INDIAN INSTITUTE OF TECHNOLOGY MADRAS
ENGINEERING UNIT

CHENNAI – 600 036

Price Bid (Volume 2)

T. No 26/2013-14/EIdb

Name of the work	:	Replacement of walk in coolers in Himalaya & Vindhya Mess at IIT Madras
Date of Submission of Technical & Price bid	:	03.00 pm on 02/09/2013
Date of opening of Technical bid	:	03.10 pm on 02/09/2013
Date of opening of Price bid	:	Will be intimated later.
Bid Submitted to	:	The Executive Engineer (E), Engineering Unit, Administrative Block III Floor, IITM, Chennai-36

Consultant (Elec)

Executive Engineer (Elec)

INDIAN INSTITUTE OF TECHNOLOGY MADRAS
ENGINEERING UNIT

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TENDER DOCUMENT FOR Replacement of walk in coolers in Himalaya & Vindhya Mess at IIT Madras
VOLUME-2 (PRICE BID)
BILL OF QUANTITIES
Other volume:
Vol-1: Notice inviting tenders, Conditions of Contract, Additional specifications, General Conditions of Contract , list of approved makes etc.,

INDIAN INSTITUTE OF TECHNOLOGY MADRAS					
Name of Work: Replacement of walk in coolers in Himalaya & Vindhya Mess at IIT Madras					
T.No: 26/2013-14/Eldb					
BILL OF QUANTITIES					
S.No	**Description**	**Qty**	**Unit**	**Rate**	**Amount**
	MODULAR WALK IN COLD ROOM - SIZE - 2.94 M X 2.06 M X 2.39 M HT - 4 NOS: The cold storage facility shall have a walk-in storage room and to be cooled with two cooling units working alternately keeping one unit in standby. The facility shall have microprocessor based control system located at one place. The cold storage should be of robust design, easy in operation and trouble free service. The cold storage facility should be able to work continuously at the ambient temperature and humidity at preset temperature. The cold storage should be fitted with suitable door for easy entry/exit of store personnel. The door should be provided with lock.				
1	**PRE-FABRICATED MODULAR COLD ROOM PANELS** : Pre-fabricated panels with interior and exterior 0.5 MM thick pre-painted GI sheets precisely formed with steel dies and roll form equipment, confirming to I.S.12346. The panels "foamed-in-place" with CFC free RPUF with a 97% closed cell structure should not have internal wood, metal or high-density urethane structural members. All joints should be airtight and vapor proof, with all panel edges having a tongue and groove edge of the same density as the rest of the panels. Panels to lock together with cam lock mechanism and joints finished using good quality silicon sealant. No timber should be incorporated with the construction. Flexible vinyl gasket, resistant to damage from oil, grease, water, detergents and sunlight which is also "foamed-in-place", should be provided around the interior and exterior perimeter of each male edge.				
1a	Wall Panel - 60 MM THICK	Sqm	68		
(Rate in words Rupees……..……)					

1b	Ceiling Panel (Self Supporting) - 60 MM THICK	Sqm	24		
(Rate in words Rupees……)					
1c	Corner panel of 300 mm x 300 mm size	Sqm	24		
(Rate in words Rupees……)					
1d	Flashing : Inner and Outer - 0.5 mm thick	Rmt	80		
(Rate in words Rupees……)					
1 e	U-Profile	Rmt	40		
(Rate in words Rupees……)					
2	**COLD ROOM FLOORING :** Flooring carried out of 50 MM thick RPUF slabs. After fixing poly sheet layer it should be covered with 80 MM thick Plain Cement Concrete (PCC) layer. Ordinary Portland cement, 53 Grade conforming to IS: 12269 shall be used. The mixing ratio shall be 1:2:4 (cement : sand : blue metal) by volume. Finally the flooring should be finished with 25 MM thick Kotah stone slabs.	Sqm	24		
(Rate in words Rupees……)					
3	**COLD ROOM DOOR :** RPUF – Flush in Type with 1981 x 864 x 60mm Thick Clear opening towards outside. It should be provided with a non-corrosive, hydraulic door closure, magnetic snap-in perimeter gasket, self-closing cam lift gravity hinges, FRP lining, Anti Condensation Door Heater; Positive Seal door closure ,with a key lockable latch handle with an inside human safety release knob. The hinges and the lock shall be made of stainless steel and the frame shall be made of aluminum of suitable cross-section. Audio alarm for door open condition and Aluminium chequerd kick plate of 2 mm thick to be included.	Nos	4		
(Rate in words Rupees……)					

4	**LIGHTING :** Internal sealed fluorescent lighting mounted flush with ceiling, programmable through the control Panel.	Nos	4		
(Rate in words Rupees……)					
5	**COVING :**Metallic covings required for wall to wall, wall to ceiling and wall to floor covings including cornice cups.	Lot	4		
(Rate in words Rupees……)					
6	**AIR COOLED CONDENSING UNITS :** Supply of **10000 BTU/HR** Nominal capacity . The unit shall comprise of Hermetic 3 phase Scroll Compressor, Air cooled condenser with inner grooved copper tubes and slit aluminium fins & Condenser fan with permanent lubrication and thermal protection. Compressor shall be cut-off automatically under part load conditions. The units shall have microprocessor controls. The body should be powder coated with UV and corrosion resistance. The units shall be factory assembled and only the Refrigerant piping carried out at site. The unit should be pre-charged with operating refrigerant R-404A / R134a. Accessories like service valves, filer drier, safety and control devices to be included.	Nos	8		
(Rate in words Rupees……)					
7	**EVAPORATOR INDOOR UNIT :** Supply of **10000 BTU/HR** Nominal capacity Wall mounted Indoor Evaporator Unit . The indoor units shall be ceiling suspended type. The Indoor unit shall comprise of Fan, Cooling coil with inner grooved copper tubes, Filter and Expansion device. A Ceiling mounted forced air- cooling unit constructed with SS sheet removable side panels and should be assembled to form a rigid structure. External rotor driven fan motors for low noise levels with IP45. Fan motors to be permanently lubricated and thermally protected. Cooler surface should be assembled to form copper tubes and Aluminum fins mechanically bound in place, complete with condensed drip tray at the base with drain line connection.	Nos	8		
(Rate in words Rupees……)					

