

**Notice Inviting e-Tender**  
**For**  
**“Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar”.**  
(Capacity - 800 TR x 5 = 4000 TR)



**All India Institute of Medical Sciences  
Engineering Cell, Deoghar (Jharkhand)-814152**  
[www.aiimsdeoghar.edu.in](http://www.aiimsdeoghar.edu.in)

NIT No. : **18/EE/AIIMS/Deo/2025-26**

Estimated Cost : **₹ 4, 48,40,000/- (Rupees Four Crore Forty-Eight Lakhs Forty Thousand only (Including GST))**

Contract Period : **(24 Months) (From the date of commencement of Work)**

“Certified that, this tender document contains 78 pages only”.

**TENDER DOCUMENT FOR e-Tendering**

Office of the Executive Engineer (Electrical)  
Engineering Department, Ground floor, Fire station,  
Deoghar -814152, Dist.: Deoghar (Jharkhand).  
E-mail: [engineering@aiimsdeoghar.edu.in](mailto:engineering@aiimsdeoghar.edu.in)

**Name of Work** : **Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar.**

**NIT No.** : **18/EE/AIIMS/Deo/2025-26**

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCE, DEOGHAR**

**NOTICE INVITING e-TENDER**

The Executive Engineer Electrical on behalf of Executive Director, AIIMS Deoghar, invites e-Bids in Two Bid System (i.e. Technical Bid and Financial Bid) from eligible Manufacturers /Companies / Firms / Authorized Agents / Distributors/ Dealers through online E-procurement solution portal of CPPP (<https://www.eprocure.gov.in>) as per terms and conditions and scope contained in this document for **“Operation & Comprehensive Annual Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar.”** as per the Specifications mentioned in Technical Bid. The indenting Bidder must read the Terms & Conditions of NIT carefully. He/They should only submit his/her/their bid if he/she/they consider himself/themselves eligible and he/she/they is/are in possession of all the documents required.

(a)	Name of Work	<b>Operation &amp; Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar.</b>
(b)	Tender No.	<b>18/EE/AIIMS/Deo/2025-26</b>
(c)	Estimated Cost	₹ 4,48,40,000/- (Rupees Four Crore Forty-Eight Lakhs Forty Thousand only (including GST) for two years.
(d)	Duration of Contract	2 Years (24 Months), likely to be extended for 1 year at a time.
(e)	EMD	<p>Earnest money Deposit (EMD) of Rs.8,96,800/- (Rupees Eight lakh ninety-six thousand eight hundred only) to be deposited in the institute's account through SBI i-collect and the receipt of submission is to be uploaded along the technical bid documents. For details regarding submission of EMD</p> <p style="text-align: center;"><b>Bank Details for EMD:</b> Bank Name: State Bank of India IFSC code: SBIN0064014 Account No.: 41792595056</p> <p style="text-align: center;"><b>OR</b></p> <p>Payment: contractor/ vendors/ bidders must provide EMD Payment: Earnest Money Deposit (EMD) is to be deposited in form of <b>FDR /DD/ Bank guarantee</b> from scheduled commercial banks in favor of AIIMS Deoghar. Submit the details of EMD payment at the time of Bid Preparation.</p> <p><b>EMD Value: Rs.8,96,800/-</b> EMD is exempted for those who have registered with NSIC &amp; MSME in appropriate category. Rest of the participants who are not registered with NSIC / MSME, any tender received without EMD as specified in the document will not be considered and will be summarily rejected.</p> <p>The EMD shall be valid for minimum period of 180 days from the last day of submission of tender.</p>

(f)	Performance Security (Bank Guarantee)	5 % of Tendered Cost.
(g)	Security Deposit	2.5 % of the Tenderer Value .
(h)	Tender documents can be downloaded from	<b>Download from Institute Website.</b> (i.e. <a href="http://www.aiimsdeoghar.edu.in">www.aiimsdeoghar.edu.in</a> , <a href="http://www.eprocure.gov.in">www.eprocure.gov.in</a> ).
(i)	Last Date, Time & Place of Submission	12/01/2026 at 15:00 Hours
(j)	Date, Time for opening of Tender	13/01/2026 at 15:30 Hours
(k)	Date, Time for pre-bid meeting and Place	26/12/2025 at 15:00 Hours, at SE Office, Fire Station, AIIMS Deoghar
(l)	Time and date of opening of Online Financial Bids	To be intimated later on.

