##### NATIONAL CENTRE FOR BIOLOGICAL SCIENCES



**Annual Maintenance Contract for ‘Low end HVAC Systems’ of SLC and other facilities at NCBS, GKVK Campus, Bangalore – 560065**

## TENDER DOCUMENTS

## SCIENTIFIC, ENGINEERING SERVICES &

## MAINTENANCE DIVISION

**2013**

**Tender Reference No: NCBS/AC/41/2013.**

NATIONAL CENTRE FOR BIOLOGICAL SCIENCES

Tata Institute of Fundamental Research

GKVK Campus, Bellary Road, Bangalore - 560 065.

 Phone: 23666001/02 Fax: 23636662

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**Tender ref. No: NCBS/AC/41/2013**

Sealed tenders are invited (in 2 COVER system) by The Director, NCBS, at the above office from HVAC Maintenance Contractors with experience in similar CENTRALISED CHILLED WATER BASED HVAC system operation and maintenance, for HVAC systems at SLC in NCBS Campus. Agency/Contractor who has done similar type of work of AMC nature with proven technical and financial capacity, possessing required infrastructure for the above work only will be considered.

# Name of work:- Annual Maintenance Contract for ‘Low end HVAC Systems’ of SLC and other facilities at NCBS, GKVK Campus, Bangalore – 560065

### ­­­­­­­­­­­­­­­Estimated Value of work : Rs.23,37,763/-

### Earnest Money Deposit : Rs.46,755/-

#### Period of Contract : (3 + 9) Months

IMPORTANT NOTE:

1. **All bidders to attend the PRE-BID MEETING on 23/07/2013 at 15.30Hrs., in the office of Head-SES&M, NCBS. It is important for the vendor to attend the pre-bid meeting to understand the exact requirements.**
2. Currently, to maintain the similar HVAC system, 8 Technicians are engaged. In our experience, this is the bare minimum manpower requirement, to maintain he system. ***However, contractors can specify manpower deployment pattern they propose to adopt for this work after thourouly studying the scope of the work and clearly understanding the same by attending the PRE-BID meeting. The vendors shall have all their doubts cleared in the PRE-BID meeting. It is completely contractor’s responsibility to fix the staff deployment pattern and to fulfill the requirements of NCBS. The figure mentioned above is indicative only.***
3. **PRICE BID (Cover-II), shall be submitted in separate cover and shall not be placed in TECHNICAL BID (cover-I)**

**TENDER SUBMISSION:**

Tenders shall be submitted in TWO COVER SYSTEM, simultaneously in separate sealed covers, superscribed as “COVER-I:TECHNICAL BID” and “COVER-II:PRICE BID”. Tenders will be received up to 15.00 hrs on 1st August, 2013 at the above address.

COVER-I of the tender will be opened on the same day at 15.00 hrs in the presence of attending tenderers. Opening of COVER-II (Price bid) will be intimated only to those tenderers who are qualified after evaluation of Technical Bid.

**COVER-I shall contain the following:**

* + - 1. **EMD** as specified above in the form of Demand Draft of a Scheduled Bank guaranteed by the Reserve Bank of India, in favour of National Center for Biological Sciences, TIFR, Bangalore - 65. No other mode of payment for EMD be accepted.
			2. Entire tender document (Inclusive of Annexure-A to Annexure-E), duly signed & sealed in every page by the contractor, along with technical information. Any deviations from the tender conditions, specifications, makes etc in Annexure -C.
			3. Reference of similar completed & ongoing works.
			4. Confirmation saying that Schedule I (Annexure F) & Schedule II (Annexure G) are completely filled, and kept in price bid.

6. Valid labor license to undertake HVAC AMC works, PF, ESI registration copies etc.

**COVER-II- Shall contain the following:-**

1. PRICE BID for MAINTEANCE WORKS in SCHEDULE-I (Annexure-F), duly filled up, as per the given format
2. PRICE BID for ADDITION / MODIFICATION WORKS in SCHEDULE-II (Annexure-G), duly filled up, as per the given format

If clarifications are sought by the contractor during the bidding period the same should be in writing. Both the clarifications from the tenderer and the response to the clarifications from **NCBS** should be in writing and all such correspondences should be enclosed along with **COVER-I**.

Director, NCBS does not bind himself to accept the lowest or any other tender, and reserves the authority to reject any or all the tenders or to allot parts of the works to different agencies without assigning any reason thereof.

**NOTE:** Each and every page of the offered bid shall bear the dated signature and seal of the contractor

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**Tender notice No: NCBS/AC/41/2013.**

# NAME OF THE WORK: Annual Maintenance Contract for ‘Low end HVAC Systems’ at SLC and other facilities, NCBS Campus, GKVK, Bangalore.

1. **Scope of Contract**

1.1 The Contractor will, for the time being, provide services at National Centre for Biological Sciences UAS-GKVK Campus, Bellary Road, Bangalore – 560 065

1. Annexure – A –Scope of work & Tentative Guidelines for the Work Involved in the Scope
2. Annexure – B – General Terms and conditions.
3. Annexure – C–Schedule of Deviations
4. Annexure – D–Statutory Obligation.
5. Annexure – E – Undertaking from the contractor
6. Annexure – F – Schedule- I (Price Break up for Maintenance works)
7. Annexure – G - Schedule- II (Price Break up for Modification / minor works)

1.2 The details of rates and the number of personnel required for carrying out the work shall be indicated by the Contractor in the Annexure “B”.

1.3 Once the Work Order is issued, the Contractor will receive instructions from an Officer designated for this purpose (Officer-in-Charge) or his authorized nominee and the Contractor hereby undertakes to abide by his/her any suggestions/instructions, etc. as regards services covered in this contract.

1.4 Addition/ alterations in scope of work: Any alterations or additions to the scope of work will be communicated to the Contractor and the Contractor shall carry them out. For any reduction / increase in the Scope of work, the increase / decrease in the rates shall be negotiated and finalized on mutually agreed basis.

**2. Quality and scope of services**

* 1. The Contractor shall appoint trained staff having a good bearing and maintain high standards of turn out, maintain adequate staff to ensure there is no hold up of any service for any reason whatsoever. Any deficiency in the number of staff deployed will entail penal reduction from the compensation payable as decided by the Centre. The successful Contractor as soon as the agreement is signed shall submit a list of their workmen / supervisor / others along with copy of appointment order issued to them. As and when there is a change in the staff posted, a revised list shall be submitted along with copy of appointment order issued to the new appointee / appointees, simultaneously.
	2. It is normally understood and agreed between both the parties that Centre will not be responsible or be liable for any laws that are in force / that may come into force from time to time in respect of personnel engaged by the Contractor and he will be solely responsible for the terms and conditions of their services, safety, health, statutory requirement, etc.
	3. The Contractor shall depute such officers and supervisors as proposed by him, who shall be available on site to supervise the Contract employees and interact on daily basis with Officer-in-Charge regarding delivering the specified services.
	4. It is understood and agreed that the Contractor will be held responsible for any disciplinary matters arising out of their employees and the Contractor will take appropriate disciplinary action against those employees found indulging in any act of indiscipline in Center’s premises or in connection with the services referred to herein.
	5. The Contractor will immediately replace any employee found to be unfit in any manner immediately or on receipt of advice from any authorized person in NCBS.
	6. The Contractor shall maintain proper and detailed record for the job carried out by their employees and shall also maintain all records and returns as necessary for carrying out the work smoothly and as provided under the Contract Labour Act, Minimum Wages Act, ESI Act, PF Act, etc, as relevant and applicable from time to time.
	7. The Contractor shall be solely responsible to comply with all legal and statutory requirements that arise out of this agreement and in respect of the employees engaged by the Contractor in fulfillment of the contractual obligations stated herein. An indicative list of these statutory obligations is at Annexure “D”. It is understood and agreed that the Contractor will provide suitable uniforms with company insignia, badges/ID cards with photos and safety equipment and shoes to their employees. It is Contractor’s responsibility to have them periodically checked medically so as to ensure that medically fit staff only is deployed for the work.

**2.8 a)** The Contract employees should be covered under all statutory requirements like ESI, PF, ELI etc. by the Contractor and the Contractor shall comply with all the formalities in this regard. Copy of challan and Schedule of Contract Employees for payment of ESI/PF/ELI, etc. to be furnished (whether running/monthly or final) by the contractor for reimbursing the same every month.

