

ISSUED TO

M/S -----

**DY. CHIEF ENGINEER (I/C) OFFICE
NCZO, KANPUR**

PRICE- BID (PART-II)

**TENDER FOR DESIGN, SUPPLY, INSTALLATION, TESTING AND
COMMISSIONING OF AIR CONDITIONING & VENTILATION SYSTEM AND
IBMS WORK AT INVESTMENT BUILDING, PLOT No. INS-16, SECTOR-14,
VASUNDHARA (GHAZIABAD)**

Uploading Tender in LIC website : 20.03.2016

Date of Pre-Bid Discussion : 31.03.2016

Last Date of Submission of Tender : 11.04.2016 (Up to 15.00 Hrs)

Date of Opening of Technical Bid : 11.04.2016 (at 15.30 Hrs)

(Opening of Price Bid will be intimated separately)

**LIFE INSURANCE CORPORATION OF INDIA
NORTH CENTRAL ZONAL OFFICE , KANPUR**

DESIGN, SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF AIR CONDITIONING & VENTILATION SYSTEM AND IBMS WORK FOR INVESTMENT BUILDING AT PLOT INS-16, SECTOR-14, VASUNDHARA GHAZIABAD

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Contractor

Dy. Chief Engineer (I/C)

LIFE INSURANCE CORPORATION OF INDIA
LETTER TO CONTRACTOR FROM DY.CHIEF ENGINEER (I/C)

To,

Dear Sir /Sirs,

SUB: Tender for Design, Supply, Installation, Testing & Commissioning of Air Conditioning & Ventilation system and IBMS work For Investment Building at plot no INS-16, Sector 14, Vasundhara, Ghaziabad

1. We are uploading in our LIC of India Website under Tender Page Section the tender documents i.e. **Part I (Technical Bid), Part II (Price Bid) and Blank Enrolment Form** for the aforesaid work. You are requested to submit the sealed filled in **Tender along with the requisite EMD and tender processing fee of Rs. 2000/-** for the above work by entering rates and amounts for the items mentioned in the schedule of quantities in Price Bid. Tenders not submitted on our schedules are liable to be rejected summararily.
2. Your tender should remain open for acceptance for a period of 03 months from the last date of Submission of tenders.
3. The tender shall be governed by the terms and conditions of contract embodied in the tender document.
4. **The Earnest Money of Rs.4.85 Lacs (Rupees Four Lacs Eighty Five Thousand Only)** prescribed in the tender document must be furnished in the form of Demand draft/ Pay order//Bankers Cheque or 50% shall be in the form of DD/Pay Order/Bankers Cheque and balance 50% in the form of Bank Guarantee in the prescribed format (provided in Part-I of Tender Document). The bank guarantee shall be issued by any Scheduled Bank under RBI and should have validity of 6 months from the last date specified for submission of tender. The demand draft/Pay Order/Bankers Cheque towards payment of earnest money must be drawn only in the name of **“Life Insurance Corporation of India”** Payable at KANPUR from any Scheduled Bank under RBI. Demand draft/ Pay Order/Bankers Cheque drawn in any other name as prescribed above will not be accepted.
5. Your tender i.e. **Part I (Technical Bid), Part II (Price Bid) and filled-in Enrolment Form** duly sealed along with literature of equipment offered etc. and Tender processing fee and Earnest money should be submitted to DY. CHIEF ENGINEER (I/C) office on or before 15:00 Hrs. on 11/04/2016 in the sealed cover super scribed with **“Tender for Design, Supply, Installation, Testing & Commissioning of Air Conditioning & Ventilation system and IBMS work for Investment building at Plot No INS-16 Sector No 14 Vasundhara (Ghaziabad)”** Postal delays as an excuse for late receipt of tenders will not be accepted.
6. Tender received without Tender processing fee and EMD are liable to be treated as non-bonafide.

Yours faithfully

Dy. Chief Engineer (I/C)

Contractor

LIFE INSURANCE CORPORATION OF INDIA
LETTER FROM CONTRACTOR TO Dy. CHIEF ENGINEER (I/C)

TO BE SUBMITTED ON OR BEFORE 15.00 HOURS ON 01.04.2016

Date: _____

To,

SUB: Tender for Design, Supply, Installation, Testing & Commissioning of Air Conditioning & Ventilation system and IBMS work For Investment Building at plot no INS-16, Sector 14, Vasundhara, Ghaziabad

Dear Sir,

1. Having examined and understood the Specifications of the materials for its supply at the site of work as well as for labour for all types of work including specialized work, Conditions of Contract and General Instructions relating to Part-I of tender and Schedule of Quantities relating to the above work of PART II of the tender and the drawings and other related terms and conditions, amendments etc. and having visited and examined the site of the proposed works and having acquired the requisite information relating thereto as affecting the tender invited by you on behalf of the Life Insurance Corporation of India, I/We, the undersigned hereby offer to Provide, construct, execute, complete and maintain the proposed works on Item rate basis in strict accordance with the Contract Conditions and Specifications for the sum of Rs. _____/- (Rupees _____ only) or such other sums as may be ascertained in accordance with the said Conditions.
2. I/We, undertake to complete and deliver the whole of the works within a period as specified in Appendix to the Conditions of Contract from the date of issue of intimation from you that the tender has been accepted and upon receiving possession of the site. I/We shall be under the obligation to pay the sum as stated in the Appendix to the Conditions of Contract for every day that the works shall remain incomplete, damages as compensation subject to the Conditions of Contract relating to extension of time.
3. I/We, enclose herewith my/our tender along with **Earnest Money Remittance of Rs.4.85 Lacs (Rupees Four Lacs Eighty Five Thousand Only)** in the form of CROSSED DEMAND DRAFT/ Pay Order/ Bankers Cheque PAYABLE AT **KANPUR** (put in a separate envelope). I/We, hereby agree that this sum shall be forfeited by us to the 'Life Insurance Corporation of India' in the event of my/our tender being accepted and I/We fail to execute the Contract when called upon to do so. I/We, note that earnest money remittance in form other than prescribed above shall not be accepted.
4. In the event of the tender being accepted, I/We agree to pay LIC a sum @ 5% of accepted tender amount as **Total security deposit**. We further like to state that
 - (a) I/we request you to convert earnest money deposit paid by us to the Life Insurance Corporation of India as a part of Security Deposit. We also agree that a sum of @ 7.5% of gross amount of each running account bill may further be deducted and accumulated till the

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Dy. Chief Engineer (I/C)

sum along with the sum as already deposited as Earnest Money Deposit equals to the Total security Deposit as mentioned above.

