

By Regd.AD/E-mail

Ref. No. AAI/CL/ENGG(E)/108/WO-08/089

Date: 09.07.2021

**M/s Skyline Air-conditioning Engineers(P) Ltd.,
E-76, L.G.F, Kalkaji,
New Delhi -110 019**

Name of Work : Replacement of Chiller Units of HVAC System at Calicut International Airport.

Ref: : Your financial bid opened on 23.06.2021 and Auction date 24.06.2021.

Dear Sir(s),

1. Your e-tender for the work mentioned above is hereby accepted on behalf of the Chairman, Airports Authority of India at the item rates quoted by you (along with the reverse auction rates) totaling to **Rs.2,12,11,037/- (Rupees Two Crores Twelve Lakhs Eleven Thousand and Thirty Seven Only)** which is 25.79% below the justified cost.
2. Jt. Gen. Manager (Engg-Elect), AAI, Calicut International Airport shall be the Engineer-in-Charge of the work. You are requested to attend the office of Jt. Gen. Manager (Engg-Elect), AAI, Calicut International Airport by **16.07.2021** to sign and complete the contract agreement. The contract agreement shall be executed on a non-judicial stamp paper of value **Rs.200/- (Rupees Two Hundred only)** and the cost of the stamp paper shall be borne by you.
3. Please deposit **Rs.21,21,104/- (Rupees Twenty One Lakhs Twenty One Thousand One Hundred and Four only)** towards security deposit within 10 days from the date of issue of this letter failing which, the same will be deducted as per condition of Clause No.1 A at page No.GCC17 of contract document.
4. Within 30 days of issue of acceptance letter, you shall submit to AAI, a Performance Guarantee as per condition of clauseon page.....for an amount of Rs.....(Rupees.....Only) in the form of Bank Guarantee on the Proforma appended at Annexure ...onof Contract Document (If it is applicable).


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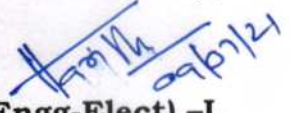
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5. You are requested to comply with the provisions of Contract Labour (Regulation and Abolition) Act of 1970 and Contract Labour (Regulation and Abolition) Central Rules 1971 Child Labour (Prohibition & Regulation) Act 1986, Construction of Works (Regulation of Employment and Condition of Services) Act 1996, Building and other construction Workers Welfare Cess Act 1996 as specified in Clause 19 on Page No.50-56 of GCC of tender and rules of Central and State Government.
6. You are also directed to contact Asst. Gen. Manager (Engg-Elect)- I, AAI, Calicut International Airport immediately who will arrange to hand over the site.
7. Please note that the time allowed for carrying out the work shall be **05 (Five) Months** and same shall be reckoned from the 10th day of issue of this letter.
8. Any further correspondence in connection with the contract should normally be addressed to the Engineer- In- Charge.
9. Please note that the awarded rate is exclusive of GST and you are required to submit valid GST invoices for effecting payment.
10. 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.

Thanking you,

Encl: SOQ

Yours faithfully,


**Asst. General Manager (Engg-Elect) -I,
For and on behalf of the Chairman,
Airports Authority of India**

Airports Authority of India
Engineering Wing (Electrical)
SR, Calicut International Airport, Calicut-673 647
SCHEDULE OF QUANTITIES

Name of work : Replacement of Chiller Units of HVAC System at Calicut International Airport.

Sl. No	Item Description	Qty	Unit	Rate	Amount
1	SUB HEAD I :SITC OF CHILLER AND ASSOCIATED WORKS Supplying, Installation, Testing and Commissioning of SCREW TYPE WATER CHILLING UNIT complete with compressor, motor, water cooled condenser, insulated chiller, flow switch at chiller and condenser, vibration isolators, integral refrigerant piping and wiring, all required accessories, automatic and safety controls mounted in central console panel complete as per specifications. Capacity at specified design conditions: 450TR Motor shall be suitable for 400 ± 10% 50 Hz, 3 phase AC supply. meeting criterion as per ASHRAE standard 90.1-2007 and high efficiency. a. Integrator capable of giving industry standard (Modbus/LonWorks/ Bacnet) output to and compatible to existing BMS system (Siemens Desigo CC) for critical 22 parameters including instantaneous KW/TR indication complete as per the technical specification. b. Automatic VFD to ensure that starting current shall not exceed the full load current and harmonic filter to achieve harmonics levels post mitigation to ≤5%. c. Flanged connection shall be provided for chilled and condensing water pipes. d. Chiller Installation on Ground Level. e. Cable termination adapter box. f. Hinged / bolted marine boxes for chiller and condenser.	3.00	Job	62,86,730.86	188,60,192.58

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Sl. No	Item Description	Qty	Unit	Rate	Amount
	g. Chiller should be able to unload below 25% at constant condenser entering temperature i.e. 31 Deg. C				
	h. All necessary sensors, controls, hardware, software and other accessories etc as required shall be inclusive.				
	i. The cost quoted shall be inclusive providing suitable foundation, modifying the water connections, capacity matching of existing pumps to suit the new chillers in the most energy efficient manner, as per the recommendations of pump manufacturer, Integrating the chiller with existing BMS/AMS system along with required hardware, software, firmware etc., interconnection between different units/devices in an approved manner, duly protected.				
	Chiller				
	Chilled Water IN 12.2°C				
	Chilled Water OUT 6.6°C				
	Fouling Factor 0.0005 FPS				
	Chilled Water Flow 870 USGPM (minimum)				
	Condenser				
	Condenser Water IN 32 deg C				
	Condenser Water OUT 36.2 deg C				
	Fouling Factor 0.001 FPS				
	Condensing Water Flow Rate 1080 USGPM (minimum)				
	i) Minimum COP as per AHRI Condition : 5.75				
	ii) Minimum IPLV (COP) as per AHRI Condition : 8.8				
	ii) Maximum power consumption of chiller at 100% load at AHRI condition : 0.61 IKW / TR				