The bid document consisting of NIT, plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from <https://eprocure.gov.in/eprocure/app> or [www.aiimsdeoghar.edu.in](http://www.aiimsdeoghar.edu.in) free of cost. **For e-Tendering of this Tender, kindly visit website <https://eprocure.gov.in/eprocure/app>.**

**E-Tendering Portal: <https://eprocure.gov.in/eprocure/app>**

**For E-tendering Queries contact CPPP Help Desk.**

The intending bidders must have valid class-III digital signature to submit the bid.

Executive Engineer (Electrical)  
AIIMS, Deoghar

## **INFORMATION AND INSTRUCTIONS TO BIDDERS FOR TENDERING**

1. The intending bidder must read the terms and conditions of Tender document carefully. He should submit his bid if he considers himself eligible and he is in possession of all the certificates / documents required. Information and Instructions for bidders for e-tendering posted on website shall form part of bid document.
2. The Bidder is expected to examine all Instructions, terms and conditions, forms and specifications in the bidding document. The bid should be complete and in the prescribed format as per the requirement of the bid document. The bid should not be conditional. Failure to furnish all information required by the bidding document or submission of a bid not responsive to the bidding documents in all respect will be at the Bidder's risk and may result in rejection of the bid.
3. The Bidder shall bear all costs associated with the preparation and submission of its bid and AIIMS, Deoghar will in no case be held responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
4. Financial bids shall be opened online only for bidders for whom all the necessary documents are found in order and who are found to be eligible to bid for work. On opening date, the bidder can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
5. The bid can be submitted through CPP portal and uploading the mandatory scanned documents as specified within the period of bid submission.
6. Copies of eligibility documents as specified in the notice inviting tender shall be scanned and uploaded on the e-tendering website within the period of tender submission. Bidders can upload documents in the form of JPG format, PDF format and any other format as permissible by the e-tendering portal.
7. Contractor must ensure to quote the item rate in Performa of quoting rates. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (Zero). However, if a tenderer does not quote any percentage above/below on the total amount of the tender or any section/sub head in Item rate tender or each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
8. GST on all materials as well as GST on Operation & CAMC Contract etc., or any other taxes applicable in respect of this contract shall be payable by the Contractor. Item rate quoted by him shall be inclusive of such taxes, levies etc. and Government will not entertain any claim for reimbursement whatsoever in respect of the same. The Item rates of the contract shall be inclusive of all taxes and levies and nothing extra shall be paid. Further the Item rate quoted by the contractor shall be inclusive of labour welfare cess, water charges (if applicable), electricity charges (if applicable) and the same shall be recovered from the contractors' bills and will be remitted by the department.
9. **List of Eligibility Documents to be uploaded within the period of bid submission else the bid will be rejected:**
  - a) **Earnest money Deposit (EMD) of Rs.8,96,800/- (Eight lakh ninety six thousand eight hundred only)** to be deposited in the institute's account through SBI i-collect/NEFT/RTGS and the receipt of submission is to be uploaded along the technical bid documents. For details regarding submission of EMD

### **Bank Details for EMD:**

Bank Name: State Bank of India  
IFSC code: SBIN0064014  
Account No.: 41792595056

**OR**

Payment: contractor/ vendors/ bidders must provide EMD Payment: Earnest Money Deposit (EMD) is to be deposited in form of **FDR /DD/ Bank guarantee** from scheduled commercial banks in favor of AIIMS Deoghar. Submit the details of EMD payment at the time of Bid Preparation.

**EMD Value: Rs.8,96,800 /-**

EMD is exempted for those who have registered with NSIC & MSME in appropriate category/similar work. Rest of the participants who are not registered with NSIC / MSME, any tender received without EMD as specified in the document will not be considered and will be summarily rejected.

The EMD shall be valid for minimum period of 180 days from the last day of submission of tender.

