



Bharat Heavy Electrical Ltd
Electronics Division
Mysore Road, Bangalore-560026

Price Bid
for the work of:

Replacing chilled water Pipe lines in Air conditioning system
of Bldg No.16

Issued to: M/S

Bill of Quantities

Notes :-

- 1 All items of work under this Contract shall be executed strictly to fulfill the requirements laid down under "Scope of work" in the specifications. Type of equipment, material specifications, methods of installation, testing, and type of controls shall be in accordance with the Specifications, the relevant BIS codes and other Standards .
- 2 The rate for each item of work included in the Schedule of Quantities shall, unless expressly stated otherwise, include cost of :
 - a. All materials, fixing materials, accessories, appliances, tools, plants, equipment, transport, labour and incidentals required in preparation for and in the full and entire execution, testing, balancing, commissioning and completion of the work called for in the item and as per specifications and Drawings.
 - b. Wastage on materials and labour.
 - c. Customs clearance, loading, transporting, unloading, handling / double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of debris and all other labour necessary in and for the full and entire execution and to fully complete the work in accordance with the contract documents, good practice and recognized principles.
 - d. Liabilities, obligations and risks arising out of Conditions of Contract.
 - e. All requirements of Specifications, whether such requirements are mentioned in the item or not. The Specifications and Drawings where available, are to be read as complimentary to and part of the Schedule of Quantities and any work called for in one shall be taken as required for all.
- 3 In the event of conflict between Schedule of Quantities and other documents including the Specifications, the most stringent shall apply and the interpretation of BHEL /Owner shall be final and binding.
- 4 All equipment, quantities and technical data indicated in this Schedule are for the Contractor's guidance only; This Schedule must be read in conjunction with these documents. The Contractor shall be paid for the actual quantity of work executed by him in accordance with the approved Shop Drawings at the contract rates and the actual measurement. All measurements for ducts & insulation, pipes and insulated pipes, fittings, bends and valves etc. shall be taken along the center line.
- 5 The quantities given in this schedule are provisional, BHEL reserves the right to increase or decrease the quantities of work or to totally omit any items of work and the Contractor shall not be entitled to claim any extras or damages on these grounds. These variations shall be permitted until such time Contractor's drawings are approved. For items with variable quantities, the payment will be made on the basis of actual quantity executed at site.

- 6 This Schedule of Price Bid shall be fully priced and the extensions and totals duly checked. The rates for all items shall be filled in same ink.
- 7 No alteration whatsoever is to be made to the text or quantities of this Schedule unless such alteration is authorized in writing by BHEL. Any such alterations, notes or additions shall, unless authorized in writing, be disregarded when tender documents are considered.
- 8 In the event of an error occurring in the amount column of the Schedule, as a result of wrong extension of the unit rate and quantity, the unit rate quoted by the Tenderer shall be regarded as firm and the extensions shall be amended on the basis of the rates.
- 9 Any errors in totaling in the amount column and in carrying forward totals shall be corrected. Any error, in description or in quantity or omission of items from this schedule shall not vitiate this Contract but shall be corrected and deemed to be a variation required by Owners.
- 10 Rates quoted for all items in BOQ shall be on indivisible works contract basis and shall include excise duty, customs duty, sales tax, octroi, transportation, works contract tax(WCT) or any other taxes. Tenderer should indicate K-VAT/WCT and service tax separately .
- 12 Generally, no foreign exchange or assistance for import of any equipment / component shall be provided by BHEL. It shall be Contractor's responsibility.
- 13 The drawings accompanying the tender shall be read in conjunction with Architectural / Structural drawings.
- 14 Owners reserve the right to get any equipment / material tested / checked, before accepting its delivery at site or at original manufacturers works or at any approved Govt. laboratory at Contractor's cost to establish conformity of quality / rating with tender specifications and the entire cost in this regard will be borne by the Contractor.
- 15 Samples of material / equipments / controls etc as required by the Engineer-in-Charge will be submitted for approval before delivering the equipment / material at site. No material / equipment will be delivered without approval of the sample.
- 16 Actual execution of work will start only after approval of Contractor's drawings.
- 17 The prices are to be quoted in the BOQ format given herewith and shall include, as also mentioned above, the supply, installation, testing and commissioning at site, of all the equipments, ancillary materials as specified and shall be inclusive of all taxes, duties etc at the prevailing rates and all such items whatsoever which may be required to fulfil the intent and purpose as laid down in the specification and/or the drawings.

