

भारतीय विमानपत्तन प्राधिकरण AIRPORTS AUTHORITY OF INDIA

No: AAM/ENGG/ELECT/AMED-VIII/HVAC/Phase-III/2024-25/A-32/450

Date: 25.11.2024

//By Speed post/ E-Mail//

WORK ORDER

To,

M/s. Voltas Limited,
No. 624, Anna Salai,
Teynampet, Chennai – 600 018.

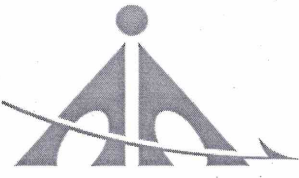
Name of Work: Replacement of AHUs of T1 & T4 Terminal Buildings at CIA (Phase-III).

Ref: 1) e-Tender ID: 2024_AAI_210094_1.
2) Price Bid opened on 07.11.2024.

Dear Sir (s),

1. Your e-Tender for the work mentioned above is hereby accepted on behalf of Chairman, Airports Authority of India, at the item rates quoted by you totaling to **Rs.2,27,80,200.00 (Rupees Two Crore Twenty-Seven Lakhs Eighty Thousand and Two Hundred Only) excluding GST @ 18%.**
2. Jt. General Manager (Engg. - Elect.)-I, AMED, AAI, Chennai Airport, shall be the Engineer-in-Charge of the work. You are requested to attend the office of Jt. General Manager (Engg-Elect)-I, AMED, AAI, Chennai Airport by 05.12.2024 to sign and complete the contract agreement. The contract agreement shall be executed on a non-judicial stamp paper of value of Rs.100/- (Rupees One Hundred Only) and the cost of the stamp paper shall be borne by you.
3. Please deposit the amount of Rs.22,78,020.00 (Rupees Twenty-Two Lakhs Seventy-Eight Thousand and Twenty Only) towards Security deposit within 10 days from the date of issue of this letter failing which the same will be deducted as per conditions of Clause 1A of AAI GCC which shall form part of the Contract Agreement.
4. You are requested to comply with the provision of Contract Labour (Regulation and Abolition) Act 1970 and Contract Labour (Regulation and Abolition) Central Rules 1971 and Minimum Wages Act and rules thereof Central and State Governments.
5. You are also requested to contact Senior Manager (Engg-Elect), AMED-VIII immediately who will arrange for handing over of site.

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6. Please note that the time allowed for carrying out the work shall be **Nine (09) Months** with effect from 29.11.2024 to 28.08.2025.
7. Any further correspondence in connection with the contract should normally be addressed to the Engineer-in charge.
8. Please acknowledge the receipt and return the duplicate copy of this letter enclosed herewith after signing it to the undersigned as a token of acceptance.
9. All other terms and conditions shall be as per agreement.

Encl: Schedule of Quantity (04 pages)

Yours faithfully,

(M. KRISHNAMOORTHY)
Jt. General Manager (Engg. - Elect.)-I
For and on behalf of the Chairman, AAI,
Chennai Airport, Chennai – 600 016.

AIRPORTS AUTHORITY OF INDIA
CHENNAI AIRPORT, CHENNAI-600 016
SCHEDULE OF QUANTITY

Name of Work: Replacement of AHUs of T1 & T4 Terminal Buildings at CIA (Phase-III)

Item No.	Description of Item	Qty	Unit	Rate	Amount
1	Dismantling the existing air handling unit of following capacity i/c motor, connected ducts, blowers, cables, clamps, UV lamps, sensors, terminations and electrical panel with all accessories along with shifting and handing over to AAI stores,etc complete as required. 45000 CFM	10	Job	29,590.00	2,95,900.00
2	Supply of factory built floor mounted chilled water double skin type Air Handling Units made of 43mm thick panels consisting pre coated G.I casing of thickness 0.8mm outside layer and 0.8mm inside layer with polyurethane foam(PUF) insulation factory injected between them by injection moulding machine, 2mm thick base frame at bottom, complete with blower section with Backward curve blower, blower suitable for static pressure as detailed below, mixing chamber for fresh and return air, PVC drift eliminators, cooling coil section with aluminium finned copper tubes(tube thickness not less than 0.5mm) cooling coil, filter sections with 50mm thick metal viscous /washable synthetic type air pre-filters, belt drive package with TEFC drive motor of efficiency class IE4 suitable for 415 ± 10% volts, 50Hz, 3 phase, AC Supply, suitably designed for variable frequency drive applications, drain connections with outlet pipe dia of min 50mm, stainless steel (18G) drain pan with PUF insulation, 150 mm dia. dial type pressure gauges and industrial type thermometers at the inlet and outlet of coil, 2 nos of access doors on filter and fan section each, with lighting provision in filter and fan sections & limit switches interlocked with doors so that AHU turns off during access door opening, auto purge valve wherever required, necessary vibration isolation arrangement etc. and having sufficient space to accomodate UVGI system etc. complete as per specification and of following capacities: I) 112.5 TR Capacity, 45,000CFM a) K.Calorie per hour - 337,500 b) C.M Hr.- 76,455 c) Rows deep - 6 d) Static pressure - 80mm WC e) Filtration standard - 90% efficiency down to 10 Microns f) Supply blowers - 2 Nos g) Two way modulating valve with rotary type actuator - 1 nos h) MS Y strainer-100mm dia - 1 nos i) 25mm ball valve for inlet and outlet - 2 nos j) 150 mm dia. dial type pressure gauges - 2 nos. k) 150 mm dia industrial type thermometers - 2 nos.	10	Set	15,33,090.00	1,53,30,900.00