**b)** The Contractor shall pay salary and other allowances/benefits as indicated by the Contractor in their tender and accepted by NCBS. Such salary shall be same or more than minimum wages.

 **c)** The Centre will have the right to inspect/call for books/registers, documents in relation to all matters referred to, in this tender or agreed later on. The Centre will also have all rights to make recoveries from the compensation, if any that any statutory agency imposes upon the Centre due to the Contractor's non-compliance with statutory obligations. A list of these as applicable at present is set out in Annexure 'D' attached. All the Contract employees should be covered under all statutory requirements like ESI, PF, etc. by the Contractor and the Contractor shall comply with all the formalities in this regard. Copy of challan and Schedule of Contract Employees for payment of ESI/PF/ELI, etc. will be furnished by the contractor for reimbursement.

**d)** The contractor shall maintain a muster role, wages register of all men employed by them and all other documents and submit it to the Centre on the 1st of every month for the previous month **or** as necessary for inspection. The Contractor shall provide all facilities for inspection /books / personnel on demand by NCBS or any Statutory Authority.

**e)** The contractor should provide PF A/c number, ESI Card and Photo Identity Card to the contract employees posted at NCBS. This should be done **immediately** but not later than one month from the date of signing joint agreement.

2.9 It is clearly understood and agreed upon that neither the Contractor nor Contract employees shall have any claim on employment with Centre at any point of time and this arrangement is purely between the Contractor and the Centre for specific services for the period specified.

* 1. The successful Contractor shall indemnify/deemed to have indemnified the Centre for all claims/losses arising out of this tender. The Contractor is deemed to have indemnified the Centre against any claim by any authority once the work order is awarded. In the event the Centre has to pay any individual, statutory body or any agency for reasons directly or indirectly attributable to this tender, the Contractor only shall pay such claim/damages and even if the Centre is called upon to pay, such damages/penalties and or cost shall be recovered from the contractor's dues /amount payable or shall be paid by the Contractor on demand from NCBS.
	2. The Contractor shall follow all rules as may be existing or may be framed from time to time

 at NCBS on all aspects covering this tender. Material movement, entry/exit of personnel,

 identity card, safety, etc. shall be according to procedures existing in NCBS as amended

 from time to time.

1. **Tenure & Termination**
	1. The contract with the Centre will be initially for a period of 3 months and if the services are found to be satisfactory, the contract may be extended for a further period of 9 months. The Centre reserves the right to extend the contract for one more year on the same terms and conditions. The Centre reserve the right to terminate the Contract during the pendency of the Contract period if the performance is found unsatisfactory
	2. Except as provided in Clause 3.6 below, the Contract could be terminated by either side by giving one month’s notice in writing. If the notice period is not given or if a shorter notice is given by the Contractor, the entire security deposit would be forfeited. Any other costs and / or damages incurred by the Centre to maintain the services contracted to the Contractor, on account of such short notice will be deducted from the dues payable to the Contractor, or shall be paid by the Contractor on demand if such dues fall short of such costs.
	3. In the case of failure to complete the contract in terms of such contracts within the contract period specified in the tender and incorporated in the contract and if such work is got done by the Centre from any party at a higher rate the Contractor shall be liable to pay the Centre the difference between existing rate and the rate of the new Contract.
	4. **Risk Clause:** Notwithstanding the other terms therein, the Centre at its option will be entitled to terminate the contract and to avail service from elsewhere at the risk and cost of contractor either the whole of the contract or any part which the contractor has failed to perform in the opinion of the Centre within the time stipulated or if the same performance is not available, the best and the nearest available substitute thereof. The contractor shall be liable for any loss which the Centre may sustain by reason of such risk in addition to penalty.
	5. **Insolvency and breach of contract:** The Centre may, at any time, by notice in writing summarily terminate the contract without compensation to the Contractor in any of the following events:

**(a)** If the Contractor being an individual or a firm if any partner in the contractor’s firm shall be adjudged insolvent or shall have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition under any insolvency act for the time being in force or make any conveyance or assignment of his

effects or enter into and arrangement or composition with his creditors or suspend payment, or if the firm be dissolved under the Partnership Act, or

**(b)** If the contractor being a company shall pass a resolution or the court shall make an order for the liquidation of its affairs or a receiver or manager on behalf of the debenture holders shall be appointed or circumstance shall have arisen which entitle the court or debenture holders to appoint a receiver or manager, or

**(c) If the contractor commits any breach of contract not herein specifically provided always that such determination shall not prejudice any right of action or remedy which shall have then accrued or shall accrue thereafter to the Centre provided also that the contractor shall be liable to pay the Centre for any extra expenditure he is thereby put to but shall not be entitled to any gain on re-tender.**

**(d)** In the event of inadequate or unsatisfactory performance of duties by the Contractor, the Centre shall have the right to bring to the notice of the Contractor the default (s) on their part and the Contractor shall ensure that the said default (s) is / are not repeated and/or are duly remedied, within a period of three days from the receipt of the said notice. Failing such remedial action, or in the event of the said default (s)’s being inadequately corrected, the Centre shall have the right to immediately terminate the agreement.

* 1. Notwithstanding any other clause herein, if there is any act or omission by the Contractor or the Contract employees which jeopardizes the safety / security of the Centre including, but not limited to :
1. Theft or pilferage of property of NCBS
2. Fire, flooding, breakage or damage
3. Violence or physical attack on the Campus
4. Any act or incident which may prove detrimental to the interests of NCBS -

the contract would be terminated without any notice. Further, the Contractor would be levied penalties, as found appropriate by the deemed authority. The decision of the Centre Director shall be final in such matters.

**4. Payment Terms:**

* + 1. The contractor shall submit bills after the completion of every calendar month and normally payment will be released within 15 working days from the date of submission of bill if the bill is complete and correct in all respects.
		2. The monthly bills submitted by the contractor shall be only for actual salary, uniform content and margin. The other benefits like PF, ESI, ELI, S.T etc., can be claimed every month separately with proof of documents and the same will be reimbursed. The contractor will not be entitled for any of the above benefits.
		3. PF, ESI and ELI will be reimbursed to the contractor only on production of registration No./ ESI card/payment of ELI premium.

 4.1.4 **Bonus:** Bonus shall be payable by the contractor to his contract employees once in a year before Diwali or when a contract employee's service is discontinued. The amount of bonus payable is 8.33% (of Basic + VDA) subject to maximum of Rs.3,499/- per annum.

* + 1. The monthly running bill of the Contractor will become payable at the end of each month on submission of a monthly claim to the Accounts Officer, and on due certification by the Officer-in-Charge of satisfactory services against the claim. The Contractor’s payment will be released only after disbursing the salary to contract employees every month.
		2. The Officer-in-Charge is authorized to deduct any amounts as determined by the Centre Director from the amounts due to the Contractor for any deficiency in services, provided by the Contractor.

 4.2.3. Payment of Contractor's bill shall normally be made within 15 days of submission subject to the claim being found proper in all respects and in accordance with the terms and conditions of the contract. All payments will be made after deduction of taxes and duties at source as applicable from time to time.

4.3 Payments to the contract employees shall be disbursed by the 7th of the succeeding month in the presence of the Officer-in-Charge, or any authorized officer of NCBS. If 7th happens to be a holiday, payments shall be made the previous working day. The Contractor shall notify all his employees / workers of this date in their appointment order, and follow this very strictly, whether the Centre has paid the Contractor's bill or not. The payment of salary and all other benefits such as bonus and over time to the contract employees shall be disbursed in the presence of Officer-in-Charge or any authorized officer of NCBS.

4.4 No claims will be entertained in respect of any discrepancy or defect or short claim if such demand is not made within 90 days of payment of the final bill.

4.5 **Security Deposit:**

 The person/persons whose tender(s) may be accepted shall permit NCBS at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 10% of the gross amount of each running bill till the sum along with the sum already deposited as earnest money, will amount to security deposit of 10% of the tendered value of the work, subject to a maximum of Rs. 5.00 Lakhs. Such deductions will be made and held by NCBS by way of Security Deposit unless he / they has / have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Securities of fixed deposit receipts. In case a fixed deposit of any Bank if furnished by the contractor to the NCBS as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the NCBS to make good the deficit.

 Security Deposit will be released only after the completion of the defects liability period of 3 months after the date of completion of the work.

