

HSCC/BU-II/2008
Dated: 28th April, 2009

Ammendment-1

Subject:- **PROPOSED ANIMAL HOUSING FACILITY AT VMMC,
Safdarjung Hospital, New Delhi**

Dear bidders,

With reference to the subject work, please find enclosed herewith the **amended “bill of quantities” for HVAC/Air conditioning work** which shall be the AMMENDMENTS-1/CLARIFICATIONS-1 in respect of the above work and this shall be treated as a part of the contract to be submitted duly filled signed & stamp along with tender. This may also be noted that the “BOQ” given earlier in the website for HVAC/Air conditioning work has been amended. The same amended BOQ for HVAC/Air conditioning work as enclosed to be filled, signed & stamped along with civil & electrical items & to be submitted along with price bid i.e Vol-IV. The **Amended “bill of quantities” for HVAC/Air conditioning work** is enclosed at Annexure-I.

Last date for submission of bids is extended to 05-05-2009 up to 1630 hrs.

All other terms & conditions of the subject tender shall remain unchanged.

Thanking you,

Yours faithfully

(A.K.Sinha)
Project Coordinator)

Computer generated sheet does not require signature

NAME OF PROJECT :- VARDHMAN MAHAVIR MEDICAL COLLEGE AT SAFDARJUNG HOSPITAL, NEW DELHI.						
NAME OF WORK :- S/I/T/C AIR-CONDITIONING SYSTEM FOR ANIMAL HOUSE						
<i>Amended</i> BILL OF QUANTITY (<i>Annexure-I</i>)						
ITEM NO.	BRIEF DESCRIPTION OF ITEMS	UNIT	QTY.	Rate in Figure (in Rs)	Rate in words(in Rs)	AMOUNT (Rs)
	Sub Head - A, Equipments					
1	Supplying, installation, testing and commissioning of 12TR, programmable microprocessor based, Air-cooled Package Type DX units complete with condensing unit, scroll compressor, air-cooled condenser with fan and evaporator,interconnecting refrigerant piping with indoor and outdoor units,pre charge refrigerant ,necessary insulation. Microprocessor Based Control Panel should be capable for Heating, Cooling & Humidification controls and interlocking with control wiring etc. complete with following and as per specifications.	Nos.	1			
	Indoor Unit-(For animal rooms)					
	a) Fan Section and canvass connection (Double Skin Type)					
	b) Centrifugal Blower with Capacity of 2400 CFM and 75mm Static Pressure.					
	c) Cooling Coil Section/s with 12TR cooling coil/s as per specifications.					
	d) Pre Filter with filter section as required.					
	e) Drain Pan and Drain Connection.					
	f) Drive motor, Drive arrangement guard etc.					
	g) Necessary vibration isolator and supporting arrangements.					
	h) Fresh air intake arrangement, necessary water drain and air purge valve wherever required etc.					
	i) Canvass connection ,necessary foundations,2 nos pressure gauge,2nos thermometer etc					

<u>Amended</u> BILL OF QUANTITY <u>(Annexure-I)</u>						
ITEM NO.	BRIEF DESCRIPTION OF ITEMS	UNIT	QTY.	Rate in Figure (in Rs)	Rate in words(in Rs)	AMOUNT (Rs)
	j) double skin section for housing microvee filters including microvee filters as required complete as per specifications					
	Outdoor Unit-(For animal rooms)					
	12TR Air Cooled Type Condenser with Aluminium Fins & suitable Copper Tube Coils.					
	b) Two or more suitable Scroll Type Hermetically sealed Comperssor.					
	c) Suitable condenser fans for the condensing unit.					
	d)necessary hard drown copper refrigerant piping per circuit with kinnifoam insulation along with clamps,supports,fittings such as bends,tees,reducers etc complete as per specifications and requirement					
2	Supplying, installation, testing and commissioning of 5 TR, programmable microprocessor based, Air-cooled Package Type DX units complete with condensing unit, scroll compressor, air-cooled condenser with fan and evaporator,interconnecting refrigerant piping with indoor and outdoor units,pre charge refrigerant necessary insulation. Microprocessor Based Control Panel should be capable for Heating, Cooling & Humidification controls and interlocking with control wiring etc. complete with following and as per specifications.	Nos.	1			
	Indoor Unit-(Each for Procedure and quarantine room)					
	a) Fan Section and canvass connection (Double Skin Type)					
	b) Centrifugal Blower with Capacity of 800 CFM and 75mm Static Pressure.					
	c) Cooling Coil Section/s with 12TR cooling coil/s as per specifications.					
	d) Pre Filter with filter section as required.					