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Sl. No	Item Description	Qty	Unit	Rate	Amount
2	Dismantling of existing 360 TR vertical screw type chiller units, foundation and associated accessories., including shifting the same from the HVAC plant location to dismantle items store located not more than 200 metres away.	7.00	Job	7,858.41	55,008.87
	INSULATED CHILLED WATER PIPE LINE				
3	Providing & fixing the following factory rolled MS Heavy Class (BIS 3589) Exposed chilled water pipes with specified wall thickness cut to required lengths and installed with all welded joints with necessary fittings like bends, elbows, tees, reducers, sockets etc. fabricated to size and shape in workshop or brought out ready made where available of acceptable quality including thermal insulations as required complete as per technical specifications and covering the suitable insulation with 500g polythene faced hessain and secured with 0.5mmx20mm GI wire mesh and two coats of cement plaster (each layer not less than 10mm) as per specifications etc. In case of trenches complete digging and back filling of soil shall be done . All buried pipes shall be surrounded on all sides by sand cushion of not less than 15 cms.				
a)	250 mm dia MS pipes. (Minimum 6 mm thick)	25	M	3,536.29	88,407.25
	NON INSULATED CONDENSER WATER PIPE LINE				
4	Providing & fixing the following factory rolled MS Heavy Class (BIS 3589) pipes with specified wall thickness cut to required lengths and installed with all welded joints, providing and fixing in position necessary fittings like bends, elbows, tees, reducers, sockets , MS flanges & supports as required complete as per technical specifications, fabricated to size and shape.				
a)	250 mm dia MS pipes. (Minimum 6 mm thick)	25	M	2,750.44	68,761.00

Sl. No	Item Description	Qty	Unit	Rate	Amount
5	Providing and fixing in position the following CI butterfly valves duly insulated for chilled water line as required complete as per technical specifications.				
a)	250 mm dia Valves.	6	Job	11,787.62	70,725.72
6	Providing and fixing in position the following CI manual balancing valves with flow measurement part duly insulated for chilled water line as required complete as per technical specifications.				
a)	250 mm dia Valves.	3	Job	48,722.16	1,46,166.48
7	Providing and fixing in position the following CI manual balancing valves with flow measurement part for condenser water line as required complete as per technical specifications.				
a)	250 mm dia Valves.	3	Job	47,936.32	1,43,808.96
8	Providing and fixing in position the following CI butterfly valves for condenser water line as per specification as required.				
a)	250 mm dia Valves.	3	Job	11,001.78	33,005.34
9	Supply, installation, Testing and commissioning of motorized Butterfly valves along with ON/OFF actuators and BMS compatibility for butterfly valves of following line sizes.				
a)	250 mm dia pipe size	3	Job	31,433.65	94,300.95
10	Supply of following size PVC sheathed, PVC insulated/XLPE armoured aluminium conductor cable of 1.1 KV grade conforming to IS 7098 Part I etc. as required.				

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Sl. No	Item Description	Qty	Unit	Rate	Amount
a)	3 C x 300 Sq.mm.	75	M	1,964.60	1,47,345.00
11	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required. Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	60	M	157.17	9,430.20
12	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
a)	3 C x 300 Sq.mm.	6	Set	785.84	4,715.04
13	Supply and applying of Fire resistant (UL 723) protective coating (VB-95 or equivalent) used for protection of Thermal Insulation of water pipes , of approved colour/shade on existing piping of various sizes using glass cloth for reinforcement, suitable adhesive with two or more coats of the protective coating ,including cleaning the surface, scraping out outlived tar-felt/prepare the surface to have adequate bond with the insulation, repairing of existing damaged insulation using cement plaster/wall putty/white cement, wherever required. The application of the protective coating shall be as mentioned in technical specification and/or as per manufacturer recommendation to the satisfaction of engineer in charge.	20	Sq.mtr	785.84	15,716.80
	SUB HEAD II : COMPREHENSIVE MAINTENANCE CONTRACT				
14	Comprehensive miantenance of the chiller units of specified capacity including monthly visits , any no. of break down visits, supply of all spares required etc. to the satisfaction of AAI as required. (1 JOB = CMC OF ONE UNIT FOR ONE YEAR)				
(a)	First Year after completion of DLP	3	Job	78,584.14	2,35,752.42

Sl. No	Item Description	Qty	Unit	Rate	Amount
(b)	Second Year after completion of DLP	3	Job	78,584.14	2,35,752.42
(c)	Third Year after completion of DLP	3	Job	1,06,088.58	3,18,265.74
(d)	Fourth Year after completion of DLP	3	Job	1,13,947.00	3,41,841.00
(e)	Fifth Year after completion of DLP	3	Job	1,13,947.00	3,41,841.00
	Total				212,11,037.00

(Rupees Two Crores Twelve Lakhs Eleven thousand and Thirty Seven Only)

[Signature]
22/09/22

Asst. General Manager (Engg-Elect)- I
AAI, Calicut International Airport