Security Deposit will not be refunded till clearance certificate from labour officer is obtained by Contractor. However, if there is genuine difficulty to obtain a clearance certificate, Engineer – In – Charge will make a reference to Labour Officer before releasing Security Deposit. If no reply is received within a reasonable period, say 1 month from the date of such reference then Engineer – In – Charge may make his decision to release based on his discretion.

4.6 **It is important for the Contractor to note that the rate quoted shall be inclusive of all taxes and duties/escalation and shall remain valid for the period of the agreement, i.e. 2 years from the date of Work Order. Any increase or decrease in the rates shall be only in respect of statutory duties / levies and such claim /s shall be valid only with adequate documentary evidence. Any decrease in the duties/levies during the period of agreement, shall entail corresponding reduction in the contract amount. If no details or break-up of taxes, duties/levies, etc. are indicated, it will be assumed that the quote submitted is inclusive of all taxes/levies/duties, etc.**

**4.7** The Contractor shall pay any claim made by the Centre for any deficiency (both tangible and intangible) in service. Such amount may also be deducted from bills payable to the Contractor. It may be noted that the Centre shall have the right to forfeit the Security Deposit in full or part for any due/damages caused by the Contractor. If the Security Deposit or outstanding bills of the Contractor is found inadequate, then such monetary recoveries shall be effected from any amount payable to the Contractor against this or any other contract until the dues of the Centre are fully settled. If the claim of the Centre could not be met in this manner, the Contractor shall pay up all such claims if a demand is made by NCBS.

1. **Safety, Security and Insurance**

**5.1** The Contractor shall follow all security rules of the Centre and instructions received from time to time regarding personnel identity cards, material movement, etc, of the Contractor.

**5.2** During the pendency of the agreement, the contractor shall be liable fully to compensate all concerned for any loss, damage of construction of works, construction, plant & machinery, person, property, etc. including third party risks arising due to causes attributable to the agreement. The decision of the Centre Director will be final & will be binding on both parties.

The contractor shall take Employees Liability Insurance of prescribed value for their employees. It must adequately cover all employees/workers under Workmen Compensation Act, 1928 as amended from time to time. Before starting the work, the Contractor shall produce the original insurance policy and the license of the workers where applicable to the Centre.

1. **Miscellaneous**
	1. The work mentioned in the schedule is only indicative. The Centre reserves the right to increase or decrease the quantum of work. The contractor shall execute the work on the same terms and conditions and rates throughout the period of agreement.
	2. The contractor or his supervisor shall meet the designated Officer of the Centre every day to receive the details of issues / complaints to be attended and after attending to these complaints, a report on the same has to be submitted to the concerned Officer.
2. **Dispute and Resolution**
	1. Any dispute or differences that may arise between the parties shall be referred to the sole arbitration of the Centre Director or his nominees and the Contractor shall have no right to object to the appointment of the Director or his nominee as the sole arbitrator. The decision of the arbitrator shall be final and binding on the parties. The venue for arbitration shall be Bangalore and no other place. The provisions of the Arbitration and Conciliation act, 1996 as / amended from time to time shall apply. The courts in Bangalore shall have exclusive jurisdiction to deal with any or all disputes between the parties.
3. **Primacy of Documents**

The tender documents, subsequent communication exchanged and the work order as well as all annexures shall be part and parcel of this agreement. If there is any discrepancy between the above documents, the statement in the following documents will apply with primacy for communications issued after the work order, any pre-order correspondence as accepted jointly, followed by work order, tender documents and annexure thereof, i.e. tender documents and annexures have least primary, if any clause or detail there has been superseded by communication after the opening of bids if jointly accepted, work order or subsequent communication to the Contractor.

1. **Amendments to Work Order / Agreement:**

 Any amendment to the Work Order/agreement shall be valid only if both parties have agreed to such amendment(s) in writing duly authenticated by authorized personnel of both parties.

**ANNEXURE - A**

Operation And Maintenance Of ‘Low end HVAC Systems’ At SLC and other facilities at NCBS

NCBS, a premier Biological research centre, has various air-conditioned facilities. Air conditioning is a critically required parameter to the research activities.

Hence, the essence of this contract is to achieve ‘Zero Break-down’ and to maintain the system such that it is always normal, available and can be used for its optimum performance. All efforts are to be made with upto date maintenance in achieving this, by using predictive & pro-active maintenance techniques at times, and, by strictly adhering to preventive maintenance practices & schedules.

Air-conditioning contractors with proven track record & confident in achieving this task are only eligible to compete in this AMC tender & only such firms will be considered for contract engagement. Please enclose the documents supporting the AMC track records etc.

Contractors shall engage and deploy technical staff on every day basis, who has hands-on experience in AC system maintenance and trouble shooting to meet our kind of requirements. So engaged supervisors / technicians shall have ability to read AC system drawings, understand the requirement & provide trouble free maintenance.

**Scope Of Work**

SITE: NCBS-TIFR, GKVK campus, Off Bellary Road, Bangalore – 65.

The AMC is in two parts as following;

Part-1: Maintenance of chilled water operated, sophesticated AC system having AHUs, FCUs, chilled water system, Air-distribution system, VFDs, MCC panels, humidification and de-humidification systems, electrical and other control systems and the related systems and components. Spares will be paid extra.

Part-2: Addition / modification works as indicated in Annexure-G, as and when only required.

**NOTE:**

**1) *Quote should be sent in two separate sealed covers, one containing the pre-qualification requirements & the related documents along with the details of manpower planning / structure, and, another cover containing the quotes for each part as per the format in Annexure-F (Schedule I) & Annexure – G (Schedule II)***

**2) *NCBS reserves the right to split the works in parts and award the contract separately.***

**PART-1: MAINTENANCE OF CHILLED WATER OPERATED AC SYSTEM**

Daily Operation / routine monitoring, scheduled preventive maintenance (servicing), breakdown maintenance of all the Air-conditioning system in the campus working on chilled water supply, using all necessary spares. The system has Air handling units (AHU), Fan coil units (FCU), VFDs, BMS system (operation only), humidification and de-humidification systems, control system, air distribution system with air-ducts, dampers, grills, diffusers, chilled water lines, drain system etc. installed and working at various labs & facilities.

Round the clock Chiller operation 2X240TR screw chillers in existing research block & 2X400TR screw chillers, 1X400TR Air cooled chiller in New lab complex as and when required.

Following is the indicative detail of the existing system;

**Operation and Maintenance of AC system in SOUTHERN LABORATORY COMPLEC (SLC):**

Double skin AHU complete with centrifugal fan, motorized dampers, pre-filters section with synthetic fiber filters, multi deep chilled water coil. Stainless steel drain pan, high efficiency EFF-I squirrel cage motor, mist generator, strip heaters with all controls & accessories. AHU complete with all adaptive control such as airstat, safety stat, humidistat, geyserstat etc.

Periodic filters cleaning & minor related works to be carried out.

**Animal House:**

 AHU with extract air system & 100% fresh air arrangement, mist generator, filters complete with

 controls & electrical system.

 1) 70 TR for Animal holding areas - 8 No’s

 2) 25 TR for Dirty corridor - 4 No’s

 **Bio-safety Lab:**

 3) AHU with 3-stage filtration including HEPA for both supply & exhaust having bio-