- (b) Alternatively, in lieu of total Security Deposit, I/we agree to furnish a lump sum Security Deposit in the form of Bank Guarantee from any Scheduled Bank under RBI located at **KANPUR** as per specimen given in **Annexure "A"** to conditions of contract, **within Twenty one days of intimation to the contractor of acceptance of tender**. This shall be in force till expiry of Defect Liability period and three year period of comprehensive annual maintenance contract period with claim period of six month after expiry of DLP and three year period of comprehensive annual maintenance contract period.
- (c) Alternatively, I/WE agree to furnish two bank guarantees of like amounts i.e. 50% of Total security deposit each **within twenty one days of intimation to the contractor of acceptance of Tender**. One shall remain in force till the period of virtual completion of work and the second one shall remain in force till the expiry of Defects Liability Period and three year period of comprehensive annual maintenance contract period. In both the cases there shall be claim period of six months after expiry of virtual completion of work and DLP and three year period of comprehensive annual maintenance contract period.
- 5) I/we, note that the Earnest Money Deposit of **Rs.4.85 Lacs (Rupees Four Lacs Eighty Five Thousand Only)** would be refunded to me/us, on expiry of the validity of the tender or earliest at the discretion of the DY. CHIEF ENGINEER (I/C) in case my/our tender is not accepted.

Yours faithfully,

(Signature of the contractor with official seal)

NAME OF THE PARTNER OF THE FIRM
OR
NAME OF PERSON HAVING POWER OF
ATTORNEY TO SIGN THE CONTRACT

**(CERTIFIED COPY OF THE POWER OF
ATTORNEY SHOULD BE ATTACHED)**

Contractor

Dy. Chief Engineer (I/C)

LIFE INSURANCE CORPORATION OF INDIA

INSTRUCTIONS IN REGARD TO SUBMISSION OF TENDERS

NOTE : Tenderer should note that non-compliance of the following instructions will render the tender liable for rejection.

- 1) **Address to which enrolment form and tender (Part 1 & 2) to be submitted.**
- 2) Last date for receipt of tenders: **11.04.2016 upto 15.00 hours**
- 3) Tenderers should ensure that their tenders are received before the date and time specified above.
- 4) Contractors are requested to put their firm's endorsement on each page of the tender documents as token of perusal.
- 5) Contractors should fill in all the relevant blanks and put their signature on the relevant places in the
 - a) Letter from Contractor to Chief Engineer.
 - b) Last page of the "Conditions of Contract".
 - c) Appendix to the "Conditions of Contract".
 - d) Last page of the "Technical Specifications".
 - e) Annexure to the "Technical Specifications".
- 6) The schedule of Quantities should be filled as follows:
 - a) The "Rate" column to be legibly filled in ink in both FIGURES AND WORDS.
 - b) "Amount" column to be filled for each item and the total amount for each trade to be given.
 - c) All corrections to be initialled.
 - d) Each page of the Schedule of Quantities and the "General Summary" is to be signed by the Contractor.
 - e) Tenderer should note that he is to quote rates only against each item and refrain from making offer of percentage below/above the rates quoted. Such tenders are liable to be rejected.
- 7) No alterations or additions are to be made by the tenderer to the text or the Schedule of these tender papers. Any tenderer who proposes any alterations to any of the condition/s laid down or which proposes any other conditions of any description whatsoever is liable to be rejected.
- 8) The tenderer is required to check the numbers of the pages and should any be found missing or in duplicate, or the figure or writing indistinct, he must inform the Dy. Chief Engineer (I/C) / Issuing Officer at once and have the same rectified. Should the tenderer be in doubt about the precise meaning of any item or figure, for any reason whatsoever, he must inform Dy. Chief Engineer (I/C) in order that the correct meaning may be decided upon before the date for the submission of the tender.
- 9) No liability whatsoever will be admitted nor claim allowed in respect of errors in the submitted tender due to missing / duplicate pages, indistinct writing or any other error in the tender

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documents which should have been rectified in the manner described above.

- 10) Proforma of Articles of Agreement (Annexure – ‘A’) should not be filled in by the tenderer. While the contract shall be deemed to have come into existence on issue of letter of acceptance to the successful tenderer, formal agreement shall be signed thereafter with the successful tenderer on non-judicial stamp paper of requisite value as per the proforma of Articles of Agreement.
- 11) Earnest Money accompanying the tender will be accepted only in the form of BANKER’S CHEQUE/ PAY ORDER/ CROSSED DEMAND DRAFT of any of the Scheduled Banks under RBI drawn in favour of the “LIFE INSURANCE CORPORATION OF INDIA” payable at Kanpur only, and not in favour of any other Authority or location.
- 12) The tender shall be accompanied by a certified true copy of Power of Attorney in favour of the signatory to the tender documents. If the tender is submitted on behalf of a firm, it must be signed either by all partners or person holding a valid power of attorney from all partners constituting the firm. The person signing the tender on behalf of another partner(s) or on behalf of a firm on Company shall attach with the Tender a proper Power of Attorney duly executed in his favour by such other person(s) or by all the partners in accordance with the Constitution of the Company / Articles of Association, stating that he has the authority to sign on behalf of such other person(s) of the firm or the Company as the case may be, in all matters pertaining to the contract including the Arbitration Clause.
- 13) The tender (comprising Part – I & Part – II) along with enrolment form should be submitted in separate sealed envelopes.
- 14) The rates mentioned in the tender Part-II i.e. price bid will be taken as bonafide. When the rates in figures and words are at variance, the rate corresponding to the amount shall be taken as correct. In all other cases rate in words will be taken in precedence over the rate in figures.
- 16) Tenderer should note that tender should remain open for consideration for a minimum period of THREE MONTHS from the date fixed for the receipt of tenders.
- 17) The Life Insurance Corporation of India reserves the right to accept any tender or to accept tenders in part; to reject any or all tenders without assigning reasons thereof.
- 18) Contractors should fill in “RATE” column in the SCHEDULE OF QUANTITIES legibly in ink in both FIGURES and WORDS. Rates mentioned in words shall be prefixed and suffixed by “Rs.” And “only” respectively. Tenders containing the rates only in figures are liable to be considered non-bonafide at the discretion of the Dy. Chief Engineer (I/C) and entail forfeiture of Earnest Money Deposit.

APPENDIX TO THE CONDITIONS OF CONTRACT

TENDER FOR AIR CONDITIONING & VENTILATION WORK FOR PROPOSED INVESTMENT BUILDING ON PLOT NO INS-16, SECTOR 14, VASUNDHRA, GHAZIABAD, U.P.

