

## ANNEXURE VI

Tender : Engineering Works at HBL Ticel Phase II Office, Taramani, Chennai HBL/TD/ADMIN/OFF-II/ENGG_WORKS/15-16/02 dtd 02.06.2015		
OFFICE ENGINEERING WORKS TICEL PHASE II		
S.No	Particular	AMOUNT Rs.
1	BOQ1 - HVAC Works	
2	BOQ2 - Electrical Works	
3	BOQ3 - Fire Sprinkler and Alarm	
4	BOQ4 - Networking and Voice	
GRAND TOTAL		

Grand Total in Words:

**BOQ 1 - HVAC Works**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
<b>1</b>	<b>GI Ducting</b>						
	Supply,Installation and Testing of fabricated GI Ducting as per specification complete with supports, with GI rivets,nut-bolts, with Epoxy painted MS angle Flanges, with 3 mm thick neoprene gaskets duly installed between flanges. Leak Testing of ducts at site shall be carried out as per SMACNA standards. Food grade silicon sealant shall be applied in the longitudinal length of a ducts & for all angle flanges.						
1.1	24G GI Ducting	105	sqm				
1.2	22G GI Ducting	55	sqm				
<b>2</b>	<b>Duct Insulation</b>						
	19mm thick nitrile rubber insulation for outside of ducts applied reinforced aluminium foil adhered to the surface cleaned HVAC ducts with adhesive.	160	sqm				
<b>3</b>	<b>Diffusers/Grills</b>						
	Supply & Installation of extruded aluminium powder coated Diffusers/ Grills with volume control damper. Size : 600mm x 600mm (The exact sizing will be as per approved RCP layout)	30	Nos				
<b>4</b>	<b>Duct Dampers</b>						
	Supply & Installation of 16 G.G.I. low leakage opposed blade type damper	2	sqm				
<b>5</b>	<b>Motorized Duct Damper</b>						
	Supply and Installation of Motorized duct damper for conference Room.	1	No				
<b>6</b>	<b>Fire Dampers</b>						
	Supply and Installation of Fire dampers with Fusible Link on both supply and return air side of AHU's	2	Nos				

**BOQ 1 - HVAC Works**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
7	<b>Flexible Canvas connection</b>						
	Supply and Installation of Flexible Canvas connection from AHU's to Main Ducting.	2	Nos				
8	<b>Wall Mounted Split Units</b>						
8.1	Supply, Installation, Testing & Commissioning of new 1.5TR split units of high wall type with both evaporator and condensing units with cordless remote with stand and with enameled painted MS mounting frame /base frame for the condensing units. Special anti-corrosive blue fins to be provided in copper condenser & maximum 5 m long copper refrigerant piping with insulation to be considered for both liquid and gas line.6 m long insulated PU Tube drain pipe to be provided from the evaporator unit to the nearest available drain point Suitable starters, panel / box with switches, power control cabling between outdoor unit and indoor unit to be provided. Refrigerant considered to be environmentallyfriendly and NON CFC. The units shall be Energy efficiency rating(5 Star Rating)	2	Nos.				
8.2	5KVA Everest Double Boaster Stabilizer	2	Nos				
8.3	Extra copper piping with insulation	14	Rmt				
<b>TOTAL in Rs.</b>							
<b>Sales Tax (_____%)</b>							
<b>Service tax(_____%)</b>							
<b>Other charges (if any)</b>							
<b>Grand Total in Rs.</b>							

**BOQ 2 - Electrical Works**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
<b>1</b>	<b>Point wiring in PVC conduit :</b>						
	Wiring for light point/ fan point/ exhaustfan point/ call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit and earthing the point with 1.5 sq.mm. FR PVC insulated copper conductor single core cable etc. as required.(separate switch board to be provided for the Emergency lights(UPS)). (scope does not includes switches )	points	65				
<b>2</b>	<b>Circuit Sub main wiring in PVC Conduit</b>						
	Wiring for circuit/ sub main wiring along with earthwire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/recessed medium class PVC conduit as required.						
	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire. (scope does not includes PVC conduit)	mtr	500				
	2 X 4 sq. mm + 1 X 4 sq. mm earth wire.	mtr	100				
	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	mtr	100				
	4 X 10sq. mm + 2 X 10sq. mm earth wire.	mtr	100				
<b>3</b>	<b>FRLS PVC Conduit:</b>						
3.1	supply and fixing of FRLS PVC pipesize 25mm /2 mm thick with all connected/Hanging accessories.	mtr	500				
3.2	supply & Fixing of FRLS PVC pipe size 32mm /2 mm thick with all connected/Hanging accessories. (For Data & Telephone Cable)	Mtr	400				