 safe container. 40 TR - 2 No’s

**Double skin horizontal AHU complete set:**

 4) Embryonic stem cell 8 TR - 1 No

 5) Molecular Biology lab 11 TR - 1 No

 6) Micro injection lab 7 TR - 1 No

 7) Confocal 55 TR - 2 No

 **Double skin horizontal AHU complete set:**

 8) AHU-16 2000CFM - 1 No

 9) AHU-17 4000CFM - 1 No

 10) AHU-22 2500CFM - 1 No

 11) AHU-27&28 5000CFM - 2 No

 12) AHU-49 8000CFM - 1 No

 13) AHU-50 2800CFM - 1 No

 14) AHU-54 8000CFM - 1 No

 15) AHU-55 4000CFM - 1 No

 16) AH-22/Sequencing lab, 8000CFM, 16 TR - 1 No

 17) AH- 24 & 25/Mass Spectrometry, 23000 Cfm, 28 TR - 2 No

 18) AH- 26/X-Ray, 4500 cfm, 13TR - 1 No

 19) AH- 30,31 & 32/Lab Spaces, 1200 cfm, 23 TR - 3 No

 20) AH- 33/LAB Cluster, 3500 cfm, 8 TR - 1 No

 21) AH-34/Equipment Rooms, 5000 cfm, 12 TR - 1 No

 22) AH- 35 & 36/Equipment Rooms, 3500 cfm, 9 TR - 2 No

 23) AH- 37 & 38/Tissue Culture, 2400 cfm, 6 TR - 2 No

24) AH- 40,41& 42/Lab Spaces, 1200 cfm, 22 TR - 3 No

25) AH- 43/LAB Cluster, 3500 cfm, 8 TR - 1 No

26) AH- 44/Equipment Rooms, 5000 cfm, 12 TR - 1 No

27) AH- 45 & 46/Equipment Rooms, 3500 cfm, 9 TR - 2 No

28) AH- 47& 48/Tissue Culture, 2400 cfm, 22 TR - 2 No

29) AH- 57,58& 59/Lab Spaces, 12000 cfm, 22 TR - 3 No

30) AH- 60/LAB Cluster, 3500 cfm, 8 TR - 1 No

31) AH- 61/Equipment Rooms, 5000 cfm, 12TR - 1 No

32) AH- 62 & 63/Equipment Rooms, 3500 cfm, 9 TR - 2 No

33) AH- 64 & 65/Tissue Culture, 2400 cfm, 6 TR - 2 No

34) AH- 66,67& 68/Lab Spaces, 12000 cfm, 23 TR - 3 No

35) AH- 69/Lab Cluster, 3500 cfm, 8 TR - 1 No

36) AH- 70/Equipment Rooms, 5000 cfm, 12 TR - 1 No

37) AH- 71 & 72/Equipment Rooms, 3500 cfm, 9 TR - 2 No

38) AH- 73 & 74/Tissue Culture, 2400 cfm, 7TR - 2 No

**Vertical AHU’s, Double skin complete set**

39) AHU-29, 1400cfm, - 1 No

40) AHU-39, 1400cfm, - 1 No

41) AHU-56, 1600cfm, - 1 No

42) AHU-51, 5500cfm, - 1 No

43) AHU-52, 5500cfm, - 1 No

44) AHU-53, 7000cfm, - 1 No

**Fan coil units comprising of 3 rows deep chilled water cooling coil, blowers, FHP motor, filters drain**

 45) pan complete with electrical temperature controls.

 2 TR 800-900 cfm - 12 No

 **Inline fans for exhaust air complete set**

46) G.floor 1900 cfm - 4 No

47) F.floor service area 1600 cfm - 4 No

48) S.floor service area 1900 cfm - 4 No

49) T.floor service area 1600 cfm - 4 No

50) Basement, T.floor hubroom 750 cfm - 4 No

 **Extract fan section:**

52) Service block 14000 cfm - 1 No

53) 5900 cfm - 3 No

54) 9000 cfm - 1 No

55) 10,000 cfm - 1 No

56) 6600 cfm - 1 No

57) 5500 cfm - 1 No

**Axial flow fans for smoke extraction complete set:**

60) 10,000 cfm - 1 No

61) 22,400 cfm - 1 No

62) 4500 cfm - 4 No

**Staircase and liftwell pressurization fans complete:**

63) 21000 cfm - 1 No

64) 10000 cfm - 3 No

**Air curtains**

67) Duct mounted Ozone generator - 22 No

68) VOC sensors, with necessary controllers - 2 No

69) High Ozone cut-out switch - 2 No

70) Slave controller - 2 No

71) Air shower class 100, HEPA filters electricals controls complete - 2 No

**Maintenance of Ventilation system at Sports cum Dinning complex:**

**Fan filter units, FFU for supply air complete with 16 guage GSS Casing, DIDW centrifugal fan, drive pqackage, squirrel cage IM, 50mm thick viscous metallic filters complete with controls etc.**

72) FFU-1, 12000 Cfm - 1 No

73) FFU-2, 9500 Cfm - 1 No

74) FFU-3, 18800 Cfm - 1 No

**Extract Fan Sections(EFS), for extract air complete set**

75) EFS-1, 23500 Cfm - 1 No

76) EFS-2, 21500 Cfm - 1 No

77) EFS-3, 3800 Cfm - 1 No

78) EFS-4, 3800 Cfm - 1 No

 **Inline Fans(IF), for exhaust fans**

79) IF-1, 1150 Cfm - 1 No

80) IF-2, 225 Cfm - 5 No

81) IF-3, 420 Cfm - 1 No

82) IF-4, 2500 Cfm - 2 No

Currently, all the AHUs & FCUs are in good working condition.

**Details Of Work:**

Daily operation / monitoring on round the clock basis, scheduled annual preventive / routine & predictive maintenance, breakdown maintenance including repair / replacement of all spare parts and consumables of entire existing AC system in the campus working on chilled water. The system has chilled water supply & return lines, AHU / FCU, air supply & return ducts, grills, diffusers, dampers, electrical panels, VFDs, BMS (operation only), humidification and de-humidification systems, control & protection systems. Work shall be carried out by continuous deployment of competent, experienced & trained staff members at site. This is a continuous mode operation & maintenance. All emergencies at all times to be attended without fail.

The AHU / FCU units which are to be maintained will be consisting of Cooling coils (heat exchangers), blowers, motors, heaters, 2 way mixing valves, humidistats, thermostats, pressure & temperature gauges, pulleys, V-belts, flexible hoses, hose clamps, hydraulic hoses with fixtures, water flow control valves,

fasteners with all accessories, pre-filters, micron class filters, canvas, thermo coal & foam insulation, tar sheet, control transformer, fuse units, contactor, TOLR, push-buttons, connectors, control units & control schemes, drain system, plenum area, etc. complete set.

The chilled water lines, related control valves & accessories are also to be maintained. Problems anywhere in entire network of chilled water supply & return lines like air locks, line blocks, leakages etc. are to be attended & rectified by the contractor, to bring the system to normalcy.

All the air ducts, diffusers, dampers, grills, flow control valves, air filters etc. in the system are to be cleaned & maintained periodically.

ADDITION & ALTERATION WORKS: All the addition and alteration jobs in the air conditioning system shall be carried out by the maintenance contractor at the agreement rates. If the prices are not available in the agreement, the same shall be paid at departmentally estimated rates (based on market rates). Rate analysis shall be produced by the contractor whenever asked by the department.

All fabrication works, repairs, servicing of machines / equipments / parts therein (or arrangement for the same) within the purview (entire AC system) of this contract, shall have to be carried out by the contractor within specified time.

If the contractor fails to carry out the assigned or entrusted work, the department shall get the work done by engaging any other agency and twice the cost incurred shall be recovered from the AMC contractor.

The entire existing AC system (working on chilled water) and ventilation / exhaust systems are covered under the scope of this AMC. Any additions and alterations made in the system (whether by the contractor or by any other agency or by NCBS), upto an extent of 10% of existing installed AHU & FCU capacities are covered under the scope of this contract for operation & maintenance.

**SCHEDULING**

In a broad manner, the work can be scheduled as follows;

**I) Routine Maintenance**

**Daily**

* Operate the HVAC system (both high & low side) on round the clock basis, in three shift system.
* Check for any complaints that are reported and trouble shoot them immediately.
* AC system of the important & critical facilities are to be continuously monitored and corrective actions are to be taken immediately so as not to affect the facility concerned
* If any important activities like seminars / lectures / meetings / interviews are planned in the campus, concerned AC system has to be inspected and normal functioning of AC system is to be ensured.
* Adjustments in the system to achieve required temperature & RH level as required by the user. Release of air locks / blocks in the system.
* If there is any instruction to operate the AC systems in the specific timings, the same has to be materialized.
* General inspection of the AC system and rectification if any abnormality exists.
* Attending to the planned / scheduled preventive maintenance
* Updating of all the relevant documents, logs, history books etc.
* Reporting of day’s work and progress to concerned Engineer-in-charge.