VALUE OF WORK DONE : Rs 323.00 Lac

EARNEST MONEY DEPOSIT : Rs.4.85 Lacs (Rupees Four Lacs Eighty Five Thousand Only)

Clause No.	Description	Details
13	Date of Commencement	21 (Twenty One) days from the date when the contract is awarded/the acceptance Letter is issued to the contractor OR the contractor receives the possession of the site whichever is earlier.
13 & 26	Time of completion	6 Months from the date of commencement which is to be completed as per the Time & Progress chart to be submitted (Clause 4 of General Instructions to Contractors.)
27.	Defects Liability Period	12 (Twelve) Months.
19.	Liquidated damages for delay	1% of the accepted tender amount per week of delay subject to a maximum of 10% of the accepted tender amount.
22.	Minimum Value of works for interim bill	Rs.53.80 Lacs
22.	Period of honouring interim certificate.	30 (Thirty) Days. From date of submission of bills with measurement & relevant details.
21.	Period of Final Measurement	60 (Sixty days)
22.	Period of honouring Final certificate	90 (Ninety) Days. From date of submission of final measurement with details.
35	Security Deposit	5% of the accepted Tender Amount (Rounded off to next Hundred Rupees) which can be either in Cash option or in the form of Bank Guarantee.

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35.	Recovery of Security Deposit	In case of cash option, EMD shall be retained as part of Security Deposit and balance of Security Deposit shall be recovered from R.A. Bills at 7.5% subject to the maximum of 5% of contract value (If Security Deposit is paid in the form of Bank Guarantee, no recovery from R.A. Bills shall be made and EMD shall be refunded after acceptance of Bank Guarantee). 5% Security Deposit will be refunded after contractor submits the Bank Guarantee of equal amount. 50% of 50% or BG will be retained as security deposit for three years for CAMC period for HVAC work, over and above defect liability period of one year.
22.0	Payment Terms	70% of the quoted rate upon delivery of equipments / materials for which details of bills/ cost of equipment shall be submitted. 15% of the quoted rate upon installation of the materials. 10% upon Testing & commissioning of the work. 5% balance amount will be paid upon handing over of the entire HVAC and IBMS installations to the department and submitting Bank Guarantee of equal amount (5%) as per format covering Defect Liability of one year and three years of period for annual maintenance contract. BG will be returned back on successful expiry of DLP and of "3" years period of CAMC of HVAC work.
Special conditions clause 18	Recovery of charges against Electricity / Water from Contractors Bill(s)	0.5% on the gross value of the Work Done. Contractors shall make his own arrangement for temporary Electric for installation work
	Insurance policies	7.5% of the contract value for Third party risk coverage and 5.0 % of the contract value for workmen compensation policy in the joint name with LIC Of India.

Note:

1. TAXES:

The prices quoted shall be deemed to have included all taxes (Except Service Tax), custom duty, excise duty, local levies, works contract tax, Value Added Tax (VAT) imposed by Central/State Government/ Local Bodies. If the Tenderer fails to include such taxes and duties in the tender, no claim thereof will be entertained by the LIC of India afterwards.

2. Deduction at Source of Income /Sales Tax on works contract tax etc. , shall be made by LIC of India as per the provision prevailing from time to time from the Running Account Bill OR Final Bill and remitted to the concerned Taxation Authorities /State Govt. on behalf of the Contractor.

3. SERVICE TAX :

The rates quoted shall be exclusive of service tax under partial reverse charge mechanism. Contractor quoted rate excluding the service tax liability for its full extent i.e. 100 % service tax on Serviceable portion .In case of service provider being a corporate entity, service tax shall be paid fully by them to the concerned authority directly and reimbursement will be made by LIC on production of proof of remittance. No recovery towards service tax will be affected from their bill. However, if the service provider is other than corporate entity (Individual, HUF, Proprietary, Partnership firm, LLP and AOP), LIC will remit 50 % of Service tax liability towards service recipient (LIC) liability and Contractor has to directly remit to the concerned Authorities remaining 50% of Service tax towards their liability (Service provider) and reimbursement will be made by LIC on production of proof of remittance.

SCHEDULE OF QUANTITIES

SR. NO.	DESCRIPTION	Qty	UNIT	RATE	AMOUNT
A	PART (A) - HIGH SIDE WORK				
1.0	AIR COOLED SCREW CHILLERS:				
1.1	Supply of Air-cooled Screw chiller				
	Supply & Installation, Testing ,Commissioning of nominal capacity not less than 155TR capacity, air-cooled screw chillers Machine with twin rotary screw type ,as per tender specifications and the following design data, complete with Hermetic / Semi hermetic multiple screw single/ multi compressors , microprocessor based control panel, cooler, air-cooled condenser Chiller shall include Refrigerant piping, factory charged R134a (CFC free) refrigerant, factory wired power and control cabling.Chiller body to be painted suitably for corrosion resistant. The Chiller will be supplied with MODBUS RTU / BACNET on TCP/IP Design data: City - Gaziabad. Tuned discharge muffler as required for maintaining Noise level of 60db at 10 mtrs. The additional requirement for the plant are as follows (The rate shall include export packing, freight and insurance and any other charges up to the site. The Chiller should have a Coefficient of performance (COP at ARI 550/590-1998) not less than 2.90 & intigrated Part load value (IPLV at ARI 550 /590-1998) not less than 3.16. The additional requirements for the plant are as follows.	03	Nos		
	Chilled Water in - 11.11 deg.C (52 deg.F)				
	Chilled Water out - 6.66 deg.C (44 deg.F)				
	Air on condenser -43.3 deg C (110 deg F)				
	Chilled Water Flow rate of not less than 440 USGPM				
	Pressure Top Drop across Chiller shall not exceed 10.5 of water column				
	1 Lot- Disconnect switch, Protection Grilles (compressor and evaporator), Communication card and LWT reset Compressor discharge valves, Spring vibration isolators.				
	1 No Matching Air Cooled Condenser				
	1 No Matching shell and tube DX type Chiller of MS shell and copper tube				

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SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
	1 Lot Refrigerant piping, Fittings, valves and accessories to inter connect compressor, condenser, chillers and Thermostatic / electronic expansion valve.				
	1 Set Microprocessor based control panel complete with accessories as per specification.				
	1 Lot- Refrigerant line accessories comprising of safety valves angle valve, liquid line indications ,liquid level control etc.				
	1 Lot Water flow Switches, Pressure Gauge & Thermometers at inlet and outlet of chiller, water drain & air purge valves wherever required .				
	1 Lot -Counter flanges/ victaulic couplings , Temperature & pressure gauges, Chilled water flow switches KW and Amps meters for each chiller				
	1 Lot Suction line and chiller insulation with minimum 19 mm thick polyvinyl / nitrile rubber insulation..				
	1 Lot Frame work for mounting the above condenser, Chiller, Compressor and motor with base plate complete with anti- vibration pads /Springs.				
	1 Lot -Initial /First charges of refrigerant gas (R-134 a) CFC Free & compressor Oil.				
	(The rate shall include Furnish test certificate of Full load capacity test at factory at design operating conditions in conformance with ARI/Eurovent standards. The test shall be at 4 operating points as per the standards for 1 chiller. The test shall be at AHRI/ Eurovent certified Test bed as per specification performance .Costs of, handling and transport from nearest port to site including rigging and lifting up the Chiller to the Chiller platform Port Clearance Charges (INR)Receiving at site above imported equipment, unloading, storing, security, rigging , lifting shifting, positioning of the equipment , applying proper vibration isolators and alignment of the equipment, testing and commissioning and handing over complete including insurance. And Plant Manager for seamless interface with Johnson Controls/ Siemens or similar BMS. All parameters of the chillers shall be available on the BMS. Chiller start stop, time programming and chilled water reset				

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Dy. Chief Engineer (I/C)

	shall be available from BMS system (For 3 chillers). The rates also shall inclusive to attend Routine service / break down calls for chiller during the warranty / defects liability period.				
	Total in (Rs.)				
	Part – A Total (In Words) – Rupees.				