**BOQ 2 - Electrical Works**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
4	<b>16 way SP double door DB</b>						
	Supply and fixing of 16 way SP double door DB: (IP-43) With 1)63A DP MCB-2no, 2)6/10A/10KA SP MCB - 12no (For UPS & Power )	set	4				
5	<b>12 way SP double door DB:</b>						
	supply and fixing of 12 way SP double door DB: (IP-43) With 1)63A TPN MCB-1no, 2) 100A TPN MCB - 1No. 3) 32A DP MCB - 2no for ACs	set	1				
6	<b>Busbars</b>						
	Supply & Fixing of Busbar: Supply and fixing 440v Rating coper bus bar of 100A Capacity with 3 Phare and material Steel enclosure ISI Marked (study or similar)	No.	1				
7	<b>AHU Starter Panel</b>						
	Supply and Installation Starter Panel for AHU Units as per detailed tender specification.	set	2				
8	<b>Light Fixtures</b>						
8.1	Supply and fixing of Light Fixtures: Recess mounte direct-indirect downlight with Paralite P5 Louvers and Acrylic diffuser,4X14 W T5 Fitting, Wipro- WVF79414 SGW orequivalent. Inclusive of lamp	set	45				

**BOQ 2 - Electrical Works**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
8.2	supply and fixing of LED Down Lights: Recess mounted LED downlights with aluminium body, 10/12 W. simialr to Wipro LD49/LD44 or equivalent	set	12				
9	<b>Modular boxes &amp; Plates</b>						
	Supply and fixing of Modular boxes, base, cover and Blanking plates: Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc as required.						
9.1	4 Module (125mm X 75mm)	sets	6				
9.2	8Module (125mm X 125mm)	sets	8				
9.3	12 Module (125mm X 150mm)	sets	4				
10	<b>Modular Switches</b>						
10.1	Supplying and fixing 5/6amps modular switch, connection etc as required. (For light points to be used in non residential buildings).	nos	25				
10.2	Supplying and fixing 15/20Amps modular switch, connection etc as required. (For light points to be used in non residential buildings).	nos	8				
10.3	Supplying and fixing 5/15 Amps modular socket,connectionetc as required.	nos	8				
11	<b>Modular Sockets</b>						
	Supplying and fixing , 5/6 Amps modular socket, connection etc as required.	nos	12				
12	<b>Workstation Switches &amp; Sockets</b>						

**BOQ 2 - Electrical Works**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
	Supply and Fixing of Modular type Coverplates with Switches & Sockets for Workstations : Supplying and fixing following modular base & cover plate with 2Nos of 5A modular switches & 5A modular Sockets in recess on the Workstations (8 Module)	nos.	54				
13	<b>3PH Online UPS :</b>	no	1				
	Supply, installation, testing & commissioning of 10 kVA DHPL-Online Double conversion UPS System 240VDC – three phase input and Single phase output with inbuilt transformer, Pure Sinewave Output, with Bypass Switch, 20 nos. 12V 42AH SMf batteries with stand for housing of the batteries.						
<b>TOTAL in Rs.</b>							
<b>Sales Tax (____%)</b>							
<b>Service tax(____%)</b>							
<b>Other charges (if any)</b>							
<b>Grand Total in Rs.</b>							

**BOQ 3 - FIRE SPRINKLER & ALARM**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
A	<b>SPRINKLER SYSTEM</b>						
1	<b>MS Piping</b>						
	Supply, Installation, testing & commissioning of MS 'C' Class Pipes of heavy grade confirming to IS : 1239 - 2004 / IS:3589 - 2001. The pipes being suspended from beams, RCC roof slabs with necessary specials such as tees, bends, flanges reducers etc., complete. Rate shall also include for painting of pipe with one coat of primer & two coats of synthetic enamel paint of approved colour & make. Note: Rate shall also include for chasing/Chipping of civil walls, Making holes in Walls/Floors and making them with good Non-Shrinkage materials and finished in cement mortar etc.,						
1.1	80 mm DIA	36	mts.				
1.2	65mm DIA	30	mts.				
1.3	50mm DIA	24	mts.				
1.4	25mm DIA	100	mts.				
2	<b>Butterfly Valve</b>						
	Supply, erection, testing and commissioning of slim seal <b>type butterfly valve (80mm DIA)</b> with PN10 rating valve shall be provided with required flanges, nuts, bolts etc., with nitrile rubber seal and tested to 10kg/sq.cm including a set of suitable GI flange, as per BS 10 Table - 1, bolts, nuts GI washer, neoperene rubber gaskets etc., complete.	1	No.				