Item No.	Description	Unit(A)	Quantity (B)	Rate(Rs) (C)	Amount (Rs) (D=BXC)	K-VAT/WCT (F)	SERVICE TAX(G)	TOTAL (H)=(D+F+G)
1	Supply ,fabrication ,installation , pressure testing and commissioning of TATA/JINDAL/ZENITH make MS pipe(for Chilled water lines of air conditioning system) 'C' class including incidentals such as bends, elbows ,nipple ,tees, reducer/Expander ,collars ,flanges with nut and bolts, etc., with necessary cutting ,welding of Nominal Bore as given below. The pipes have to be properly clamped with U Clamps and bolts and M S angle supports to be given as required. The steel quantity required for the support is covered under Item No. 14							
a	100 MM / 4.0"	Rmt	50					
b	65 MM / 2.5"	Rmt	20					
c	50MM/2.0"	Rmt	150					
d	40MM/1.5"	Rmt	75					
2	Supply, installation and fixing of pre-moulded pipe insulation of cross linked polyethylene(XLPE) of thickness as specified along with fixing of aluminium cladding (26G) with grooves and screws for following pipe sizes (in NB).							
a	100 MM / 4.0" (XLPE Insulation thickness :-32 mm)	Rmt	50					
b	65 MM / 2.5" (XLPE Insulation thickness :- 32 mm)	Rmt	20					
c	50MM/2.0" (XLPE Insulation thickness :- 32 mm)	Rmt	150					
d	40MM/1.5" (XLPE Insulation thickness :- 13 mm)	Rmt	75					
3	Supply, installation and commissioning of AUDCO / ADVANCE / KIRLOSKAR make BF valve with flanges ,gaskets, nuts and bolts of pressure rating:PN16 to the piping with following sizes							
a	100 MM / 4.0" dia.	Nos	2					
b	65 MM / 2.5" dia.	Nos	2					
c	50MM/2.0" dia	Nos	16					
4	Supply, installation and commissioning of AUDCO / ADVANCE / KIRLOSKAR make Ball valve of 40 MM/1.5" dia with flanges, gaskets, nuts and bolts pressure rating:PN16 .	Nos	3					
5	Supply, installation and commissioning of Y strainer with flanged connection . BODY/COVER - Carbon steel & SCREEN -SS of PN rating 16 with following sizes							
a	100 MM / 4" dia	Nos	1					
b	50 MM / 2.0" dia.	Nos	2					

Item No.	Description	Unit(A)	Quantity (B)	Rate(Rs) (C)	Amount (Rs) (D=BXC)	K-VAT/WCT (F)	SERVICE TAX(G)	TOTAL (H)=(D+F+G)
6	Supply, installation and commissioning of Non Return Valve (NRV) to the piping of dual plate check valve with flanges at both ends with cast iron body type of Dia 50MM/2.5" .(Make-Audco/Advance).	Nos	3					
7	Supply, installation and commissioning of 3/8 'BSP Dial type Pressure Gauge with syphon and cock of range 0-10 kg/cm2 of dial size 100 mm(Make: Waree / FIEBIG/Wika) to piping as per instructions of Engineer In charge. The required piping and fittings required for locating and fixing pressure gauges is also included.	Nos	6					
8	Supply installation and commissioning of 3/8 'BSP Dial type Pressure Gauge with ball valve of range 0-50 C of dial size 100 mm(Make: Waree / FIEBIG/Wika) to piping as per instructions of Engineer In charge. The required piping and fittings required for locating and fixing pressure gauges is also included.	Nos	6					
9	Supply, installation and commissioning of Auto Air vent 25 mm Size	Nos	2					
10	Supply, installation, and commissioning of dia 50MM(2.5") 3-way motorized modulating valve with actuator linkage electronic modulating thermostat. Make- Johnson Controls/Honeywell/Anergy	Nos	2					
11	Supply ,installation and commissioning of balancing valves of dia 50 MM(2.5") Make-Advance/Audco	Nos	2					
12	Supply ,installation, testing and commissioning of volume control damper with canvass/duct connection from AHU to plenum	Sq M	2					
13	Supply, installation and commissioning of electromagnetic flow meter(Make:-Toshniwal System,& Instrumentation/Forbes marshal/Frehing Instrument)	Nos	1					
14	Supply, Fabrication and installation of MS Structures for AHU with suitable channels and pipe support including MS Angles, Channels etc.	Kgs	700.00					
15	Supply, installation and commissioning of flexible pipe connection with flanges nuts of size 100 MM/4"	Nos.	2.00					
16	Shifting , handling and Installation of air cooled chiller along with Providing of vibration isolation pad and integration of chilled water lines.	Nos	1.00					

Item No.	Description	Unit(A)	Quantity (B)	Rate(Rs) (C)	Amount (Rs) (D=BXC)	K-VAT/WCT (F)	SERVICE TAX(G)	TOTAL (H)=(D+F+G)
17	Dismantling of AHUs and its associated accessories and removal of existing pipe and moving the scraps to location inside the factory premises as desired by Engineer-in -Charge.	Nos	2.00					
18	Shifting , handling and Installation of air handling units and along with providing of vibration isolation pad and integration of the chilled water lines.	Nos	2.00					
19	Shifting , handling and Installation of Pumps along with providing of vibration isolating pad and integration with chilled water lines.	Nos	2.00					
	GRAND TOTAL IN RS.=(_____)							
	GRAND TOTAL IN WORDS.=(_____)							
NOTE- TENDERER TO INDICATE /FILL TAXES SEPERATELY AS ASKED IN THE COLUMN								