**Monthly**

* Cleaning of filters (prefilters, superfine filters, 5 micron filters, wherever installed and which requires cleaning)
* Checking the performance of important AHUs (like Animal house, Cluster, Biosafe lab, Lecture halls, Seminar halls)

# Quarterly (or once in 4 months, as applicable)

* Inspect connection for any water leaks in the coil and connection. Check the tightness of hose, fittings & tighten if necessary. There should not be any flooding of water from the AHU.
* Check and clean drain pan, condensate drain pipe and floor drains to ensure no choking and flooding.
* Cleaning of cooling coils, fins and filters, air & water flow, release of air lock etc.
* Open up the electrical control panel, inspect for any blackening of contacts, loosening of connections, component condition etc. rectify if any abnormality is noticed.
* Inspect the conditions of the thermometers and pressure gauges for proper function.
* Check for proper operation of the associated measuring, control and safety device like thermostat, humidistat, 3 way actuating valves etc. Reset if required.
* Check, report and rectify, if any abnormal noise / vibration is observed.
* Check and re-tighten any loose bolts and nuts in proper sequence.
* Clean all the type air filters.
* Check the fan belts for proper tension, and replace if necessary, and examine the fans for correct alignment, lubricate the bearing as required.
* Check heater bank condition and rectify if any problem exists.
* Inspect the condition of insulation materials and rectify if necessary.
* Clean the water strainer of chilled water system if installed.
* Entire AHU room to be thoroughly cleaned with vacuum cleaner & to be made clean & dust free.
* Recording the values of settings & temperature & RH levels maintained in each lab / facility / area
* Necessary documentation

**Yearly**

* Perform quarterly services
* Overall servicing of the unit, cleaning, reduction of noise level, checking of mechanical assemblies, foam insulators over the pipes.
* De-scaling of copper tubes of the cooling coil (the water circuit) by suitable means as per manufacturer’s recommendation and general standards. Procedural details for this work are enclosed.
* Parameter checking before & after servicing
* Air flow checking & adjustment / balancing, if required
* Checking of IR value for motor and heater banks.
* Checking and calibration of temperature and pressure gauges on supply & return chilled water lines and replacement of the same if required.
* Checking of unit efficiency, total capacity delivery of the unit & bringing it to optimum performance level, air flow and water temperature measurements on supply & return ends, maintaining the lab temperature and temperature & RH adjustments.
* General checking of electrical switchgears, controls etc. All electrical system should be checked through competent persons as per relevant Indian Standard and as per electricity Act 1910.
* Cleaning of ducting system having diffusers, grills, dampers etc.
* Necessary documentation of parameters (before & after servicing work) and submission of checklist

**NOTE:**

1. If it is required to clean the cooling coil by water jet, the same has to be done by removing the cooling coil with all precautionary measures & taking it to a convenient place for full cleaning of water & air circuits. Coil to be cleaned with suitable chemical & water jet. This work is to be done carefully without damaging the AHU & the coil. This is also included in the AMC scope at no extra cost.
2. Coil, fins, filters etc. are to be thoroughly cleaned to achieve desired air and water flow rates.
3. All the maintenance / servicing works should be carried out in such a way so that the equipment / unit can be used for its optimum performances. Any work which is found to be required for optimum performance of the system has to be done.
4. Necessary care should be taken while carrying out all types of maintenance / servicing of equipment to avoid damages. Any damages of equipment / equipment parts during the services has to be replaced free of cost.
5. Contractor should supply all necessary materials like suitable grade of grease / lubricant, cotton waste, cleaning brush etc., to carry out servicing without any extra cost.
	1. **Breakdown Maintenance:**

Any breakdown complaint should be attended immediately to avoid disturbance in institute’s activities. Spares & tools required to attend any breakdown has to be maintained.

After attending to breakdowns, the unit / system shall be closely observed / monitored next day and parameters shall be checked & recorded.

 **‘FINE’ CLAUSE:** If complaints are not attended within 4 hours the fine will be imposed at the rate of Rs.200.00 per hour.

**Repair and Replacement of Parts:**

During routine / periodic maintenance and during breakdown maintenance the tenderer shall repair faulty parts / equipment with his resources. Repair shall be done in such a way that it should not affect the performance & life of the equipments, and while doing maintenance work, care should be taken that water should not come out from the unit to the lab area.

Material, equipment, part thereof which is beyond repair shall be replaced and will be paid separately as approved by Engineer-in-Charge. Please refer Annexure-I for replacement of parts / equipments.

All the works to be done as per daily / monthly/ half yearly or yearly schedule. In case, if it requires the same work to be done in-between, same shall be attended without any extra cost, in the interest of the system.

This contract includes supply and replacement of all genuine spare parts / consumables of the unit like blower, motor, V-belts, bearings, shaft, key ways, grip screws, fastener items, cooling coil, filters, hoses, hose clamps, switchgear & control items, OLRs, contactors, push button stations, wing nuts, indication lamps, 3 way actuator control valves, tarfelt, elemex connections, wiring accessories, nipples, water flow valves, foam insulation, acoustic insulation, canvas, dampers, diffusers, grills etc.,

The essence of the contract is to maintain the Air-conditioning system in such a way that it gives desired optimum performance. Repair / replacement of all the parts / equipments required for proper functioning of the machine, whether specified or not, are included in the scope of work.

**De-Scaling & Cleaning of Cooling Coils & Fins:**

It is a once in a year activity, only if required. The work procedure is as following.

* + Ensure that the power supply of the unit should be disconnected / switched off and caution board to be fixed at the main isolation of power supply.
	+ Take pre-service system running parameter readings (Air flow, DB, WB temp. readings, electrical parameters etc.)
	+ Ensure that main valves (ball valves of the unit) should be in closed condition.
	+ Arrange to cover & ensure that water should not fall on electrical control box, motorised 3 way valves, pressure gauges, etc. Failure to cover electrical control box, 3 way valves and other electrical circuits where water fall on such item may lead to serious injury / death / damage to the equipment accessories etc., for which contactor is solely responsible.
	+ Loosen the hose clips and remove the connections from the cooling coil.
	+ Prepare the chemical mixture & keep it ready in a container / tank. Circulate it through the cooling coil for specified time as recommended by the manufacturer. (Note: Contractor should arrange for container / tank etc.,)
	+ After circulation of chemical mixture through the cooling coil, flush out the coil using fresh water before connecting the hose connections.
	+ Coil fins should be cleaned using fins cleaning chemical, brush & should be cleaned to remove the sediments & dust particles of the entire coil.
	+ Should ensure there should not be any folding of coil fins which may result in improper flow of air through the coil.
	+ Should ensure that always air should be passed through the coil, any bypass of airflow should be attended immediately and rectified.
	+ Ensure that cooling coil filters is in good / clean condition, if the filter is choked, the same should be cleaned and fixed.
	+ Reconnect all the systems & take the post service running parameter readings.
	+ After completing the work, it should be ensured that the entire unit & the surrounding area are cleaned thoroughly.

NOTE:

* + Any accidents occurred due to negligence / inexperience during work is purely the responsibility of the contractor
	+ Contractor should also ensure that water should not come inside the lab while executing the work.
	+ Prior approval should be obtained from Engineer-in-Charge for the chemical / solution being used for de-scaling. The chemical shall be recommended by manufacturer.
	+ Arrangement of pump, chemical tank, a small power distribution board with back up protection of MCB/Fuse/ELCB required for operation of motors pump sets is the responsibility of the contractor without extra cost

**PERSONNEL TO WORK AT NCBS;**

The contractor has to manage & execute all the entrusted work. For the purpose of continuous monitoring and maintenance of the system throughout the year, contractor has to deploy adequate number of qualified and experienced staff members (Supervisor, technicians, helpers) at site on every day basis to carry out the dedicated work. If required, the staff may be deployed on shift basis (3 shift per day basis) These staff members shall carryout the works of both part-1 & part-2 as per the plans & schedules in consultation with the concerned engineer. These staff members shall also carry out all other works as entrusted by the concerned engineer pertaining to AC related work of NCBS and shall never say ‘no’ to any of the relevant requirements of NCBS.

Depending on the quantum of work and exigencies, the manpower deployed shall vary as required. The contractor, after studying and understanding / gauging the requirements of NCBS, shall fix a staff pattern at his/her discretion for normal running of the system, and strictly adhere to it (which may increase during exigencies).

