton & Greaves	Nos.	02	Half Yearly
61	Blower, RF plant RSMS, 15 Kw, 440V, induction motor,14 Amp, Rpm 2955, Make Crompton & Greaves	Nos.	01	Half Yearly
62	Agitator, RF Plant RSMS,1.5 Kw, 440V, Induction Motor, 3.5 Amp, Rpm 2940, Make REMI	Nos.	02	Half Yearly
63	Incinerator Blower, RSMS, 15 Kw,440 Volt, 1 M Motor, 29 Amp, Rpm 2940, Make Crompton & Greaves	Nos.	02	Half Yearly
64	Supply Blower, Incinerator RSMS, 2.2 Kw, 440 Volt, IM Motor, 4.5 Amp, Rpm 2890, Make Crompton & Greaves	Nos.	02	Half Yearly
65	ETP, DC, RSMS premises, Tube Light, 40 Watt	Nos.	200	Quarterly
66	P.L Lamp, 11 Watt, 240 Volt Ac, ETP, DC, RSMS premises	Nos.	50	Quarterly
67	Single phase Power Point, 1.5/3Kw, ETP, DC, RSMS premises	Nos.	150	Quarterly
68	Fan, 60 w, 240 Volt Ac ETP, DC, RSMS	Nos.	15	Quarterly
69	Laboratory Equipment's, 1.5 Kw, 240 Volt Ac, ETP, Dc, RSMS premises	Nos.	25	Quarterly
70	HPMV Lamps, 125 Watt, 240 Volt, Ac, ETP, DC, RSMS premises	Nos.	35	Quarterly
71	Sodium Vapour, 35 watt, 240 Volt Ac, ETP, DC, RSMS premises	Nos.	32	Quarterly
72	230 Volt Power Points, 1.5 Kw, 240 Volt Ac, ETP, DC, RSMS premises	Nos.	175	Quarterly

MAINTENANCE- ELECTRICAL (MCC/PCC/PDB/LDB/Earth pit)

Sr.No	Maintenance Activity	Frequency
01	Work involves through dusting and cleaning of all mechanical/electrical components such as contactor, over load, relay, switches meters etc with CRC/CTC greasing with petroleum jelly and functional testing etc.	Yearly
02	Work also includes cleaning/ maintenance of incomer and outgoing cables 9up to 31/2 core, 16 Sq.mm/150 Sq.mm/180 sq. mm/240 Sq.mm Al/Cu conductor armored cable) Termination, testing, re insulating with insulation tape. Checking of connection tightening of terminal block, lugs, re-crimping of cable terminals, connections tightening of motor terminals, earthing and cable gland, in case, cable is found short due to burning of insulation, the replacement shall be done by pulling the cable	-----
03	Panel shall be energized after overhauling, preventive maintenance & meggering.	-----
04	All materials/ test instruments/testing set ups required for overhauling, preventive maintenance & cleaning shall be in contractor's scope. All consumables like lugs, glands, hospital, saddles, cable tie ups, insulation tale, screws, nut & bolts, contacts cleaners, grease, etc and any other material to complete the maintenance, testing and commissioning of serviced equipment is in the scope of supplier.	-----
05	Contractor should submit maintenance report of each panel	-----
06	Maintenance of all tube light, fan, AC power points, single phase power point, P.L lamp, Sodium vapor lamp, mercury vapor lamp fixture, laboratory equipments should be done by contractor.	Quarterly

SCOPE OF WORK: ELECTRICAL MOTORS

Sr.No	Maintenance Activity	Frequency
01	Examine visually Motor condition earth connections and motor leads	Half yearly
02	Checking of motor windings for overhauling, connection tightening of terminal block, lugs, re-crimping of cable terminals, connections tightening of motor terminals, earthing and cable gland in case cable is found short due to burning of insulation, the replacing shall be done pulling the cable.	-----
03	Blowing out and cleaning of the motor surface	-----
04	Checking vibration readings and taking corrective action if required like realignment, change of bearing etc.	-----
05	Checking of grease in ball and roller bearings wherever bearing are nit sealed and make it up where necessary, taking care to avoid over filling. Note: where re-greasing provision ids given, re- greasing should be done while the motor is running. Keep the grease outlet open. The mixing of grease should be avoided.	-----
06	Blowing out 7 cleaning of the motor surface induction	-----
07	Complete servicing of motor like Cleaning windings of motors subjected to corrosive or other elements, also varnishing and baking. Overhaul motors, blowing out all motor surfaces thoroughly with clean dry air.	-----

	<p>Cleaning of dust & Rust& oil painting by using approved colours.</p> <p>Clean and varnish dirty and oily winding.</p> <p>Renew cable termination at isolator end/motor end, if damaged. Check insulation resistance to earth and between phases of motor windings, control gear and wiring.</p> <p>Check resistance of earth connections.</p> <p>Check and adjust the motor overload relays and SPP.</p>	
08	Contractor should submit maintenance report of each motor, MCC, PDB, PCC & earth pit.	-----

1. General conditions:

- a. Above job is required to be done under our supervision.
- b. The working personnel should observe all the safety precautions while working.
- c. The contractor shall be solely responsible in case of any casualty for the working personnel. However, first aid shall be given by BARC.
- d. The working personnel should well behave with others.
- e. General BARC security rules shall apply to all the working personnel. Contractor and its employees must have the Police verification certificate with them.
- f. Working hours: 9.00 hrs. to 17.00 hrs. Monday to Friday. In case of requirement, the working personnel will have to work on Saturdays and Sundays with prior permission and intimation, for which no extra payments will be made.
- g. No transport facility shall be provided to the contractors personal by BARC.
- h. Contractors shall be solely responsible for the matter to contractors working personnel inside BARC.
- i. Applicant desiring to obtain tender enquiry should possess valid PWD electrical contract license.
- j. Vendor should have GST registration number.

2. Work Procedure:

- a. The complete job is to be carried out at ETP, DC, RSMS with the coordination of Engineer-in-charge/ Officer.
- b. The materials brought to the site should be got approved from the engineer-In-charge and there after used for the work.
- c. This work involves working in restricted and radioactive area with security instructions on entry of workers, working time etc. hence medical certificate of employed employees necessary.
- d. This job is required to be done with skilled personnel having PWD wiremen license with departmental supervisor.
- e. Contractor shall have owned following equipments
 - 1) Tong tester with, 2) Earth resistance testing kit (Earth tester), 3) Megger.

3. Departmental Free Issue Material (FIM):

Water and Electricity as required will be supplied by the department free of cost.

Safety Rules:

- a. Vendor should take care of safety and security while supply and installation of material at site Any mishap occurring on the job due to unsafe work practice shall be vendor's liabilities.
- b. Medical certificate on departmental prescribed pro-forma shall be submitted for supervisors and all the labours deployed at the site if required by RHC unit.

4. Security Rules: Police verification are required for supervisor and all workers employed by the contractor inside the BARC. Security and transport regulation at BARC, Trombay, and premises shall be strictly followed.

5. COMPLETION PERIOD: 12 months after release of work order.