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Item No.	Description of Item	Qty	Unit	Rate	Amount
3	Installation, Testing & Commissioning of above air handling units (item 2) of capacity 45000 CFM at basement of T1 and T4 for successful operation as per technical specifications etc complete as required.	10	Job	29,590.00	2,95,900.00
4	Carrying out all necessary and sufficient modification in the existing MS Chilled water piping including modification of drain pipeline during replacement of above capacity AHUs, re-installation of BMS sensors in pipelines and ducts using suitable accessories, supply and installation of necessary thermal insulation for pipes, fixing of ball valves with MS pipe nipples in inlet and outlet pipes etc. to enable the commissioning of AHUs complete as required.	10	Job	32,830.00	3,28,300.00
5	Supply, installation testing commissioning of factory fabricated GSS sheet steel metal round/rectangular ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per specifications of following thickness				
a	18 gauge	50	Sqm	1,390.00	69,500.00
b	20 gauge	200	Sqm	1,270.00	2,54,000.00
c	22 gauge	200	Sqm	1,150.00	2,30,000.00
d	24 gauge	100	Sqm	1,020.00	1,02,000.00
6	SITC of XLPE insulation of following thickness (on duct), Class'O' after applying suitable adhesive sealing all joints with self adhesive aluminium tape, including necessary cleaning of duct surface before insulation, complete etc. as per technical specification complete as required				
a	25 mm thick	550	Sqm	590.00	3,24,500.00
7	Supply and fixing of Canvass Connection made of fire retardant type cloth between AHU & Duct etc complete as required.	50	Job	3,930.00	1,96,500.00

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Item No.	Description of Item	Qty	Unit	Rate	Amount
8	Supply, installation, testing and commissioning of variable frequency drive starter panels near the AHUs constructed out of 2mm thick CRCA sheet duly powder coated as per specifications and with base frame of suitable height for easy operation. The panel shall have hinged door with ON-OFF interlocks. The panel shall be complete with incoming MCCB/MCB, suitable busbars of aluminium constructions, bus links complete with VFD starter with "ON", "OFF" switches, automatic mode selection switch for each motor, Multifunction meter with energymeter for incomer and outgoing, LED indicating lamps, Auto Manual switch, remote start / stop contacts, earthing connector, panel ventilation fans, including re-connecting existing incomer power cable, connection of control cabling between starter panel and AHU including termination of existing control cables, interconnection of fire damper and fire alarm controls using suitable relays, termination of existing BMS cables in panel, etc. as required complete as per specifications for following capacity AHUs. Incomer - 1. 63 A, 25 kA, MCCB - 1 nos 2. Multifunction meter with energy reading - 1 nos Outgoing - 1. 32A, 4P MCB, 10kA - 2 set (VFD) 2. 10A 2P MCB 10kA - 1 set (spare) 3. Suitable capacity Variable Frequency Drive for 45000 CFM capacity AHU - 2 set 4. Potentiometer knob for manual speed control - 2 set	10	Job	3,01,780.00	30,17,800.00
9	Supply, installation, testing and commissioning of GI volume control duct damper of thickness 16 SWG frame and 18 SWG vanes complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	80	Sqm	5,930.00	4,74,400.00
10	Fabrication, Supply and fixing of MS supports for chilled water pipelines and ducts from floor and ceiling with 'L' angle, 'C' channel, Plates, threaded rod, etc as required including necessary welding, anchor fastener (wherever required), one coat of primer painting & two coat of enamel painting of approved color etc, as per specifications.	1000	Kg	120.00	1,20,000.00
11	SITC of UVGI lamps suitable for continuous operation having UV-C band having wavelength of 254nm+/-1 nm and sufficient irradiation intensity for germicidal irradiation of the entire AHU cooling coil face area alongwith all supporting structures, power and control panel, cabling, earthing, safety provisions etc as per the detailed technical specifications and complete as required.	90	Sqm	17,590.00	15,83,100.00

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Item No.	Description of Item	Qty	Unit	Rate	Amount
12	Providing and laying in position cement concrete 1:3:6 (as concrete blocks) complete with cement plastering at all levels. Suitable number of blocks shall be kept as AHU base with 0.8m gap between each block.	10	Cum	4,730.00	47,300.00
13	Supply of following size XLPE PVC outer sheathed aluminium conductor armoured cable of 1.1kv grade as per IS 7098-1. 3 core 16 sqm Al cable	300	Mtr	140.00	42,000.00
14	Laying and fixing of one number of XLPE cable of 1.1 kV grade of following size on existing cable tray or on surface as required. Upto 35 sqmm (clamped with 1mm thick saddles).	300	Mtr	70.00	21,000.00
15	Supply and making end termination with brass compression gland and aluminium lugs for following size of XLPE aluminium cable of 1.1kV grade as required.				
a	3x16 sqmm (25mm)	40	Each	530.00	21,200.00
b	3.5x70 sqmm (38mm)	10	Each	1,010.00	10,100.00
16	Providing and fixing 25mmx5mm GI strip on surface or in recess for earth connections.	20	Mtr	190.00	3,800.00
17	Providing and fixing 6 SWG GI wire on surface or in recess for earth connections along with existing cable.	300	Mtr	40.00	12,000.00
				Total (Ex-GST)	Rs.2,27,80,200.00

Rupees Two Crore Twenty-Seven Lakhs Eighty Thousand and Two Hundred Only (Excluding GST)


M. Krishnamoorthy
 JGM (Engg-Elect)-I, AAI
 Chennai Airport, Chennai - 16