Currently, to maintain the similar HVAC system, 8 Technicians are engaged. In our experience, this is the bare minimum manpower requirement, to maintain he system. ***However, contractors can specify manpower deployment pattern they propose to adopt for this work after thourouly studying the scope of the work and clearly understanding the same by attending the PRE-BID meeting. The vendors shall have all their doubts cleared in the PRE-BID meeting. It is completely contractor’s responsibility to fix the staff deployment pattern and to fulfill the requirements of NCBS. The figure mentioned above is indicative only.***

The following are the qualification & experience pre-requisites of the staff deployed:

|  |
| --- |
| **QUALIFICATIONS & EXPERIENCE:****Technicians : ITI (Air-conditioning/Electrician as applicable) having Minimum 4 years relevant experience** |

It is fully the responsibility of the contractor to deploy qualified staff with hands on experience, relevant License/permits to handle electrical, Air conditioning works. They should be fully conversant with relevant Indian Standards and should follow electrical & Industrial safety norms / practices.

Contractor should provide Uniforms, Shoes, safety & protection gear, Identity Cards, working tools etc. to the staff deployed, at no extra cost.

Contractor will ensure consistency of work and work force, correct trouble shooting, good workmanship, follow all safety procedures and will make all necessary efforts to maintain healthy environment and reliable services. High attrition rate of staff is not acceptable, and shall remain less than 25% per year

Any air-conditioning work / exigency of NCBS, even if it is not specifically mentioned in this document and do not incur cost in spares / material shall be carried out by the deployed staff at no extra cost.

If any of the staff member appointed by Contractor is found to be ‘not competent’, he has to be replaced by a right person within a stipulated time as given by Engineer In charge, NCBS.

All the relevant documents pertaining to staff deployed, like copies of job appointment order with the contractor, address proof, photocopy of ID card etc. and any other details as sought shall be provided to NCBS, by the contractor under his responsibility for the correctness.

Wages of the staff deployed should not be less than as that mentioned in Minimum Wage Act applicable to the respective category/experience, as on date. The ESI, PF, gratuity, bonus etc., labour law, other rules & norms requirement as found required for contracts of this nature should be met. The same details shall be submitted along with tender bid.

In no case, the contractor or his/her employees shall claim job / employment with NCBS. No transport facility shall be provided for the contractors employees by NCBS.

It is purely contractor’s responsibility to get his staff acquainted with the site condition, operation and maintenance procedure, Equipment detail, Safety devices, Scope of work etc.

In case of delay, repetition of work, non compliance, inadequate staff etc. fine will be imposed as per the fine clause mentioned.

Safety aspects in work places have to be followed as per relevant standards & codes. Any accident or damage to death will be treated as negligence & it is purely the responsibility of contractor. NCBS is not responsible for any accidents or damages to death. Safety of all the staff under this contract is the sole responsibility of the contractor.

Contractor is responsible for the behavior & conduct of his workmen and hence they should be properly educated and controlled.

**TESTING, MEASURING EQUIPMENTS, TOOLS & TACKLES:**

All the tools required for carrying out the work stipulated in this document shall be provided by the contractor at site. But, the following minimums are a must at all times.

All the technicians and supervisors should be given with the following;

1. One test lamp set each (3ph. & 1 Ph.)
2. Three screw drivers (one light duty & one heavy duty)
3. One cutting plier, 500V grade
4. One live line tester, 500V
5. Cable cutter

Following calibrated, well maintained instruments should always be available at site;

1. Clamp multimeter - 2 No
2. Anemometer - 2 No
3. Digital thermo meters & one RH meter - 4 No + 1 No
4. One mercury thermometer

Following tools should always be available at site;

1. Two sets of 6 – 7 to 30 – 32 size (metric) double end open spanner
2. Two nos. adjustable wrenches each (One No. 8inch & one No. 12 inch) – total 4 No’s
3. Three set of allen keys (2 set metric & 1 set inch)
4. Screw driver set (normal & star) - 3 set
5. Hack saw cutting sets with spare blades - 2 sets
6. Suitable bearing puller - 1 No
7. Vacuum & blow air cleaner - 1 No
8. Small water pump, 1 ph. FHP

Other tools & tackles, instruments etc. as and when required, shall be arranged by contractor at no extra cost.

All these shall be suitably kept at site, with contractors own security arrangement. These items should always be available for work.

No work shall be partially or fully stopped for want of personnel or tools or instruments. If such an event occurs, the fine will be levied.

**‘Fine’ Clause :**

The Availability & functioning of AC system is very essential and critical. Non-availability may result many tangible & non tangible losses in research work, equipments, animals, tissues etc.

Contractor should depute experienced personnel to carry out maintenance work in such a way that the repetition of the problem should be avoided.

Hence all the work routine, servicing, breakdown maintenance has to be carried out in accordance with all standards and statutory norms with minimum time and maximum accuracy to ensure maximum availability. Failure in meeting the above requirements will attract the ‘fine’ clause as below.

1. **Absenteeism:** No absenteeism shall be allowed. In case of absence of any staff in the agreed staff pattern, fine will be imposed at one and half times the rate for the day the staff remains absent.
2. **Non-Compliance of work:** In the event of failure of compliance of awarded work in stipulated time fine will be imposed as per double of actual expenditure incurred in attending the same by other agency.
3. In case of repeated problems where the service personnel fail to diagnose the problem properly, fine will be imposed at the rate of Rs.450.00 per repeats.

NCBS / concerned engineer will be authorised to deduct amount from the contractor bill or security deposit or initiate any other action as found suitable.

# Specific Note

Contractor must visit the site, understand the site condition, type of work involved, quantum of work etc., for carrying out works, before quoting.

Quoting firm should have similar kind of experience of having maintained atleast one site with minimum 50 Nos. of AHU / FCU units. Supporting certificates in this regard to be enclosed in the quote.

TOTALITY: All the AC related works in NCBS are covered in this contract. NCBS is looking at a total work / trouble shooting solution through this contract, which shall be met by the contractor. Contractor shall never say ‘no’ to any of the AC related work requirement of NCBS which is found to be reasonable to be entrusted onto him by Engineer In charge.

Quoting firms, familiar with working in similar kind of installation & proven technical & financial record & having PF, ESI registration & labour license only shall quote. Previous month paid challans to be produced every month to claim the bills.

Contractor will ensure that all routine and preventive maintenance is done in a systematic and controlled manner so as not to disturb the lab activities.

All necessary tools, tackles and necessary spares inventory are to be maintained by the Contractor to meet to avoid / reduce down time of each unit.

**Documentation –** Submission of daily / monthly / quarterly / yearly reports as per NCBS formats for:

1. Maintaining Individual maintenance check list / Service card for all equipments / units.
2. Preparation of schedule of work / updating of records.
3. The performance details, observation remarks
4. Inventory and history records.

**Addition / alteration work –** Any addition (alteration work) related to air condition system like increase of A/C capacity, ducting work, changes in air / water distribution system, acoustic or thermal insulation, new system installation etc., to be carried out as per Annexure II & III with due consultation with Engineer-in-Charge. If the staffs deployed for maintenance work are used for these works, only supply cost will be paid and installation cost will not be paid.

The contactor & the staff deployed are to assist in replacement of HEPA filters, prefilters, micron filters which are procured by NCBS.

Minor assistance of staff shall be provided for any other AC related work of NCBS

The contractor should ensure that the staff deployed will come by wearing uniforms, safety shoes and displaying identity cards on person.

Details for Addition and Alteration jobs are given in Annexure – II

All works to be carried out in accordance with relevant Indian Standards.

For carrying out above job the contractor has to make his own arrangements for men, tools, tackles, spares, materials, testing and measuring equipment, safety and protective gear/devices, transportation, etc.

If any small value items (value of the item less than Rs.10,000/- and not covered in annexure/s) are to be supplied, the same need to be supplied at the market rate/manufacturer’s price list in consultation with the Engineer in charge. For all such works rate analysis shall be provided.

SPARES (for PART-1): All running spares, pertaining to the installations covered in this contract, should always be stocked and maintained by contractor at his custody, at site. Spares stock list to be submitted every month. NCBS shall pay for the used spares only. If any other spare item is required, it is the responsibility of the contractor to supply such spare item to bring the system to normalcy, within a stipulated time. Usage of any spares at NCBS, shall be paid at actuals, against bill as certified by Engineer In charge.

Also, any minor job (Less than Rupees One Lakh worth) that needs to be carried out shall be executed by the contractor as per instructions of the engineer in charge. The agreed rates of annexure II will be applicable. Any other work will be paid on market rate analysis. The bills and rates for such cases shall be finalised by the engineer In-charge. Rate analysis shall be produced by the contractor.