8	Inland transportation to site, Lifting, Installation, Testing, Commissioning and Handing over of the 10000 btu/hr Indoor and Outdoor units. (Site is in Ground Floor/ First / Second Floors).	Set	4		
(Rate in words Rupees…….)					
9	**REFRIGERANTPIPING:** Supply, Installation and Testing of soft drawn Copper Refrigerant piping and fitting using brazed joints, complete with 19 mm thick tubular elastomeric nitrite rubber insulation and finished with poly shield coating. The refrigerant piping shall be adequately sized to take care of the length of piping. Complete piping workmanship to be carried out as per recommended practice. The piping to be vacuum tested and leak tested. Scope includes all refrigerant pipes shall be properly supported and anchored to the building structure using steel hangers, anchors, brackets and supports etc which shall be fixed to the building structure by means of inserts or expansion shields of adequate size and number .				
9a	Liquid Line	Rmt	60		
(Rate in words Rupees…….)					
9b	Suction Line	Rmt	60		
(Rate in words Rupees…….)					
10	**REFRIGERANT GAS :** Supply and Charging of R-404A /134a refrigerant gas	Lot	4		
(Rate in words Rupees…….)					
11	**DRAINPIPING:** Supply, Installation and Testing of Hard PVC drain piping insulated out of nitrile rubber material of approved make as per specification complete with supports, consumables, fittings, pipe sleeves, U trap, leak arresting of following sizes.				
11a	32mm dia (19 mm thick insulation)	Rmt	80		
(Rate in words Rupees…….)					

11b	25mm dia (19 mm thick insulation)	Rmt	20		
(Rate in words Rupees……)					
12	**CONTROLLER AND DISPLAY SYSTEM :** The unit is fitted with a micro-processor based digital electronic temperature controller cum indicator for easy readability along with audio-visual alarm system. The controller should have the facility to set temperature and humidity value and also the safety limits for temperature and humidity. The temperature control to be within +/- 1oC at the sensing point. An audible alarm should be provided in the event of actual values exceeding the set limits.	Set	4		
(Rate in words Rupees……)					
13	**ELECTRICAL POWER PANEL :** Supply, Installation, Testing & Commissioning of Electrical Power Panel complete with weather proof panel housing, SPPR protection against reverse polarity, single phasing and phase unbalance and in-built interlock of LP/HP, Anti-freeze, Over current etc.	No.	4		
(Rate in words Rupees……)					
14	**POWER AND CONTROL CABLING :** Supply, Installation, Testing & Commissioning of Control Cabling between the indoor and outdoor units with Copper conductor PVC armoured FRLS including lugs, crimping and terminations identifying labels duly clamped.	Rmt	60		
(Rate in words Rupees……)					
15	Supply, Installation and Testing of earthing out of :				
15a	8 SWG GI wire	Rmt	120		
(Rate in words Rupees……)					

16	**FABRICATED STEEL WORK:** Supply, Fabrication, Cutting, Welding and Erection Powder coated M. S. Angle support work for outdoor unit location.	Lot	4		
(Rate in words Rupees……)					
17	**SUB - TOTAL**				
17a	**14.5% VAT / CST 67% of total value**				
17b	**12.36% SERVICE TAX 33% of total value**				
17c	**TOTAL**				
(Rate in words Rupees……)					
18	Buy-Back of existing Cold Rooms equipment on "as-is-where-is" condition. The contractor has to quote in negative value.	Lot	4		
(Rate in words Rupees……)					
19	Buy-Back of existing freezer Rooms equipment on "as-is-where-is" condition. The contractor has to quote in negative value.	Lot	3		
(Rate in words Rupees……)					
	GRAND TOTAL (17c – 18 – 19)				

Total Amount in words Rupees…….

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Signature of the contractor **Consultant (Elect)**

Executive Engineer (Elect)

20	**ANNUAL MAINTENANCE CONTRACT**			**Amount in Rupees**
20a	Cost of comprehensive maintenance for the 1st year (Rate Only)	Per	Year	
(Rate in Rupees……)				
20b	Cost of comprehensive maintenance for the 2nd year (Rate Only)	Per	Year	
(Rate in Rupees……)				
20c	Cost of comprehensive maintenance for the 3rd year (Rate Only)	Per	Year	
(Rate in Rupees……)				
20d	Cost of comprehensive maintenance for the 4th year (Rate Only)	Per	Year	
(Rate in Rupees……)				
20e	Cost of comprehensive maintenance for the 5th year (Rate Only)	Per	Year	
(Rate in Rupees……)				

Signature of the contractor **Consultant (Elect)**

Executive Engineer (Elect)