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ITEM NO.	BRIEF DESCRIPTION OF ITEMS	UNIT	QTY.	Rate in Figure (in Rs)	Rate in words(in Rs)	AMOUNT (Rs)
	e) Drain Pan and Drain Connection.					
	f) Drive motor, Drive arangement guard etc.					
	g) Necessary vibration isolator and supporting arrangements.					
	h) Fresh air intake arrangement, necessary water drain and air purge valve wherever required etc.					
	i) Canvass connection ,necessary foundations,2 nos pressure gauge,2nos thermometer etc					
	j) double skin section for housing microvee filters including microvee filters as required complete as per specifications					
	Outdoor Unit-(Each for Procedure and quarantine room)					
	5 TR Air Cooled Type Condenser with Aluminium Fins & Copper Tube Coils.					
	b) Scroll Type Hermetically sealed Comperssor.					
	c) Suitable condenser fans for the condensing unit.					
	d)necessary hard drown copper refrigerant piping per circuit with kinnifoam insulation along with clamps,supports,fittings such as bends,tees,reducers etc complete as per specifications and requirement					
3	Split Air Conditioners					
	Supply installation testing and commisioning of HI wall split air conditioner comprising of the following					
	a)Outdoor condensing Units					
	b)Indoor Evaporative Units					
	c)Interconnecting Refrigerant and drain piping with insulation wherever required,refrigerant and oil.The unit shall include 8 RMT refrigerant piping,power cabling and drain piping					

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	d)Safety and operational Controls					
	e)Hiwall splits shall be suitable for single phase power supply and complete with stabilizer					
	f)Mounting arrangement and structural supports for outdoor unit are included					
3	Capacity:1.5TR (Hiwall)	Nos.	3			
	Extra Refrigerant Piping	RMT	3			
	Extra drain Piping	RMT	3			
4	Supplying, installation, testing and commissioning of 3KW-Pan Type Humidifier made from minimum 2mm thick stainless steel sheet top closed and insulated with 50mm thick expended polysterene (T.F. Quality).-(For Animal rooms)	Nos.	1			
5	Supplying, installation, testing and commissioning of 1.5KW-Pan Type Humidifier made from minimum 2mm thick stainless steel sheet top closed and insulated with 50mm thick expended polysterene (T.F. Quality).-(For Procedure rooms)	Nos.	2			
6	Supplying, installation, testing and commissioning of 3KW-Strip Type Electric Heater suitable to installed in Main Ducts/Duct Plenums/Blower Unit as required & specification.	Nos.	12			

<u>Amended</u> BILL OF QUANTITY <u>(Annexure-I)</u>						
ITEM NO.	BRIEF DESCRIPTION OF ITEMS	UNIT	QTY.	Rate in Figure (in Rs)	Rate in words(in Rs)	AMOUNT (Rs)
7	Exhaust Fan Section (For Animal rooms)					
	Supply,installation,testing & Commissioning of Centrifugal blower of 2600 CFM and 40 mm static capacity complete with doble skin casing,motor,drive package,base frame inlet vanes,necessary canvass connections, supporting arrangement,vibration isolators complete as per specification.	Nos	1			
8	Duct Mounted Inline Fan (For Procedure and Quarantine Rooms)					
	Supply installation testing & commissioning of duct mounted inline fan complete in all respect as per specifications following capacity of inline fan					
	1000 cfm/40 mm static	Nos	2			
	Sub Total of Sub Head- A, Equipments					
	<u>Sub Head - B, Air Distribution</u>					
9	Supplying, installation, testing & commissioning of GSS DUCTING of following thikness including necessary supports, hangers, nuts bolts, gaskets, splitters dampers, vanes canvass connections etc. complete as per specification.					
a)	1.25 MM THICK(18 G)	Sq. Mtr.	30			
b)	1.00MM THICK(20 G)	Sq. Mtr.	50			
c)	0.80 MM THICK (22 G)	Sq. Mtr.	200			
d)	0.63 MM THICK (24)	Sq. Mtr.	300			
10	Supply, installation, testing & commissioning of FIRE DAMPERS with fusible links made out of 16 Gauge, GI sheets of at least 90 minutes fire rating complete with as per specification.	Sq. Mtr.	3			

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ITEM NO.	BRIEF DESCRIPTION OF ITEMS	UNIT	QTY.	Rate in Figure (in Rs)	Rate in words(in Rs)	AMOUNT (Rs)
11	Supply, installation, testing & commissioning of VOLUME CONTROL DAMPERS made out of 16 Gauge GI Sheet for main Ducting Braches & Headers.	Sq. Mtr.	3			
12	Supply, installation& balancing of square/circular SUPPLY AIR DIFFUSERS of powder coated aluminium construction with attached volume control dampers as per specification and drawings	Sq. Mtr.	3			
13	Supply, installation& balancing of square/circular RETURN AIR DIFFUSERS of powder coated aluminium construction without attached volume control dampers as per specification and drawings.	Sq. Mtr.	3			
14	Supply, installation & balancing of SUPPLY AIR GRILLES of powder coated aluminium construction with attached volume control dampers as per specification and drawings	Sq. Mtr.	3			
15	Supply, installation& balancing of RETURN AIR GRILLS of powder coated aluminium construction without attached volume control dampers as per specification and drawings	Sq. Mtr.	4			
16	Ducting Insulation					
	Supply installation,testing & commissioning of following thermal insulation on supply /Exhaust ducts complete as per specifications					
a	6 mm Nitrile rubber insulation on Exhaust air ducts	Sq Mtr.	25			