**BOQ 3 - FIRE SPRINKLER & ALARM**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
<b>3</b>	<b>Sprinklers</b>						
	Supply, Erection & Testing of Standard Response Standard coverage upright/pendent Type Sprinklers 15mm Size, BSPT end connection with 68 Deg.C.Temp. rating, K - 5.6 with UL approved. Note: The sprinklers shall also include Rosset/Escutcheon Plate of 2mm thick SS Plate.	40	Nos.				
<b>4</b>	<b>Flow Switch</b>						
	Supplying, Installing, testing and commissioning of flow switch installed on the sprinkler main distribution line connected to the main sprinkler annunciation panel located in the ground floor. (DIA 80mm).	1	No.				
<b>5</b>	<b>SS Flexible Dropper for Sprinkler</b>						
	Supply and Installation of SS corrugated flexible hose for sprinkler below false ceiling of required length to connect the sprinklers.	40	Nos.				
<b>B</b>	<b>FIRE ALARM – Conventional</b>						
<b>6</b>	<b>Optical Smoke Detectors</b>						
	Supply, Installation & Testing of Photo Electric optical smoke detectors below false ceiling	25	Nos.				
<b>7</b>	<b>Manual call stations</b>						
	Supply, Installation & testing of Manual Push Button Call station point with Twin LED Blink Light	2	Nos.				
<b>8</b>	<b>Fire Hooter.</b>						
	Supply ,Installation, testing of Electrical Fire Hooter	1	No.				
<b>9</b>	<b>Cabling</b>						

**BOQ 3 - FIRE SPRINKLER & ALARM**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
	Supplying & laying Control cabling for fire alarm systems with FRLS copper armoured cable of 2C X 1.5 Sq.mm with ISI marked including junction boxes, cable glands, clamps, screws etc.	350	mts.				
<b>10</b>	<b>Main Control Panel</b>						
	Supply, installation, testing and commissioning of fire alarm main control panel with battery back up which comprises of audio - visual fire alarms, test buttons, floor selector switches, rectifiers, battery with charges, etc., as per detailed technical specifications and as required. (4zone Panel) with Monitor/Zone Module for Monitoring the field devices.	1	No.				
<b>11</b>	<b>Horn/Strobe</b>						
	Supply, installation, testing and commissioning of Horn/strobe rated for audible annunciation and for Visual indication.	2	No.				
<b>TOTAL in Rs.</b>							
<b>Sales Tax (____%)</b>							
<b>Service tax(____%)</b>							
<b>Other charges (if any)</b>							
<b>Grand Total in Rs.</b>							

**BOQ 4 - NETWORKING & VOICE**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
<b>A</b>	<b>Data &amp; Networking</b>						
<b>1</b>	<b>Networking Switch</b>						
1.1	Supply & Installation of 24port 10/100/1000 base-t L2 (Up to 6 switches can be stacked under a single IP Address) management switch with 4combo ports	Nos.	3				
<b>2</b>	<b>WIFI Router</b>						
2.1	Supply & Installation of WIFI router	Nos.	2				
<b>3</b>	<b>Networking Rack with Cabinet</b>						
3.1	Supply & Installation of 42 U 800 X 1000 floor standing open rack with accessories.	Nos.	1				
<b>4</b>	<b>I/O Module Boxes</b>						
4.1	Supply & Installation of I/O box, 2 Nos of modules for data and voice (DUAL - RJ45 & RJ11) with modular cover plate.	Nos.	50				
4.2	Supply & Installation of I/O box, 2 Nos of modules for data and voice (QUAD - RJ45&R11) with modular cover plate.	Nos.	20				
<b>5</b>	<b>Cat 6 Patch Cable</b>						
5.1	Supply of Cat6 Patch Cable of length 2mts/7ft. For workstations and Tables.	Nos.	700				
5.2	Supply & Laying of Cat6 cable (including crimping of ends to RJ45 ports but excluding conduit price).	mts.	5000				
<b>6</b>	<b>Wall Raceways</b>						
6.1	Supply & Installation of Race ways 60mmX100mm	mts.	50				

**BOQ 4 - NETWORKING & VOICE**

S.No	Particular	Qty	Unit	Supply in Rs.		Installation in Rs.	
				Unit Rate	Amount	Unit Rate	Amount
7	<b>Patch Panels</b>						
7.1	Supply and installation of Category 6 24 Port 1U unloaded patch panel	Nos.	8				
<b>B</b>	<b>VOICE</b>						
8	<b>Jack panels</b>						
8.1	50 port jack panels	Nos.	2				
9	<b>EPABX</b>						
9.1	Supply & Installation of EPABX with Following configuration,32 Hybrid Extensions,8 trunks	Nos.	1				
10	<b>Telephone Instrument Set</b>						
10.1	Supply & Installation of Telephone Instrument set, Digital with 3Line LCD/24 FF Key for Reception, Panasonic DT543 or	Nos.	1				
10.2	Supply & Installation of Telephone Instrument set Digital with 1 line LCD, 8CO Key for Executives, Panasonic or Equivalent	Nos.	5				
10.3	Supply & Installation of Telephone Instrument set with 1 line for Workstations , Panasonic or Equivalent	Nos.	24				
<b>TOTAL in Rs.</b>							
<b>Sales Tax (____%)</b>							
<b>Service tax(____%)</b>							
<b>Other charges (if any)</b>							
<b>Grand Total in Rs.</b>							