

Tender Inviting Authority: SENIOR MANAGER (ENGG-ELECTRICAL), AAI, RHQ-SR, CHENNAI - 600016
Name of Work: Construction of Sub-Station and Ancillary Works for New ASR Collocated MSSR at RHQ-SR, Chennai Airport. SH: Provisio
Contract No: 2025_AAI_236102_1

SCHEDULE OF WORK / ITEM(S)										
Sl.No	Description of Work / Item(s)	No.of Qty	Units	Estimated Rate	Aruna Airconditioners (GSTN-33AEFPR3806J1ZH) BID ID -861355		VOLTAS LIMITED (GSTN-33AAACV2809DIZT) BID ID -862747		Bluestar Limited (GSTN-NA) BID ID -862875	
					Rate	Amount	Rate	Amount	Rate	Amount
1.00	SH-I : SITC of 4 X 22 TR Precision Air-Conditioning Units (PAC)									
1.01	Supply, Installation, Testing and Commissioning of 22 TR DX-Type Precision Airconditioner suitable to operate on 3 phase, 415 Volts, 50 Hz Power Supply system with bottom discharge indoor evaporator unit with latest model EC Fan motor having radial backward curved composite blades, evaporator coil with minimum 4 row deep DX- Type copper cooling coil provided with anti-corrosive aluminum hydorphilic blue fins, 95% filtration upto 5 micorn, compressor (double or single cirucuit as per manufactures recomendations) shall be of latest high efficiency EC driven digital or inverter scroll compressor suitable for R410A refrigerent gas, provision of required quantity of refrigerent gas as per manufacturer recommendation, suitable vibration absorbers in compressor, Electronic expansion valve, Humidity control in the unit by providing humidifier, dehumidifier and heaters etc., Stainless steel insulated condensate drain pan at the bottom of the unit, suitable 'L' shaped 22 gauge GI duct to direct the supply air flow to the required direction, Factory made damper with actuator in each unit, Indoor cabinet of double skin panels with mineral rock wool insulation, Indoor unit with electrical isolation breaker along with necessary protections, outdoor unit of air cooled copper condenser coil with latest model axial type EC Fan motor suitable to operate on round the clock at out door ambient temeratures, condensor coil with anti corrosive aluminium hydrophilic blue fins, condensor unit made heavy duty steel or zinc annealed steel of weather proof having covered with 16 SWG GI sheet with powder coated, Each outdoor unit with breaker control for electrical ON/OFF and outdoor type enclosure, outdoor mounting unit stand made up of heavy duty MS angle /C channel steel with double coated paint for each unit, control panel with microprocessor based controller and touch type HMI display for necessary standard operations for maintaining the required room temperature along with required humidity values, unit shall be provided with RS485, backnet and modbus support, System shall be suitable to program for 100% redundancy incase of any failure of unit by internal automatic switching etc., pvc pipes for humidifier with	4.00	Set		1770250.00	7081000.00	1751680.00	7006720.00	2579875.00	10319500.00