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
B	<u>PART (B) - HVAC LOW SIDE WORK -</u>				
1	AIR HANDLING UNITS/FAN COIL UNIT				
1.1	AIR HANDLING UNIT				
	Supply, installation, testing & commissioning of following size AHU's Floor Mounted/ceiling suspended double skin type complete with casing, IP 55 TEFC motors, 1/2 fans DWDI type forward curved fans, 4 row coil, insulated drain pan, filters, vibration isolators, canvas connections, etc.all as per specs. Pre commissioning filter to be provided for all AHUs. On approval of client / consultant, these filters have to be replaced with actual clean Pre-filters. Contractor shall design the chilled water coil according to the following conditions: (a)ADP - 54 deg F (b) Coil air entering temperature 79 deg F DB/ 63.8 deg F WB (c) Coil air leaving temperature 56 deg F DB/ 54.8 deg F WB (d) Chilled water temperature(7.5 deg C/ 45.5 deg F) / (12.5 deg C / 54.5 deg F)				
	Supply fabrication and installation of base frame /platform for AHU supporting complete RCC blocks vibration isolation pads, supports hangers, railing brackets civil work.				
a	12000 CFM at 50mm ESP with 36 TR capacity	8.00	Nos		
b	13000 CFM at 50mm ESP with 40 TR capacity	2.00	Nos		
c	15000 CFM at 50mm ESP with 36 TR capacity	1.00	Nos		
d	18000 CFM at 50mm ESP with 40 TR capacity	1.00	Nos		
	Note: Fan Outlet Velocity 1600 FPM (Max) Coil face velocity 500 FPM (max) Filter Face velocity 400 FPM (max)				

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Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
1.2	Ceiling Suspended FCUs:				
	Ceiling Suspended high static Ductable FCU Supply, Installation, testing and commissioning of the foll: as per detailed specifications : Horizontal type of fan coil units shall be complete with centrifugal blowers of aluminum construction, 3 speed permanent split-capacitor type fan motor, cooling coil, sandwiched type insulated drain pan etc. The outer casing of Fan Coil Unit shall be of 1.25 mm GI sheet of suitable size to accommodate all piping and controls. The extended sandwiched drain pan for accommodating all controls and control valves shall be of 1.00 mm thick sheet duly insulated with 25mm thick expanded polystyrene. Rates to be inclusive of one set of ball valve and ball valve with strainer, 2-way valve with suitable actuators, linkages and suitable thermostat with three fan speed adjustments duly installed within the drain pan The cooling coil shall be 3 row deep having minimum 4.7 fins / cm. The fins configuration of Sigma flow shall be acceptable. The OD of copper tube shall be 9.5 mm minimum & wall thickness of 0.51 mm.				
a	3.0 TR Duct able	9.00	Nos		
1.3	<u>DX Type Hi Wall Unit</u> Supply, Installation, testing and commissioning of the foll: as per detailed specifications: DX hi wall unit complete with indoor unit, outdoor unit with scroll/rotary type compressor, condenser coil condenser fans etc as per specifications. The rates to include MS stand for outdoor units, 25M copper refrigerant piping (suction + discharge) duly insulated using 10mm thick nitrile rubber class O, PVC drain piping upto 10M.				
a	2.0 TR Hi wall unit	1.00	Nos		
1.4	Frame Work : Supply, fabrication and installation of base frame/platform for all AHUs as required supporting complete with RCC blocks, vibration isolation pads, supports, hangers, railing, brackets, Civil work etc. Construction as approved by LIC	1.00	Job		

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Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
2	VENTILATION FANS				
2.1	FANS:				
2.1.2	Supply, Installation, Commissioning and Testing of imported DIDW centrifugal exhaust fans for basement Exhaust. The fans to be complete with base frame, vibration isolators, TEFC motor (IP55), drive package, belts etc as follows.				
a	28000 CFM @ 25mm ESP for basement ventilation	1.00	Nos		
b	13000 CFM @ 25mm ESP for basement ventilation	1.00	Nos		
2.1.3	Smoke spill Axial flow fans				
	Supply, Installation, Testing and commissioning of double flanged casing manufactured in mild steel or galvanized steel sheet. Fan incorporate with a high efficiency axial impeller with manually adjustable pitch blades of pressure casted aluminium. Suitable for smoke exhaust application (tested accordance with BS7246; Part2: 1990 Class B, C and D performance criteria). High temperature resistance Class 'H' motor, compliance to BS7346 Part2 1990, Class B, C and D performance: 35000 CFM @ 12MM ESP	6.00	Nos		
2.1.4	Supply, Installation, Testing and commissioning of jet vent fans (2500 CFM) equipped with adjustable aluminium impellers and varying speed IEC motors. Fans to be suitable for normal as well as for smoke exhaust(300 deg C/2h) applications Outer casing, fan housing and silencers manufactured from pre galvanized sheet etc as per specifications CFM and quantity are tentative. Vendor to quote based on CFD analysis	20.00	Nos		
2.1.5	CFD analysis based on actualize of basement	1.00	Job		

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SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
2.1.6	Supply, Installation, testing and commissioning of Modular control system , adapted to project requirement to control fans for ventilation and smoke extract equipped with statically placed CO sensors, provided complete control wiring; power wiring from power @ 1.5 Mt from jet vent fans, central control unit with control panel and zoning. The system to be capable for normal working, zoning and switching ON and OFF of two nos centrifugal fans(as per demand) based on the CO levels sensed in the basement to achieve power saving and also during fire for smoke extract coupled with axial flow fans. Controller to capable of scheduling to achieve equal run hours of fans Bidder to include all accessories necessary for successful commissioning of the ventilation system as a whole i.e. jet fans and exhaust fan to work based on CO level.	1.00	Set		
2.2	HEAT RECOVERY UNIT				
	Energy recovery wheel with 50mm thick double skin thermal break construction suitable for exposed rooftop installation. The unit shall comprise of filter section, heat recovery wheel, ARI certified energy recovery rotor fan section, spring vibration isolators, canvass connections inlet/exhaust air outlet fan section (two fan section, one for supply air and one for exhaust with DIDW backward curve fan with motor and drive package. The unit shall be installed on terrace so as to connect to floor exhaust. Fresh air required to be treated which shall be passed through ERU and transfer sensible and latent cooling to incoming fresh air. Sensible & latent heat transfer efficiency of ERU shall be minimum 75 %.Motors shall be suitable for VFD,TEFC and with IP-55 protection (Note: Fan Outlet Velocity 1600 FPM (max) Coil face velocity 500 FPM (max) Filter velocity 400 FPM (max) Shall be as per the Basis of Design stated in the Specifications) Heat recovery Unit and Fresh air side detail:-8000 CFM, 50 MM Ex.SP Exhaust air side detail: 6500 CFM, 50 MM Ex.SP	02	Nos		