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b	12 mm Nitrile rubber insulation on Supply air ducts	Sq Mtr.	50			
17	Supply and fixing 25mm thick & 24 kg/cm resin bonded fibre glass acoustic insulation in supply air ducting complete with glass cloth and perforated aluminium sheet complete as per specifications	Sq. Mtr.	40			
Sub Total of Sub Head- B, Air Distribution						
<u>Sub Head - C, Electrical</u>						
18	Electrical Panel for A/C Units					
	Fabrication, Supply, Installation, Testing & Commissioning of Cubical Sectionalized floor standing Electrical Panel suitable for working 415, 50HZ, 3Phase A/C Supply make out of 2mm thick CPRA Sheet having suitable cable alley, 4Strip, 400A Bus Bar of Electrolytic grade aluminium, duly powder coated with S/F for folloing accessories including making conection, interconnection with aluminium strip, Solid copper conductor, glande plate, making etc. complete in all respect.	Nos	1			
INCOMER						

<u>Amended</u> BILL OF QUANTITY <u>(Annexure-I)</u>						
ITEM NO.	BRIEF DESCRIPTION OF ITEMS	UNIT	QTY.	Rate in Figure (in Rs)	Rate in words(in Rs)	AMOUNT (Rs)
	160 FP MCCB with (0-160A) ammeter with 3CT & selector switch, (0-500 volts) Voltmeter with selector switch, phase indication light with protection fuse, On/Off/Trip indicating light with protection fuse, 3 phase four wire digital energy metre with C.T's etc complete as required					
	OUTGOINGS					
	i) For 12 TR A/C Unit x 01 No.					
	100A TP MCB with thermal magnetic release for variable current setting 0.8 to 1.0 confirming to , ammeter (0-100A) with three CT, on-off/trip indication lights with protection fuse, etc as required.					
	ii) For 5TR A/C Unit x 02 Nos.					
	63A FP MCB with thermal magnetic release for variable current setting 0.8 to 1.0 confirming to , ammeter (0-63A) with three CT, on-off/trip indication lights with protection fuse, etc as required.					
	iii) For 24KW Heaters Unit x 01 No.					
	63A FP MCB with thermal magnetic release for variable current setting 0.8 to 1.0 confirming to , ammeter (0-63A) with three CT, on-off/trip indication lights with protection fuse, suitable starter for 24 KW heater bank in 2 step and suitable control wire etc. as required.					
	iv) For 6KW Heaters Unit x 02 Nos.					
	40A FP MCB with thermal magnetic release for variable current setting 0.8 to 1.0 with confirming to , ammeter (0-40A) with three CT, on-off/trip indication lights with protection fuse etc as required					
	v) For humidifier Unit x 03 Nos.					
	32A FP MCB with thermal magnetic release for variable current setting 0.8 to 1.0 with confirming to , ammeter (0-32A) with three CT, on-off/trip indication lights with protection fuse etc as required					

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ITEM NO.	BRIEF DESCRIPTION OF ITEMS	UNIT	QTY.	Rate in Figure (in Rs)	Rate in words(in Rs)	AMOUNT (Rs)
	vi) For Fan section of indoor unit and Exhaust Fan 3 hp motor DOL Starter with single phase preventor -2 nos					
	vii) For Fan section of indoor unit and inline Fan 1 hp motor 2nos DOL Starter with single phase preventor -4 nos					
	viii) Spare 3 HP DOL starter with single phase preventor					
	ix) For Lights					
	32 A TP MCCB with thermal magnetic release for variable current setting 0.8 to 1.0 confirming to ammeter (0-32) with three CT,on/off/trip indication lights with protection fuse etc as required					
	x)For Power Supply					
	63 A TP MCCB with thermal magnetic release for variable current setting 0.8 to 1.0 confirming to ammeter (0-63) with three CT,on/off/trip indication lights with protection fuse etc as required					
	xi)Spare					
	63 A TP MCCB with thermal magnetic release for variable current setting 0.8 to 1.0 confirming to ammeter (0-63) with three CT,on/off/trip indication lights with protection fuse etc as required					
19	Supply, Laying, Testing & Commissioning of power and control cabling as per standard specification including end termination as required.					
	Power & Control Cabling (PVC Insulated and PVC Sheathed, Armoured, Aluminium/Copper Conductor of 1.1KV grade on Surface/Existing cable trays).					
	a) 4C X 16 Sq. mm(Aluminium)	Rmt	200			

