



CORRIGENDUM – 1

Subject: TENDER NO: HBC/P-S/PUBLIC TENDER 10/2023

Name of the work: ANNUAL MAINTENANCE CONTRACT (COMPREHENSIVE) FOR WINDOW, SPLIT, DUCTED SPLIT & CASSETTE ACs INSTALLED AT HOMI BHABHA CENTRE FOR SCIENCE EDUCATION, TIFR, MANKHURD, MUMBAI – 400088 FOR THE YEAR 2023-2024.

Dear Bidders/ Vendors,

Reference subject tender published on CPPP portal, HBCSE and TIFR website on July 31, 2023. The following amendment (**bold & underlined**) to the subject is issued for tender document, scope of work and Annexure 'B'. Bidders are requested to kindly submit their quotations with full knowledge of following amendments-

- Name of the work:** ANNUAL MAINTENANCE CONTRACT (COMPREHENSIVE) FOR WINDOW, SPLIT, **CONCEALED SPLIT** & CASSETTE ACs (**INVERTER & NON-INVERTER TYPE**) INSTALLED AT HOMI BHABHA CENTRE FOR SCIENCE EDUCATION, TIFR, MANKHURD, MUMBAI – 400088 FOR THE YEAR
- Estimated Cost of the AC AMC (Annexure A only) = **Rs. 9,50,000/- (incl. GST)**
- Earnest Money Deposit (EMD) = **Rs. 19,000/- (Rupees Nineteen Thousand Only)**
- Pre-Bid Meeting: The pre-bid meeting with the bidders will be held on August 17, 2023 on 11:00am at HBCSE, V. N. Purav Marg, Mankhurd, Mumbai- 400088.**
- Bids under TWO Bid System (Technical + Financial Bid) are invited on behalf of Centre Director, HBCSE Mumbai for award of contract for 'Annual Maintenance Contract (comprehensive) of Window, Split, **Concealed** Split & Cassette ACs installed at HBCSE'. The details of the tender including the scope of work, technical specification, drawings (if applicable) etc. is given in this tender document. All the prospective bidders are requested to go through the tender document before submitting their bids.
- Pre-Qualification Criteria (Eligibility Criteria) –**
Pt. No. 'b' - The contractor should have zonal office **& Workshop** in Mumbai/ Navi Mumbai/ Thane and nearby areas.
Pt. No. 'c' – Annual Average Turnover as per ITCC or profit loss statement for the last Three (03) Financial years should be at least **Rs. 9,50,000/-** not having incurred any loss in more than Two (02) years during last Five (05) years ending 31 March, 2023.
Pt. No. 'd' – Experience of having successfully completed the following works (during last Five years ending 31 March,2023):
 - One similar order not less than **Rs.7,60,000/-**; Or
 - Two similar works completed costing not less than **Rs.5,70,000/-** each; Or
 - Three similar work completed costing not less than **Rs.3,80,000/-** each

Similar works shall mean Annual Maintenance Contracts for Window and Split ACs, **Concealed** Split ACs, Cassette ACs, **Inverter and Non inverter types**, along with installation of new units, shifting of existing units and misc. works of BOQ mentioned magnitude of quantities of work. The quality & satisfactory performance of the submitted work will be verified by HBCSE technical team if required by inspecting the said work.


(Pragati Dandekar)

Head Administrative Operations

7. Annexure A – Scope of AMC work

Annexure - A SCOPE OF AMC WORK

b. Quarterly Preventive Maintenance shall include the following process:

1. Checking motor bushings
2. Ground connections
3. Checking connections at the main plug
4. Cleaning the equipment
5. Checking & tightening of nuts and bolts
6. Checking Cooling efficiency
7. Overhauling of AC with Chemical washing process
8. Servicing of Condensers and Evaporator coils using blower and brushes.
9. Repairing and brazing over leakage area on cooling coil and condenser coil (as directed by EIC)
10. Leakage testing of copper pipes & its flushing with Nitrogen (whenever asked by EIC)
11. Wet cleaning of air filters from time to time
12. Wet Cleaning of front grills from time to time
13. Oiling and greasing of fan motors as and whenever required.
14. Cleaning, servicing including alignment of fan blade and blowers.
15. Checking of all the sheet metal parts and supporting MS stand for any rusting or damage and taking remedial action like painting as and when required (minimum once in a year).
16. Checking of all electrical contacts and cleaning them of any carbon deposits.
17. Checking of grill temperature (10° C to 12° C) and current, and recording in the service cards.
18. Changing refrigerant whenever necessary.
19. Replacement of strainer filter, capacitor, swing motor & drier.
20. ~~Serviceing and repair/ replacement of motorized damper & its control.~~
21. Repair and maintenance of Inline fans (1 Nos. of 2567rpm + 2 Nos. of 2277rpm) Industrial type & its ducting.
22. Repair/ replacement of contactor relay.
23. Repairing of swing (louvers) Patti/s.
24. Repair/ replacement of NO NC contactor.
25. Repairing/ replacement of suction and discharge service valve.
26. Repairing/ replacement of Expansion valve, Drain pump & Capillary tube.
27. Repairing/ replacement of compressor when it is burnt off, or whenever it is drawing more current.
28. Repairing/ replacement of fan motor and its blade, when it gets damaged.
29. Repairing/ Replacement of old damaged PCB circuit.
30. All other jobs not specifically indicated but are necessary for smooth and economical functioning of the A.C.
31. Repairing of Remote controls under the observation of EIC.

However, the air filter of the Air-Conditioning Units shall be cleaned every month of the quarter.



8. **Schedule of Quantities for AC Comprehensive Maintenance Work for Year 2023-24**
(To be submitted on Company's Letterhead)

Sr. No.	Particulars	Capacity	Qty. in Nos.	Rate	Amount
1	Split ACs	1.0 Ton	02 Nos.		
2	Window ACs	1.5 Ton	13 Nos.		
3	Multi Split ACs	3.0 Ton	03 Nos.		
4	Split ACs	1.5 Ton	63 Nos.		
5	Split ACs (Inverter type)	1.5 Ton	1 Nos.		
6	Split ACs (Inverter type)	2.0 Ton	0 Nos.		
7	Split ACs	2.0 Ton	143 Nos.		
8	Cassette ACs	2.0 Ton	4 Nos.		
9	Cassette ACs (Inverter type)	4.0 Ton	0 Nos.		
10	Wired Concealed Split ACs	2.0 Ton	8 Nos.		
11	Cassette ACs	4.0 Ton	02 Nos.		
	Total		239		
				GST 18%	
				Grand Total	

Total Tonnage (Approx.) = 445 Tr.

The above quantity of AC units is on tentative basis and it may vary +/-10% at the time of issuing a WO.

Amount (in Words) – Rupees _____
_____ only.