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SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
3	PUMPS				
3.1	Primary chilled Water Pumps				
	Supply, installation, testing & commissioning of following pumps:				
a	Chilled water centrifugal back pullout pumps for air conditioning system complete with TEFC IP 55 motor, capacity 324 USGPM at 30 feet head with suitable motor, bronze impeller, mechanical seal, GI gland drain, vibration isolators and insulation and necessary accessories and fitting as per specification. Pump RPM should be maximum 1450 (1 W+ 1 S)	3.00	Nos		
b	Pump base frame should be suitable to be foot mounts, spring vibration isolators. Contractor shall include the inertia block including the concrete filling necessary foot mounts as mentioned in specification. Contractor to select the spring isolators for vibration free operation.	3.00	Nos		
3.2	Secondary chilled Water Pumps				
	Supply, installation, testing & commissioning of the following pumps:				
a	Condenser water centrifugal back pullout pumps for air conditioning system complete with TEFC IP 55 motor, capacity 648 USGPM at 90 feet head suitable motor, mechanical seal, GI gland drain, vibration isolators and insulation and necessary accessories and fitting as per specs. Pump RPM should be maximum 1450 (1 W+ 1 S)	2.00	Nos		
b	Pump base frame should be suitable to be mounted on cushy foot mounts, spring vibration isolators. Contractor shall include the inertia block including the concrete filling necessary foot mounts as mentioned in specification. Contractor to select the spring isolators for vibration free operation.	2.00	Nos		
c	Necessary framework for pumps, air separator & closed expansion tank system	1.00	Lot		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
4	CHILLED WATER PIPING				
4.1	Supply, installation, testing & commissioning of chilled water pipes in MS class C construction complete with fittings, bends, elbows, unions & supports, vibration isolators, sleeves as per specifications.				
a	200mm dia.	80.00	Rmt		
b	150mm dia.	200.00	Rmt		
c	125mm dia.	200.00	Rmt		
d	100mm dia.	75.00	Rmt		
e	80mm dia.	490.00	Rmt		
f	25mm dia.	550.00	Rmt		
4.2	Chilled Water Piping Insulation:				
	Supply, installation, testing & commissioning of insulation for chilled water piping. The insulation should be complete as follows. Apply bituminous primer .Stick 3"/2"/1.5" thick TF quality thermo Cole using hot bitumen, sealing all joints with hot bitumen. Cover insulation with 800 G polythene sheet ,butting all joints at 300 mm intervals with PVC bands. Finally cover the insulation with 22G aluminium cladding as per specifications				
a	200mm dia. Insulted with 3" thick thermocole	80.00	Rmt		
b	150mm dia. Insulted with 3" thick thermocole	200.00	Rmt		
c	125mm dia. Insulted with 3" thick thermocole	200.00	Rmt		
d	100mm dia. Insulted with 2" thick thermocole	75.00	Rmt		
e	80mm dia. Insulted with 2" thick thermocole	490.00	Rmt		
f	25mm dia. Insulted with 1.5" thick thermocole.	550.00	Rmt		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
4.3	Supply, installation, testing & commissioning of following sizes of butterfly valve with lug type construction, bolts, supports, matching flanges etc. as per specifications The valves should be insulated using loose TF quality thermo Cole mixed with hot bitumen and applied uniformly to form a layer of 50mm thickness. The insulation to be covered by making 24 G aluminium sheet box. Specs as per piping insulation The butter fly valves to be suitable for 10Kg/ Sq.cm pressure				
a	150mm dia. (lever operated).Insulated with 2x25mm thick nitrile rubber.	4.00	Nos		
b	125mm dia. (lever operated).Insulated with 2x25mm thick nitrile rubber.	12.00	Nos		
c	80mm dia. (lever operated).Insulated with 25mm thick nitrile rubber.	75.00	Nos		
d	40mm dia.(ball valve).Insulated with 20mm thick nitrile rubber.	3.00	Nos		
e	32mm dia.(ball valve). Insulated with 20mm thick nitrile rubber.	12.00	Nos		
f	25mm dia.(ball valve). Insulated with 20mm thick nitrile rubber.	18.00	Nos		
	(Provide audco ball valves for the sizes 2" and below)				

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
4.4	Supply, installation, testing & commissioning of following sizes of Balancing valves with lug type construction, bolts, supports etc. as per specifications Valves should be suitable for 15Kg/Sq.cm pressure The valves to be insulated using TF quality loose thermocole mixed with hot bitumen and applied uniformly to form a layer of 50mm thickness. The insulation to be covered by making 24 G aluminium sheet boxes specification as per piping insulation				
a	125mm dia. Insulated with 25mm thick nitrile rubber.	3.00	Nos		
c	80mm dia. Insulated with 25mm thick nitrile rubber.	15.00	Nos		
4.5	Supply, of following of 2 way motorised valves for AHUs with modulating actuators, covered by making 24 G aluminium sheet boxes specification as per piping insulation thermostats, linkages, transformers and interconnecting wiring etc complete as per specifications of foll. sizes. The thermostats and actuators to be suitable for hooking up with the BMS system. The valves to be insulated using TF quality loose thermocole mixed with hot bitumen and applied uniformly to form a layer of 50mm thickness. The insulation to be covered by making 24 G aluminium sheet box Specification as per piping insulation 80mm dia./Suitable for above AHUs	15.00	Nos		
4.6	Supply, installation, testing & commissioning of following sizes of check valves (dual plate) with matching flanges, bolts, supports etc.as per specifications The valves to be insulated using TF quality loose thermocole mixed with hot bitumen and applied uniformly to form a layer of 50mm thickness. The insulation to be covered by making 24 G aluminium sheet box Specification as per piping insulation				
a	150mm dia. Insulated with 2x25mm thick nitrile rubber.	2.00	Nos		-
b	125mm dia Insulated with 2x25mm thick nitrile rubber.	3.00	Nos		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
4.7	Supply, installation, testing & commissioning of following sizes of Y strainer with matching flanges, bolts, supports etc. as per specifications The strainers to be insulated using TF quality loose thermocole mixed with hot bitumen and applied uniformly to form a layer of 50mm thickness. The insulation to be covered by making 24 G aluminium sheet box Specs as per piping insulation				
a	150mm dia. Insulated with 2x25 mm thick nitrile rubber.	2.00	Nos		
b	125mm dia. Insulated with 2x25 mm thick nitrile rubber.	3.00	Nos		
c	80mm dia. Insulated with 25 mm thick nitrile rubber.	15.00	Nos		
4.8	Supply, of following of 2 way motorised valves for chiller outlet with actuators, linkages, transformers and interconnecting wiring etc complete as per specifications of foll. sizes.The actuators to be suitable for hooking up with the BMS system. The valves to be insulated using TF quality loose thermocole mixed with hot bitumen and applied uniformly to form a layer of 50mm thickness. The insulation to be covered by making 24 G aluminium sheet box Specs as per piping insulation				
a	125mm dia.	3.00	Nos		
4.9	Providing and fitting Auto Vent Valves of following size.				
a	10mm dia	25.00	Nos		
b	12.5mm dia	5.00	Nos		
4.10	Vibration eliminators with double bellows, tie rods and MS flanges as a. part of vibration. The vibration eliminators to be insulated type to avoid condensation using nitrile rubber. Care to be taken to ensure a smooth finish				
a	125mm dia.	12.00	Nos		
b	150mm dia.	4.00	Nos		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
4.11	Necessary pressure gauges and thermometers				
a	Dial type Pressure gauges with SS syphon and ball valve.	46.00	Nos		
b	Dial type Thermometers along with themowells of required length based on pipe dia	36.00	Nos		
c	Thermowells for BMS	50.00	Nos		
d	BTP- Binders test point	46.00	Nos		
e	Dial type pressure gauges suitable to use with test points	2.00	Nos.		
f	Dial type thermometers suitable for use with test ports	2.00	Nos.		
4.12	Supply, Installation testing commissioning of following sizes ultra sonic inline BTU Meter and thermowells				
a	80mm dia.	15.00	Nos		
5	DRAIN PIPING				
5.1	Supply, installation, testing & commissioning of following sizes insulated GI drain pipes Class 'B' from AHU drain pans to nearest floor drain and from CHW pump glands to the nearest drain complete with interconnection, flanges, elbows, tees, nuts, U-trap etc. The insulation should be similar to chilled water piping insulation.				
a	50mm dia.	160.00	Rmt		
b	40mm dia.	30.00	Rmt		
c	25mm dia.	140.00	Rmt		