Any air-conditioning related work / requirement of NCBS, even if it is not specified in this document & does not incur cost in spares / materials, shall be carried out by the staff deployed at site, at no extra cost.

As the work involved is specific in nature, the contractor will ensure proper supervision at all times. In case of deficiency fine will be imposed.

Since we are entering into a separate Annual Maintenance Contract for specialized Critical systems like Chiller Units, breakdowns of these equipments is not covered in the scope of work. However, Operation and minor maintenance, preliminary trouble shooting, minor repairs, replacement of minor parts etc. are included in the scope of this work, but contractor shall ensure that these works shall not implicate with the main AMCs of these equipments / systems.

Running of the system under abnormal condition or in risk will attract fine.

Contractor will be responsible for any act of sabotage, misdeed, in-discipline, negligence on the part of contractor or his employees. Penalty or fine or legal action, as decided by Director, NCBS shall be imposed on the contractor.

IMPORTANT: Cleanliness and aesthetic finish are very important in NCBS. Hence any kind of work, be it maintenance, shifting or new work, generated dust & debris should be properly cleaned. Work finish should be neat and appealing.

All spaces / areas where work is carried out shall be cleaned and left spic & span after completion of work.

# Terms & Conditions

Quote separately for each part.

Quote as per annexures attached. Quote for Annual (1 year) charges. Indicate taxes separately.

Contractor shall take necessary precautions to ensure safety of his men, materials, equipment, tools & equipments, during the period of contract in NCBS.

NCBS will not be responsible, nor be liable for any accident, damage, loss to his men & materials

Any act of commission or omission which jeopardizes the safety / security of the centre, the contractor will be fined by the centre and any expenses whatsoever incurred towards the work that need to be discharged by the centre on account of this, shall be suitably recovered from the contractor, as deemed fit and as decided by NCBS.

NCBS reserves the right to not to consider the lowest bid.

The contract is initially for a period of 3 months. Based on the satisfactory performance, it may be extended for another 9 months. NCBS may extend the contract for period of one more year at same cost, terms & conditions.

***Annexure – B***

***GENERAL TERMS AND CONDITIONS OF CONTRACT***

**Note:**

1. The employees/ workers employed shall be trained and experienced to handle the services as per the Scope of work mentioned in the Annexure 'A'. If such experienced hands are not available, either because the service is extremely specialized and only in house training is possible, at least a certain percentage of employees/workers shall be experienced / trained who shall be able to impart training / expertise to others.
2. The Contractor shall provide the name and details of his personnel. A list of all the names shall be submitted at the beginning of the contract, along with a copy of each appointment order and whenever there is a change. No personnel will be changed unless NCBS has asked for it or without advance approval of NCBS.
3. The Contractor shall ensure that no contract employees nor anyone from his side use NCBS transport to come to the workspot or return. The Contractor shall use emergency services like medical help and emergency vehicles of NCBS in the event of any accident or emergency to his employees, though all responsibility for such accidents and any injury / death and or loss / damage will fully rest with the Contractor.
4. At all point of time, there must be a minimum of 90% workers attendance per day. In any case there shall be 100% daily attendance is to be ensured. Any absence or shortage beyond this may be managed by giving over time; shortage or absenteeism beyond this percentage will be penalized including termination of the contract. Payment will however be restricted to actual number of people as physically provided in each month.
5. The Tenderer must indicate the deviation in Annexure – C, with reasons thereof and only if such deviation (s) is/are part of the work order issued by NCBS, will the deviation (s) become part of the agreement.
6. The rates quoted shall be valid for 2 years from the date of Work Order followed by joint agreement.

**Rate Chart – Schedule – I (Annexure –F)**

Total monthly amount payable is per month inclusive of all taxes, Service tax, duties & other statutory levies for the Scope of Work as per Annexure-F and Rate Chart Schedule-I.

**RATE CHART- SCHEDULE-II (Annexure - G)**

 To carry out tentative additional alteration jobs as and when required, as per the instructions from the Electrical Engineer as per Annexure ‘G’ – Schedule -II.

The Contractor shall supply 2 sets of uniform within a month of award of contract and fresh two sets will be issued if the contract is renewed beyond one year by the 13th month on renewal for 2nd year.

**ANNEXURE – C**

**SCHEDULE OF DEVIATIONS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Requirement of the Centre** | **Sl. No. As per schedule** | **Deviation Proposed.** |
|  |  |  |  |

**Name and Address of the Tenderer Signature of the Tenderer**

**ANNEXURE – D**

## STATUTORY OBLIGATIONS:

The Contractor will strictly observe and follow the following statutory regulations/acts as well as any new rules / changes as applicable, during the period of this contract. He shall be solely responsible for failure to fulfill these statutory obligations. The successful bidder shall indemnify / is deemed to have indemnified NCBS against all such liabilities which are likely to arise out of the Contractor’s failure to fulfill such statutory obligations. All documents, registers pertaining to this contract shall be maintained meticulously and shall be provided periodically for inspection. The salient features of the statutory regulations/acts are listed below and it is the responsibility of the selected Contractor that these regulations/acts and their amendments from time to time are strictly adhered to in totality. Even if the Contractor appointed for this contract may be exempt from any or all of the following employee-friendly legislation, it is incumbent on all Contractors to cover all their employees / workmen cover by this tende5r with these cover / benefits.

* 1. **The Contract Labour (Abolition & Regulations Act, 1970):**

The Contractor shall obtain and produce license from the Labour Commissioner’s office. They will maintain and submit to us for inspection on demand such records as Muster Roll, Payment Register, Advance Register, Fines Register, etc.

* 1. **Payment of Wages Act:**

It is necessary that the Contractor’s employees are paid their wages payable for one month of working by 7th of the succeeding calendar month.

The Contractor will receive payment from us only after you have disbursed in full the wages payable to his employees. The wages shall be distributed in our premises and one of the representatives from the Centre will be nominated to witness the disbursement of the wages, and sign the disbursement report.

* 1. **Provident Fund Act:**

The contracts shall cover their employees under the Provident Fund Scheme. The premia shall be paid as per existing rule partly deducted from their employees and the balance shall be from contribution from the successful bidder, proof of such payment shall be submitted (including employee’s and employer’s contribution) every month as provided under Section 12 of the Act. The PF contribution of Employer will be 13.61% on (Basic + VDA), but restricted to Rs.6,500/- (Basic + VDA) per month.

* 1. **Employees State Insurance Scheme:**

The contract shall cover all your employees under Employees State Insurance Scheme as provided for under the relevant rules and shall remit the premium without default. Incase if the ESI coverage is not possible, the have to be covered under equivalent and suitable insurance.

* 1. **Minimum Wages Act:**

The contract shall pay well above the minimum wages to each of their employees. Such rates shall be the rate implied or agreed between NCBS and the Contractor.

**6. Workmen's Compensation (ELI):**

 All employees/ workers shall be covered for injury / depth under Workmen's Compensation Act 1923 by an Employer's Liability Insurance in the name of the Contractor to cover all employed by the Contractor in NCBS. ELI premia is of the order of 3% on (salary + DA) subject to a maximum salary of Rs.4,000.00

**7. Payment of Bonus Act, 1965:**

 Bonus shall be paid to all employees who have worked for a minimum of 30 days in the relevant accounting year shall be paid bonus. Bonus will be limited to 8.33% of total salary earned in the relevant accounting year or Rs. 3499/- whichever is less. Bonus shall be paid every year one week before Diwali.

**8. Karnataka Labour Welfare Fund Act 1965.**

**9. General:**

 Contribution towards PF, ESI & ELI shall be paid to the Contractor only in succeeding months on submission of proof of having paid the premia / subscription. Premia towards ELI shall be paid to the Contractor on a pro-rata basis every month on submission of original policy and receipt. All premia/ contribution / subscription collected towards such benefits shall be/shall have been promptly paid towards the purpose for which it is collected. If for any reason this has not been possible, the Contractor shall promptly inform NCBS, which will suggest ways and means to put such unpaid amounts to proper use.