Seal & Signature of the Bidder

Annexure - B
Bills of Quantities

Sl No	Description of Items	Unit	Rate (Rs.)
1.	<p>Standard Installation with Gas Top up Fixing, installation, testing and commissioning of up to 2.00TR Hi-wall mounted Split Air Conditioning systems (indoor and outdoor) at proper position and height as per manufacturer's specifications, including refrigerant gas top up if required. All as per instructions and directions of Engineer-In-Charge.</p> <p>NOTE: The stand for outdoor unit will be paid separately.</p>	Per Unit	
2.	<p>Refrigerant Copper piping Supplying, installing, fixing & testing of hard 100% copper refrigerant piping for the Split AC up to 2.00 Tr. between indoor and outdoor for gas (suction and liquid). complete with bends if any, using proper tools without any brazing between indoor to outdoor unit connection and as per AC unit manufacturer specifications. All the copper piping should be covered with the insulation of 9mm thick Nitrile rubber casing and white monsoon taping. The piping system should be supported at every 1.75 M. distance with non-rust GI clamp or as per site conditions. Including all material, wastage, labour, tools, etc. All as per instructions and directions of Engineer-In-Charge.</p> <p>Approved Copper piping make: Mandev/ Mexflow/ Total line/ approved equivalent.</p> <p>Approved Nitrile rubber Insulation make: Acoflex/ Armaflex/ K-Flex/Superlone. approved equivalent.</p>	Per Meter	
3.	<p>Core Cutting Providing & making core cutting up 4 inches dia on RCC/ Masonry surfaces using Core cutting machine. including filling of holes with white cement after pipe laying through holes, labour, tools and accessories necessary, at all heights including scaffolding wherever required. Complete. All as per instructions and directions of Engineer-In-Charge.</p>	Per No.	
4.	<p>Drain Pipe Supply, Fixing & Installation of Drain water pipe line of 25/32mm- dia. CPVC/UPVC of approved make with all necessary fittings accessories, Coupler, Elbows, Tees, wall Sleeves, S. S. Clamps, etc. Including material, wastage, tools, Insulation with Super lone/Nitrile rubber 9mm. thick to the drain etc. Complete. All as per instructions & directions of Engineer-In-Charge.</p> <p>Approved Pipe Make: Supreme/ Ashirvad/ Astral/prince approved equivalent</p>	Per Meter	
5.	<p>Control Cabling (ICC) Supply, Fixing and Installation of 4 Core 2.5 Sq.mm ISI standard Copper connection cable of approved make to communicate from Outdoor Condensing unit to Indoor Control Panel copper connection cable of approved make, proper terminations on both sides using approved standard lugs. Cables should be carried through PVC conduits, no joint should be in the cables, flexible conduits as per suitable conditions on site. Complete. All as per instructions & directions of Engineer-In-Charge.</p> <p>Approved Make: Polycab/Havells/or approved equivalent.</p>	Per Meter	
6.	<p>Power Cabling (MCB to AC Units) Supply, Fixing and Installation of 3 Core 2.5 Sq.mm. copper connection cable of approved make for power supply from Indoor switch to outdoor unit with proper terminations on both sides using approved standard lugs. Cables should be carried through PVC conduits, no joint should be in the cables, flexible conduits as per suitable conditions on site. Complete. All as per instructions & directions of Engineer-In-Charge.</p> <p>Make: Polycab/Havells/or approved equivalent.</p>	Per Meter	

7.	L Bracket Jumbo Stand Supply, Installation and fixing of the Heavy Duty Jumbo L bracket stand. Powder Coated (iron)	Per Unit	
9.	Removal of AC Unit Removal of Old Existing Split AC IDU & ODU with stand Fasteners & Copper pipe, drain pipe, electric wires & other necessary and keeping the same at approved location within 500m lead approved by the EIC and carting away all the debris out of the Campus and its disposal at nearest Municipal dumping ground. All Complete as per EIC.	Per Unit	
10.	MS Stand Supply, Installation and fixing of the Heavy duty MS stand L-angle for outdoor unit duly painted with one coat of epoxy primer and two coats of epoxy paint of approved colour, welding, fabrication, finishing should be done as per site requirement/ design, including all labour, transport, etc. Complete. All as per instructions & directions of Engineer- In-Charge. Approved MS Make: TATA/ JSW/ Jindal/ approved equivalent.	Per Kg.	
11.	Replacement of existing damaged indoor unit (IDU) including its removal, shifting, transportation, and its replacement with NEW unit of same specifications and its fixing & installation with all connections with required spares, tools, equipments, accessories etc. complete as per the instructions and directions of Engineer-In-Charge. NOTE: The model of unit must be same or approved equivalent as per satisfaction of Engineer-In-Charge.		
a	For Split Unit 1.5 Tr.	Per Unit	
b.	For Split Unit 2.00 Tr.	Per Unit	
12.	Replacement of existing damaged Copper Condenser Coil and fins including its removal, shifting, transportation, and its replacement with NEW condenser coil and fins of same specifications and its fixing & installation with all connections with required spares, tools, equipments, accessories etc. complete as per the instructions and directions of Engineer-In-Charge. NOTE: The Copper Coil should be made as per satisfaction of Engineer-In-Charge.		
a.	For Split Unit 1.5 Tr.	Per Unit	
b.	For Split Unit 2.00 Tr.	Per Unit	
13.	Replacement of existing damaged Outdoor unit (ODU) of same model with same capacity, including its removal, shifting, transportation and fixing & installation of new unit with all connections with required spares, tools, equipments, accessories.etc. complete as per the instructions and directions of Engineer-In-Charge.		
a.	Split Unit 1.00 Tr./1.5 Tr.	Per Unit	
b.	Split Unit 2.00 Tr.	Per Unit	
14.	Leakage testing for existing Split AC up to 2.00 Tr. by the air pressure, brazing, Vacuuming including labour, tools, materials etc. complete as directed by Engineer-In-Charge.	Per Unit	
15.	Full Gas Charging (F-22 Gas) in existing Split AC up to 2.00 Tr. including labour, transportation, tools, materials etc. Complete. NOTE: Min. warranty - 03 months	Per Unit	
16.	Full Gas Charging Green Gas (R 32, R410a, R407c) in existing Split AC up to 2.00 Tr. including labour, transportation, tools, materials etc. Complete. NOTE: Min. warranty - 03 months	Per Unit	