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
6	MAKE UP WATER TANK WITH PRESSURISATION PUMPS:				
6.1	Supply, Installation, testing & commissioning of insulated GRP make up tank complete with high & low indicator, sensor, control wiring, piping connections float valves, drain valves, over flow connection. The Make up water tank should be provided with two outlet connection for chilled and condenser water circuit. Pressurization pumps (1 working + 1 standby), 5GPM water flow rate, 1 HP motor, relief valve, pressure gauge, control panel, pressure switch drain, pipes fittings valves etc. Pump should be sized to create required pressure in the system and complete with check valve, Y strainer, butterfly valves, flexible connections rubber pads etc. Provide pump panel with starters, electric alternator and controls for auto operation from pressure switch. Provide pressure switch. Panel to be IP 55 Capacity 1000 liters	1.00	Nos		
6.2	Pressurized Expansion Tank:				
	Supply, installation of insulated pressure type expansion tank of adequate size complete with integral heavy duty butyl rubber diaphragm, system pressure 125 psig and temperature difference 10 def F. Capacity 300 Liters	1.00	Nos		
6.3	Air Separators:				
	Supply & Installation testing & commissioning of a common air separator on the return water line located at the pump suction and suitable for 648 US GPM water flow. The separator should be complete with high capacity air vent, service valve, non return valve, butterfly valve connection for makeup water inlet, flanges etc.	1.00	Nos		
7	SHEET METAL WORKS:				
7.1	Supply, Fabrication, installation, testing & commissioning of GSS ducting complete with splitter dampers, turning vanes, access doors, supports, angle iron flanges etc. as per drawings and specifications.(All exposed duct work should be painted with 2 coats of epoxy primer and 2 coats of epoxy paint All the supports of the duct will be painted to match the ducting)				
a	26 Gauge	1,950.00	Sq.mtr.		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
b	24 Gauge	450.00	Sq.mtr.		
c	22 Gauge	60.00	Sq.mtr.		
d	20 Gauge	600.00	Sq.mtr.		
7.3	Supply, Installation, testing and commissioning of multi slot diffuser with dampers complete with flanges and end flanges as per specifications				
a	2 slot, 25 mm slot	200.00	Rmt		
7.4	Supply, Installation, testing, commissioning and balancing of Aluminium extruded powder coated grilles for exhaust air with 4 side flanges and as per approved colour shade by Engineer In Charge.				
a	225 x 225 mm	145.00	Nos		
7.5	Supply, installation, testing and commissioning of multi blade opposed blade GSS dampers for ducts to be provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of the air distribution system	20.00	Sq.mtr.		
7.6	Supply, Installation, testing Commissioning and Balancing of Outdoor connection for fresh air intake motorized damper with modulating actuator. Motorized damper to be selected for suitable torque. The actuators to have feasibility to connect to BMS and CO2 sensors. CO2 sensors to be provided by BMS vendor.				
a	Bare damper	1.50	Sq.mtr.		
b	Suitable Actuators	8.00	Nos.		