L1 Amount	L1 Vendor
-----------	-----------

7006720.00	VOLTAS LIMITED
------------	----------------

1.02	Supply and laying of insulated copper refrigerant piping for hot gas and liquid line of suitable size with insulation as per OEM recommendation between indoor and outdoor units, 4C x 2.5 Sq.mm copper conductor armoured Power cable, suitable size perforated GI cable Tray with cover and supporting channels etc. complete as required.	200.00	Mtr.
1.03	Supplying & laying of condensate water drain pipe of ISI make PVC pipe having size of 40mm dia, 6kg/Cm ² capacity along with 9 mm thick insulation for additional requirement for AC units i/c necessary clamps, screws, supports etc., complete etc. as required	100.00	Mtr.
1.04	Supply and fixing of 19mm thick Class 'O' closed cell nitrile rubber insulation having density of 48 kg/cu.mtr in the wall and floor surface with suitable adhesive and preparing the surface free from dirt, dust for proper bonding of new insulation under the false flooring, etc. complete as reqd.	300.00	Sq Mtr
1.05	Supply and fixing of Aluminium powder coated floor grills with control dampers as required	10.00	Sq Mtr
1.06	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as required.	10.00	Sq Mtr
2.00	SH-II : SITC of Unitary Air-Conditioners and Misc items		
2.01	Supply, Installation, Testing and Commissioning of 2.0 TR (nominal capacity), High wall mounted, Inverter Split type Air conditioner with BEE star rating 5, consisting of non-ductable type indoor units (fan coil) with cord less remote control and one number out door unit comprising of compressor, cooling fan, copper condensing coil suitable for operation on single phase, 230 +/- 10% volts, 50 HZ, AC supply including installing the indoor (fan coil) unit and outdoor unit on wall on suitable stand, providing and fixing insulated copper piping (suction and discharge) and electrical connections with flexible copper cable of suitable size as per manufacturer's recommendations, between the indoor and outdoor units up to a length of 3 (three) meters, wrapping the insulated refrigerant line with white wrapping tape, providing drain piping (up to 3 meter length), drilling the hole on wall, making good the opening after installation including first charge of refrigerant etc. complete as required.	7.00	Each

4530.00	906000.00	4790.00	958000.00	3194.00	638800.00
550.00	55000.00	190.00	19000.00	196.00	19600.00
750.00	225000.00	500.00	150000.00	522.00	156600.00
15000.00	150000.00	11520.00	115200.00	6438.00	64380.00
10000.00	100000.00	6060.00	60600.00	6304.00	63040.00
35000.00	245000.00	43320.00	303240.00	38515.00	269605.00

638800.00	Bluestar Limited
19000.00	VOLTAS LIMITED
150000.00	VOLTAS LIMITED
64380.00	Bluestar Limited
60600.00	VOLTAS LIMITED
245000.00	Aruna Airconditioners

2.02	Supply, Installation, Testing and Commissioning of 1.5 TR (nominal capacity), High wall mounted, Inverter Split type Air conditioner with BEE star rating 5, consisting of non-ductable type indoor units (fan coil) with cord less remote control and one number out door unit comprising of compressor, cooling fan, copper condensing coil suitable for operation on single phase, 230 +/- 10% volts, 50 HZ, AC supply including installing the indoor (fan coil) unit and outdoor unit on wall on suitable stand, providing and fixing insulated copper piping (suction and discharge) and electrical connections with flexible copper cable of suitable size as per manufacturer's recommendations, between the indoor and outdoor units up to a length of 3 (three) meters, wrapping the insulated refrigerant line with white wrapping tape, providing drain piping (up to 3 meter length), drilling the hole on wall, making good the opening after installation including first charge of refrigerant etc. complete as required.	8.00	Each
2.03	Supply and Installation of Copper pipe for the following capacity Air conditioners including suction and delivery copper pipes with all accessories such as insulation, power & control cabling, etc., complete as required		
2.04	For 2 TR Split Air conditioner (beyond 3 meters per Split AC unit)	35.00	Mtr
2.05	For 1.5 TR Split Air conditioner (beyond 3 meters per Split AC unit)	40.00	Mtr
2.06	SITC of following capacity voltage stabilisers with copper wound coil having range of 170 to 270 voltage single phase, 50 Hz AC supply i/c necessary fixing arrangements, clamps, screws, metal clad top, connecting 3 core cable of 1 metre length, complete etc. as required.		
2.07	5 KVA stabilizer for 2 TR Split AC	7.00	Each
2.08	4 KVA stabilizer for 1.5 TR Split AC	8.00	Each
2.09	Supplying & laying of condensate water drain pipe of ISI make PVC pipe having size of 40mm dia, 6kg/Cm² capacity along with 9 mm thick insulation for additional requirement for AC units i/c necessary clamps, screws, supports etc., complete etc. as required	75.00	Mtr
3.00	SH: II -All Inclusive Comprehensive Maintenance Contract (AICMC) of 4 X 22 TR PAC		