17.	To pump down existing Split ACs up to 2.00 Tr. unit and remove only indoor unit and re-install the same unit at another location with all connections and with existing pipes and cable (If new cables or pipes installed, will be paid separately) including removal of IDU at new location and keeping it at approved location within 1Km lead as directed by EIC, including labour, materials, tools, accessories etc. Complete.	Per Unit	
18.	To pump down existing Split ACs up to 2.00 Tr. unit and remove only outdoor unit and re-install the same unit at another location with all connections and with existing pipes and cable (If new cables or pipes installed, will be paid separately) including removal of IDU at new location and keeping it at approved location within 1Km lead as directed by EIC, including labour, materials, tools, accessories etc. Complete.	Per Unit	
19.	Up to 4.00 Tr. AC unit wireless Remote Control (Original Genuine make).	Per Unit	
20.	Up to 2.00 Tr. any type AC unit wireless Remote Control (Universal/Duplicate)	Per Unit	
21.	SITC of Coded original wired Remote Control of existing unit make and model as per direction of EIC..		
a.	2.00 Tr. Hitachi make	Per Unit	
b.	17.00 Tr. Voltas make	Per Unit	
22.	To replace damaged insulation sleeves whenever the copper pipes is exposed or found damaged sleeves due to weather conditions/ birds/ monkey nuisance etc. to avoid any leakages at all heights including its cutting, fixing surrounding the copper pipes (suction & liquid discharge separate sleeve), rainwater taping of approved material and standard make as per instruction of Engineer-In-Charge with complete safety of worker. Approved Nitrile Rubber Insulation make: Acoflex/ Armaflex/ K-Flex/Superlone. approved equivalent.	Per Meter	
23.	Providing, fixing and installation of PVC swing (louvers) Patti (1-2 per unit) to the existing Split AC units for matching size, colour and model at any heights, complete including transportation, labour, etc. Complete.	Per Unit.	
24.	Removal of existing window AC unit including removal of casing, wooden frame and closing of the same opening with tinted 6mm thick glass panes in approved colour and size to cover opening and its fixing with standard rubber gaskets etc. Complete.	Per Unit	

Note: 1- Above items rate should be inclusive of all taxes.

Note: 2- The above AMC is for 01 years. However, the bidder shall quote item wise rate in BOQ and the payment shall be made on actual measurement basis as per site requirement. In case the AMC is further extended beyond 01 years the rates for the items in Annexure B will be finalized considering the price escalation and market rates with mutual understanding between HBCSE and the vendor. If the rates finalized by HBCSE are not acceptable to the vendor at that time, the tender may be cancelled fully.

Note: 3- The spare materials / spare parts of units used for replacement of old/ damaged parts must be of standard approved make (Genuine spare parts) only by the EIC. The material brought on site as a spare for replacement should be used post approval of EIC/ Supervisor only. If any material used and found to be of inferior quality at any point of contract period or of non-approved, make & model should be replaced with the new approved spare by the contractor at its own cost. Otherwise the same will be replaced by HBCSE and the cost for the same will be deducted as a penalty from bills.