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
7.7	Supply, Installation, testing Commissioning of GSS fire dampers with minimum 90 min fire rating UL listed and spring return type actuators. The operation of fire dampers shall be such that these shall switch ON and OFF along with the AHUs operation. All wiring and accessories from AHU panel to individual fire dampers to be considered in scope of work and shall be quoted accordingly. Potential free contacts to be provided for Fire Damper to get Open/Close Status Monitoring				
a	Bare fire damper	65.00	Sqmtr		
b	Fire rated Actuator with control panel and fire/ temperature sensor spring return type complete with power/control wiring between AHU panel and fire damper.	75.00	Nos		
7.8	Providing, fixing ,testing & commissioning of back pressure sensors suitable for use with air having measurement range of 0- 100 Pascal with accuracy of +/- 3 % complete with 220/ 24 V transformer along with the interconnected wiring.	2.00	Nos		
7.9	Supply, installation ,testing and balancing of tiled square supply air diffusers as per the approved shop drawing and specifications. Each diffuser shall be equipped with fixed air distribution grid, removable core for proper balancing of air distribution system air distribution grid, removable core for proper balancing of air distribution system Powder coated extruded aluminium diffusers of approved colour and shade of size 600mm x 600mm suitable for installation in modular ceiling with sizes of active sections given below. The diffusers to be full tile with the non- active portions blanked Off from above. All diffusers to look alike when viewed from below irrespective of the sizes.				
b	375 x 375 mm	23.00	Nos		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
7.10	Supply, installation ,testing and balancing of tiled square return air diffusers as per the approved shop drawing and specifications. Each diffuser shall be equipped with fixed air distribution grid, removable core for proper balancing of air distribution system Powder coated extruded aluminium diffusers of approved colour and shade of size 600mm x 600mm suitable for installation in modular ceiling with sizes of active sections given below. The diffusers to be full tile with the non- active portions blanked Off from above. All diffusers to look alike when viewed from below irrespective of the sizes.				
A	450 x 450 mm	30.00	Nos		
7.11	Supply. Installation, Testing and commissioning of circular jet nozzle diffusers of Aluminium construction All diffusers to look alike when viewed from below irrespective of the sizes. As per approved colour shade by Engineer In Charge.				
a	450mm dia	5.00	Nos		
8	THERMAL & ACOUSTIC INSULATION:				
8.1	Exposed ducting for outdoor installation shall be insulated with 19mm thick closed cell elastomeric nitrile foam rubber insulation class O stuck to duct and finished with Woven Fibreglass fabric sheet of 0.18 mm foam rubber insulation class O stuck to duct and finished with Woven Fibreglass fabric sheet of 0.18 mm thickness coated with acrylic co polymers or blends with self adhesive backing of 60 GSM to provide mechanical protection as per specifications.	360.00	Sq.mtr.		
8.2	Supply Installation, Testing and commissioning of Supply Duct insulation 10mm thick closed cell elastomeric nitrile foam rubber insulation class O stuck to duct as per specifications	2,480.00	Sq.mtr.		
8.3	Supply, Installation, testing and Commissioning of Acoustic lining of duct work with 25mm thick bitumen fiberglass stick using shalikote primer hot and mechanically fastened, covered with RP tissue and 30G aluminum perforated sheet as per specs. Acoustic lining shall be rigid board.	420.00	Sq.mtr.		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
09	ELECTRICAL WORK:				
09.1	Supply, installation, testing and commissioning of cubicle type fully compartmentalized totally sheet steel enclosed LT panel suitable for 415V, 50 Hz, 3 phase and 4 wire AC power supply with TPN tinned copper bus bars and suitable for bottom cable entry, front access, dead back type and complete with feeders, metering and indications as per specifications : Pump Panel, including chilled water pumps and 02 Nos HRWs with suitable VFDs for supply air suitable for with IP 64 outdoor installation as per schematic layouts and specifications	1	No.		
09.2	Supply, installation, testing and commissioning of cubicle type fully compartmentalized totally sheet steel enclosed LT panel suitable for 415V, 50 Hz, 3 phase and 4 wire AC power supply with TPN tinned copper bus bars and suitable for bottom cable entry, front access, dead back type and complete with feeders, metering and indications as per specifications :Local control panel for Floor mounted AHUs with star/ delta OR DOL starters as below Starter panels to be with VFDs. VFD drives with harmonic filters for AHU motors shall be contained in a single all metal enclosure minimum IP55 rating incorporating EMC Filters, DC Link filters, Galvanic Isolation minimum IP55 rating incorporating EMC Filters, DC Link filters, Galvanic Isolation and Input Surge Suppression upto a maximum of 25 Kw (ALL DRIVES SHOULD BE BOTH N2/MODBUS COMPATIBLE)				
a	12000 CFM at 50mm ESP with 36 TR capacity	8	Nos		
b	13000 CFM at 50mm ESP with 40 TR capacity	2	Nos		
c	15000 CFM at 50mm ESP with 36 TR capacity	1	Nos		
d	18000 CFM at 50mm ESP with 40 TR capacity	1	Nos		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
09.3	Supply, installation, testing and commissioning of cubicle type fully compartmentalized totally sheet steel enclosed LT panel suitable for 415V, 50 Hz, 3 phase and 4 wire AC power supply with TPN tinned copper bus bars and suitable for top cable entry, front access, dead back type and complete with feeders, metering and indications as per single line diagram and specifications.				
a	Starter panel for 01 Nos 28000 CFM basement ventilation fans	1	No.		
b	Starter panel for 01 Nos 13000 CFM basement ventilation fans	1	No.		
c	Starter panel for 06 Nos 35000 CFM axial flow fans	6	No.		
09.4	Supply, laying, dressing, testing and commissioning of 1100V grade, copper conductor, galvanized steel wire/strip armoured, PVC sheathed power and control cables of following sizes to be laid on trays/wall/racks including clamping as per specifications.				
a	4c x 6 sqmm YRY cable	180	Rmt		
b	4c x 4 sqmm YRY cable	185	Rmt		
c	4c x 2.5 sqmm YRY cable	150	Rmt		
d	4c x 1.5 sqmm YRY cable	35	Rmt		
09.5	Termination of power and control cables with and including supply of nickel plated single compression brass cable glands, crimping type lugs, PVC tapes etc. for following sizes. Rates to be quoted for termination of one cable of 4 core				
a	4c x 6 sqmm YRY cable	20	Sets		
b	4c x 4 sqmm YRY cable	16	Sets		
c	4c x 2.5 sqmm YRY cable	20	Sets		
09.6	Supply and installation of 14 SWG GI perforated trays with MS painted tray supports of following sizes:				
a	300mm wide x50mm	50	Mtrs.		
b	150mm wide	90	Mtrs.		
c	100mm wide	35	Mtrs.		

Contractor

Dy. Chief Engineer (I/C)

SR. NO.	DESCRIPTION	Qty	UNIT	RATE (Rs.)	AMOUNT (Rs.)
09.7	Supply, laying and connection of copper earthing of following sizes:				
b	8 SWG copper wire	220	Mtrs		
c	12 SWG copper wire	330	Mtrs		
	Supply & installation of Adapter panel fabricated from 14/16 G CRCA sheet steel and duly painted having weatherproof construction (IP-56) with neoprene gaskets at all cover joints, having detachable gland plates and complete with 600A TPN copper bus bars mounted on insulators of non-hygroscopic material with provision for terminating incoming cables from Main AC Panel and outgoing cables to chiller circuits. Shop drawing to got approved before taking up the fabrication work.	1	Set		
	TOTAL FOR LOW SIDE WORK			Rs	
	TOTAL (PART-B) For Low Side works (In words) :-				

Contractor

Dy. Chief Engineer (I/C)

PART "C" - IBMS SYSTEM					
Sr.NO	DESCRIPTION	QTY	UNIT	Rate	AMOUNT (Rs.)
C	Supply , Installation testing & commissioning of				
1	Data base Server				
	Central Computer System comprising of Xeon processor at 2.33Ghz or above with a bus speed of 3.2 Ghz, each HD of 512 GB size, 52X DVD writer, 4GB RAM, optical Mouse, 104 Keys keyboard, with provision for 8 serial & one parallel ports and 17" colour monitor	1.00	No		
2	Operator Workstation				
	Computer System comprising of Core2Duo processor at Mhz or above with a bus speed of 3.2 Ghz, 250GB HDD, 52X DVD writer, 2GB RAM, optical Mouse, 104 Keys keyboard, and 17" colour Monitor	1.00	No		
3	Software for BMS System:-				
	BMS Server Software License & CD. with SMS Paging & Email Facility for transmitting specified alarms to designated personnel.	1.00	Lot		
4	A 4 size Laser Printer	1.00	No		
5	Integrators				
a	Integrator for Fire Alarm System with EBI software	1.00	No		
b	Integrator for HVAC System(Chillers)	1.00	No		
c	Integrator for DG system	1.00	Lot		
6	Direct Digital controllers (DDCs),				
A	DDC controller for Electrical System	1.00	Lot		