30300.00	242400.00	35140.00	281120.00	34538.00	276304.00
500.00	17500.00	1590.00	55650.00	1126.00	39410.00
450.00	18000.00	1580.00	63200.00	1000.00	40000.00
2500.00	17500.00	2330.00	16310.00	3256.00	22792.00
2500.00	20000.00	1760.00	14080.00	3006.00	24048.00
550.00	41250.00	190.00	14250.00	199.00	14925.00

242400.00	Aruna Airconditioners
-----------	-----------------------

17500.00	Aruna Airconditioners
18000.00	Aruna Airconditioners

16310.00	VOLTAS LIMITED
14080.00	VOLTAS LIMITED
14250.00	VOLTAS LIMITED

3.01	All Inclusive Comprehensive Maintenance (AICMC) of 04 Nos. 22 TR Precision Air-Conditioning (PAC) units as mentioned at Item No. 1.01 to 1.06 of SH:I installed in alternate MSSR Building equipment room including replacement of all Mechanical, Electrical, Electronic spares and consumables as and when required to keep the system 100% service condition, providing full support during breakdown & trouble shooting, programming, carrying out MONTHLY routine maintenance checks, preventive and breakdown maintenance etc. as required as per good engineering practices, recommendations of the respective Original Equipment Manufacturer (OEM) and as per the instructions of Engineer-In-Charge for maintaining the systems. This includes keeping the system in acceptable functional and serviceable state etc. as specified including cost of all spare parts and submission of monthly maintenance service records and Reporting etc., as required.		
3.02	First Year after Completion of 02 (Two) year DLP (Considered 4% of SITC Cost of item No. 1.01 to 1.06)	1.00	Annum
3.03	Second Year after Completion of 02 (Two) year DLP (Considered Yearly 5% cumulative enhancement on 1st year AICMC Rate)	1.00	Annum
3.04	Third Year after Completion of 02 (Two) year DLP (Considered Yearly 5% cumulative enhancement on 2nd year AICMC Rate)	1.00	Annum
3.05	Fourth Year after Completion of 02 (Two) year DLP (Considered Yearly 5% cumulative enhancement on 3rd year AICMC Rate)	1.00	Annum
3.06	Fifth Year after Completion of 02 (Two) year DLP (Considered Yearly 5% cumulative enhancement on 4th year AICMC Rate)	1.00	Annum
3.07	Sixth Year after Completion of 02 (Two) years Defects Liability Period (DLP) (Considered Yearly 5% cumulative enhancement on 5th year AICMC Rate)	1.00	Annum
3.08	Seventh Year after Completion of 02 (Two) years Defects Liability Period (DLP) (Considered Yearly 5% cumulative enhancement on 6th year AICMC Rate)	1.00	Annum

340680.00	340680.00	332381.00	332381.00	450477.00	450477.00
357714.00	357714.00	349000.00	349000.00	473001.00	473001.00
375600.00	375600.00	366450.00	366450.00	496651.00	496651.00
394380.00	394380.00	384773.00	384773.00	521484.00	521484.00
414099.00	414099.00	404012.00	404012.00	547558.00	547558.00
434804.00	434804.00	424213.00	424213.00	574936.00	574936.00
456544.00	456544.00	445424.00	445424.00	603683.00	603683.00

332381.00	VOLTAS LIMITED
349000.00	VOLTAS LIMITED
366450.00	VOLTAS LIMITED
384773.00	VOLTAS LIMITED
404012.00	VOLTAS LIMITED
424213.00	VOLTAS LIMITED
445424.00	VOLTAS LIMITED

Total in Figures

11892471.00

11763623.00

15616794.00

Lowest Amount Quoted BY: VOLTAS LIMITED(11763623.00)