**Miscellaneous**

NCBS will not be responsible for death, accident or injury to the Contractor’s employees engaged by him, which may arise in the course of their duty at our premises, nor shall we be responsible and be liable to pay damages or compensation to such persons or to third parties. The Contractor shall at all times indemnify and keep NCBS indemnified against all claims which may be under the Workmen’s Compensation Act, 1923, or any statutory modifications thereof or otherwise for or in respect of any damages or compensation payable in consequence of any accident or injury sustained by any workman or other person/ person at the Centre or premises, building, equipments etc. is attributable to the Contractor or his workmen, such damages shall be made good by the Contractor or his workmen, such damages shall be made good by the Contractor.

IN WITNESS WHEREOF the parties here to have set and subscribed their respective signatures and seal to the writing herein above on the date, month and year mentioned herein.

**“CENTRE” “CONTRACTOR”**

**WITNESS:**

ANNEXURE – E

NATIONAL CENTRE FOR BIOLOGICAL SCIENCES

Tata Institute of Fundamental Research

Engineering Services & Maintenance

**UNDER TAKING BY THE TENDERER**

**Tender notice No: NCBS/AC/41/2013**

* + 1. **I /we intend to carryout the subject work by resorting to engage……………. members in work force in a month.**

|  |  |
| --- | --- |
| **Details of Operations** | **No of Persons Proposed** |
| **a. Senior Technicians (Highly Skilled)** |  |
| **TOTAL WORK FORCE** |  |

* + 1. **I/We undertake to pay the wages equal to or more than the minimum wages as applicable (Wages fixed by Ministry of Labour, Government of India (or) Government of Karnataka (or) Department recommended wages which ever is higher)**
		2. **I/We under take to contribute for workers towards PF,ESI, and ELI from the employer’s side as fixed by the relevant authorities.**
		3. **I/We under take to pay the Bonus at the rate of 8.33 % of the total wages or Rs. 3,499/- whichever is less.**
		4. **I/We are fully responsible for the safety and security of the men, material, tools & equipment used in the scope of the contract.**

**Name and Address of the Tenderer Signature of the Tenderer**



**Annexure – F : Schedule- I**

**TABLE A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Sl No*** | ***Statutory Benefits***  | ***% to be collected from employee*** | ***% to be collected by the Contractor*** | ***Total %*** |
| 1 | PF | 12 | 13.61 | 25.61 |
| 2 | ESI | 1.75 | 4.75 | 6.5 |
| 3 | Bonus | - | 8.33\* | 8.33\* |
| 4 | ELI(Workmen's Comp) | - | 3.00 | 3.00 |
|  | **Total** | **13.75** | **29.69** | **43.44** |

\* The amount of bonus payable is 8.33% subject to maximum of Rs. 3,499 per annum (the ceiling for calculation purpose from the salary or Wages of Rs. 3,500.00 per month as per Section 2(13) of Bonus Act, 1965.

8. Total bid amount per month inclusive of all taxes and duties as per Scope of Work and other details as contained in the tender document (please furnish in table below based on scope of work as shown in Annexure-A):

**TABLE B**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Sl No*** | ***Description*** | ***Helper*** | ***Senior Technician*** |
|
| 1 | Salary (Basic) + (VDA)  | ( ) + ( ) | ( ) + ( ) |
| 2 | Conveyance, Communication allowances |  |  |
| 3 | Accomodation and food Allowance, if any |  |  |
| 4 | Transport Allowance, if any |  |  |
| 5 | Communication / Telephone Allowance, if any |  |  |
| 6 | Risk Contingency, if any |  |  |
| 7 | Uniform, safety shoes, ID card etc. (minimum shall be Rs.400/- p.m.) |  |  |
| 8 | Washing allowances (minimum shall be Rs.200/- p.m.) |  |  |
| 9 | Contractors Supervision, Administrative and overhead expenses (includes Records, documentation, Registers, Submission of Statement, Supervisors, labour licence, bank Guarantee, tools, equipment, etc.. |  |  |
| 10 | Contractors Profit margin |  |  |
|  |  |  |  |
| 11 | **Total Direct Expenditure (1 to 10)** |  |  |
|  | **Reimbursable Expenditure**  |  |  |
| 12 | PF (13.61% on Basic + VDA), restricted to Rs.6500/- (of Basic + VDA) |  |  |
| 13 | Bonus (8.33% on Basic or 3499, whichever less), as per existing norms |  |  |
| 14 | ESI at 4.75% on Gross Salary except (Washing allowance + Yearly Bonus), OR equivalent suitable insurance |  |  |
| 15 | ELI (Workmens Compensation) |  |  |
| 16 | Service tax 0f 12.36% on ‘total direct expenditure’ indicated at Sl. No.11 above. |  |  |
|  |  |  |  |
| 17 | **Total of Re-imbursable Expenditure (12 to 16)** |  |  |
|  |  |  |  |
| 18 | **Total Expenditure (11 + 17)** |  |  |
|  |  |  |  |
| 19 | **No. of employees proposed**  |  |  |
|  |  |  |  |
| 20 | **Total expenditure per Year** |  |  |
|  |  |  |  |

* Specify designation and experience in the field with level for each column.
* Please specify and attach separate sheets, if necessary.
* All efforts have been made to indicate our requirement. However it is the responsibility of the contractor to fulfill the scope of work as per our requirement without any extra cost. Therefore adequate care must be taken before bidding to ensure that all items are covered.
* In order that the bidders have a clear idea, it is important that the perspective contractors visit NCBS to see the area and work and have discussions before submitting the bids.

All amounts in Table-B to be indicated in figures. In the event of any discrepancy/erasures only the lowest figure will be considered. The Contractor shall quote salary, supervision & admin. Charges, contractor’s margin, (Sl. No. 1, 9 & 10 above ) and the rest are either percentages of salary or fixed as indicated herein.

**The Contractor shall supply 2 sets of uniform and one set of safety footwear which consists of safety shoes, socks (minimum two pairs) within a month of award of contact and a fresh set will be issued if the contactor is renewed beyond one year by the 13th month if renewed for 2nd year.**

**The monthly and periodical permia/subscription on all the above shall be paid by the Contractor and the quantum to be paid by the employee shall be collected from each employee by the Contractor or deducted from their salary.**

Total in words:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(SIGNATURE OF THE CONTRACTOR) (DATE) (COMPANY SEAL)

**Annexure – G : Schedule- II**

**Design, Supply, Erection, Testing and commissioning of the following (as and when required only):**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Sl. No*** | ***Description*** | ***Approx. Qty(Q) / Year*** | ***Rate per unit*** | ***Unit rate (S+E)*** | ***Amount*** |
| ***Supply(S)*** | ***Erection(E)*** |
| 1 | Supply, fabrication, installation and testing of GI duct including necessary vanes, collars for grills and diffusers, dummy, GI bolt & nuts, PVC gaskets, MS angle supports, down rods, anchor fastener etc., All MS items concealed behind false boxing / ceiling shall be provided anti corrosive primer and wherever it is exposed shall be painted with approved colour paint.  |  |  |  |  |  |
|  | 22 G | 250 sq.m |  |  |  |  |
|  | 24 G | 300 sq.m |  |  |  |  |
|  | 26 G | 250 sq.m |  |  |  |  |
| 2 | GI plenum ducting with 22G GI sheet and acoustic insulation of 16mm thick closed cell elstomeric insulation. | 50 Sq.m |  |  |  |  |
| 3 | Supply and installation of Air guide / Airmaster / equivalent make anodized powder coated with approved colour paint, continuous extruded aerofoil, aluminium single louvered horizontal fixed bar linear grill with 15 / 30 deg, blade inclination with removable core, the width of grill shall be 100 / 150 mm and length matching to the site requirements. | 40 Sq.m |  |  |  |  |
| 4 | Supply and installation / fixing of Airguide / Airmaster / equivalent make adjustable damper made out of Aluminium material, for supply air collar duct. Width & length matching to the site requirements. | 40 sq.m  |  |  |  |  |
| 5. | Aluminium powder coated Airguide / Airmaster / equivalent make square diffuser with removable centre core and anti-smudge ring with adjustable damper of following sizes; | 40 Sq.M |  |  |  |  |
|  | 300mm x 300mm (neck to neck) |  |  |  |  |  |
|  | 375mm x 375mm (neck to neck) |  |  |  |  |  |
|  | 425mm x 475mm (neck to neck) |  |  |  |  |  |
|  | **Grand Total (Inclusive of all taxes)** |  |  |  |  |  |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(SIGNATURE OF THE CONTRACTOR) (DATE) (COMPANY SEAL)