Sr.NO	DESCRIPTION	QTY	UNIT	Rate	AMOUNT (Rs.)
7	Cables				
	Supplying, Installation, Testing & commissioning of PVC armoured 1100V grade , Copper cable of following size erected with complete termination with brass glands & copper lugs on wall/trusses/pole or laid in provided trench/ Pipe ,with support by using clamps /rawl plugs and screw /hooks. all the cables laid on structure shall be fixed with suitable clamps. Cable are to be supported at minimum regular intervals of 0.5m horizontal and 1.0 m vertical Run. care to be taken while laying /pulling so tht insulation of cables doest not get damaged (wherever cables are taken in conduit both end of the conduits shall be blocked after laying the cable to avoid the ingress of water) For connection to bus bars etc brass /cadmium plated nuts /bolts /washers shall be used. Suitable measures shall be taken to avoid heating due to bi-metallic contact.				
a	2C X 1.5 Sq mm Copper Armoured cable	1,900.00	Rmt		
b	4C X 1Sqmm Copper Armoured cable	1,200.00	Rmt		
	Total PART- C		Rs		
	IBMS				

(Total Part- C for IBMS in words)

Contractor

Dy. Chief Engineer (I/C)

PART- D (CAMC OF HVAC & IBMS)

COMPREHENSIVE ANNUAL MAINTANANCE CONTRACT HVAC & IBMS

Sr No	Description of Item	Qty	Unit	Rate	Amount
1	<u>COMPREHENSIVE MAINTENANCE contract for HVAC including IBMS:</u>				
	Comprehensive Annual Maintenance Contract (C.A.M.C.) , All inclusive maintenance including parts and labour for the 3X155 TR capacity Chillers with all the accessories. All the Floor mounted AHUs with all the accessories, All the Ceiling suspended AHUs and its accessories, All the Ventilation Fans in the Basements, Exhaust Fans, Smoke spill Axial Flow Fans, Jet Vent Fans) with all the accessories, Complete Heat Recovery Unit, Chilled water Pumps and its accessories, All the valves with insulations and accessories utilized in this work viz. Butterfly Valves, Balancing Valves, 3-way motorized valves with accessories, Check Valves, Y-strainers, Two Way Motorized Valves, Vent Valves, Vibration Eliminators with Bellows and IBMS system.				
	BTU meters, Makeup water tank's Pressurization Pumps , Fresh Air Intake Motorized Dampers and actuators, GSS Fire Dampers and actuators with all the accessories and Back pressure sensors. CAMC will be carried out as per specification Painting of M.S. foundation etc.				
	The rates for CAMC of all the above will be valid for 3 years after completion of defects liability period.				
a	Ist YEAR CAMC (After completion of DLP)	01	Job	484500.00	484500.00
b	IIInd YEAR CAMC (After completion of DLP)	01	Job	484500.00	484500.00
c	IIIrd YEAR CAMC (After completion of DLP)	01	Job	484500.00	484500.00
	Total PART-D (CAMC of HVAC& IBMS)				1453500.00

Contractor

Dy. Chief Engineer (I/C)

**LIFE INSURANCE CORPORATION OF INDIA, NORTHERN CENTRAL ZONAL OFFICE KANPUR
PROPOSED INVESTMENT BUILDING AT PLOT NO INS-16 VASUNDHARA, GHAZIABAD (U.P.)**

TENDER FOR S/I/T/C OF HVAC SYSTEM AND IBMS WORK

GENERAL SUMMARY

Sr No	DESCRIPTION OF ITEM	B/F from Page No	Amount (in Rs.)
PART (A)	High Side Work :- Total Of 155 Tr x 3 Nos Air Cooler Chillers		
PART (B)	Total Of Low side work of HVAC System		
PART(C)	Total Of IBMS System's Work		
	TOTAL (HVAC & IBMS WORK)		
PART(D)	<u>COMPREHENSIVE MAINTENANCE contract for HVAC including IBMS</u>		1453500.00
	GRAND TOTAL (A+B+C+D)		

In words ()

Contractor

Dy. Chief Engineer (I/C)

LIFE INSURANCE CORPORATION OF INDIA

MANDATE FORM FOR PAYMENT THROUGH NEFT /RTGS

(Fill up the details after Consulting Your Bankers)

SR No.	DESCRIPTION	PARTICULARS
1	NAME OF THE PAYEE	
2	NATURE OF PAYMENT	
3	NAME OF THE BANK	
4	ADDRESS OF THE BANK	
5	ACCOUNT TYPE	
6	ACCOUNT NUMBER (As Appearing on the Cheque Book)	
7	BANK's IFSC CODE (11 Digits Code)	
8	TELEPHONE NUMBER (a) Residence (with STD Code) (b) Mobile.	
9	E-Mail ID	
10	PAN NUMBER (Copy of PAN to be enclosed)	

I hereby declare that the Particulars given above are correct and complete. I express willingness to receive the payment through NEFT / RTGS and hereby authorize the “ Life Insurance Corporation Of India” to credit my above stated Bank Account towards the said payment. If any Payment is delayed OR Not collected at all for the reasons of incomplete OR Incorrect information, Closure of Bank account etc. I will not hold the Life Insurance Corporation Of India responsible. For the same, I am enclosing a CANCELLED MICR CHEQUE Leaf.

Signature of the Payee

Name

Address

Contractor

Contractor

Dy. Chief Engineer (I/C)

C E R T I F I E D

THAT THE RATES ARE QUOTED IN THE “PRICE- BID” AFTER ACTUAL VISITING SITE OF WORK AND ACQUAINTING WITH THE NATURE OF WORK & WORKING CONDITION.

THAT WE HAVE CAREFULLY STUDIED THE CONDITIONS OF CONTRACT AND SPECIFICATION FOR MATERIAL AND WORKMANSHIP IN THE “TECHNICAL- BID” AND WILL ADHERE TO THE SAME.

SIGNATURE OF CONTRACTOR
WITH OFFICIAL SEAL & DATE

NO CLAIM CERTIFICATE-CUM-STAMPED RECEIPT

Received Rs._____ (Rupees_____) being the amount
against my/our final bill dated _____ for_____ (Name of Work) in full and final settlement
of bill.

I/ We have no further claim for any amount on above work.

Contractor

(Signature of Contractor on Revenue stamp)

Rubber stamp/seal of the contractor /company

Note: The certificate should be given on contractor's letter head.

Contractor

Dy. Chief Engineer (I/C)