- b) Three (03) similar completed works of SITC/ Operation & CAMC each of value **not less than 40%** of estimated cost put to tender **or** Two (02) similar completed works each of value **not less than 60%** of estimated cost put to tender **or** one (01) similar completed work of value **not less than 80%** of estimated cost put to tender in last 07 (Seven) Years from last date of submission from client not below the Rank of Executive Engineer. The experience of similar work should be from Central Govt./ State Govt./PSU/Autonomous Body/Govt. Hospitals etc.
- c) Certificate of Registration for **GST**.
- d) Copies of **Company incorporation/Registration certificate**.
- e) **Electrical contractor license**.
- f) **The bidder shall submit an OEM/OEM Authorization Certificate or OES along with the OEM Authorization Certificate for Dunham-Bush centrifugal type water-cooled chillers at the time of tender submission.**
- g) Copies of **ESI Registration**.
- h) Copies of **EPF Registration**.
- i) Declarations to be given by the Tenderers (**Annexure 'A'**).
- j) Detailed Information of Bidder (**Annexure 'B'**) and details of work completed during last 07 (seven) years (**Annexure 'C'**) signed by the Bidder.
- k) All the bidders shall upload Notarized Affidavit at **Annexure 'D'** and **Annexure 'E'** to be given by Tenderers. However, only the L-1 bidder shall submit the hard copy of the original Notarized Affidavit at Annexure D and E to the office of Executive Engineer (Electrical) after the opening of financial bid within 7 days failing which the bid shall be rejected.
- l) Performa for Earnest Money Declaration at **Annexure 'F'**.
- m) Digitally signed Tender document in PDF format only.
- n) CA's certification for **Annual Financial Turnover** of last 3 years (i.e. 2022-23, 2023-24 & 2024-25) with UDI Number.
- o) The valid solvency certificate of minimum 40% of the tendered amount issued by any nationalized bank under the governed by RBI. Valid solvency certificate should not more than six months old.

Failing to upload documents in online (from a to o) of point no.-9, the bid will be straight away rejected.

10. After submission of bid online, it can be revised any number of times before specified time on last date of submission of bid. While submitting the revised bid, bidder can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
11. Financial bids shall be opened online only for bidders for whom EMD and other documents are

found in order and who are found to be technically qualified. On opening date, the bidder can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.

12. If the contractor is found ineligible after opening of bids, his bid shall become invalid.

**FRAUD AND CORRUPTION:**

13.1 The Engineer-in-Charge will reject a proposal for award if he determines that the bidder recommended for award has been engaged in corrupt or fraudulent practices in competing for the contract in question. He will report to the Officer Inviting Bid / next higher authority.

13.2 Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited & the tenders submitted by the contractors who resort to canvassing will be liable for rejection.

13.3 The Contractor shall be debarred for one-year from participating tenders in AIIMS, Deoghar Authority for the following reason-

- (i) If the contractors submit false experience/completion certificates, **(refer under Eligibility Criteria)**. The department reserves the right to verify the particulars furnished by the applicant independently.
- (ii) If the contractor fails to commence the work on or before the scheduled date stated in the work order.
- (iii) Violates any important condition of contract.

**Executive Engineer Electrical  
AIIMS, Deoghar**

**DECLARATIONS**  
**(TO BE GIVEN BY THE TENDERERS)**

**It is to certify that: -**

(a) I/We have gone through GCC of CPWD up to latest correction as available on website of CPWD/ <https://eprocure.gov.in/eprocure/app> or [www.aiimsdeoghar.nic.in](http://www.aiimsdeoghar.nic.in) or in the office of Superintendent Engineer and I/We agree with the terms and conditions of it and understood that it will form part of the agreement.

(b) "I, ..... S/o Shri ..... resident of ..... hereby certify that none of my Relative(s) is/are employed in AIIMS Deoghar, Jharkhand. In case at any stage, it is found that the information given by me is false/incorrect, AIIMS Deoghar shall have the absolute right to take any action as deemed fit without any prior intimation to me".

(c) "I/We undertake and confirm that eligible similar Work(s) has/have not been got executed through another contractor on back-to-back basis. Further, it is stated that, if such a violation comes to the notice of Department, then I/We shall be debarred for bidding in AIIMS Deoghar in future forever. Also, if such a violation comes to the notice of AIIMS, Deoghar before date of start of work, the Executive Engineer Electrical shall be free to forfeit the entire amount of Performance Guarantee".

**Date:** \_\_\_\_\_

**Signature of the Tenderer**

**NOTE:** - (To be certified by all the partners in case of partnership firms, by all the directors in case of companies).

**Date:** \_\_\_\_\_

**Signature of the Tenderer**

**FORM FOR DETAILED INFORMATION BY BIDDER****Annexure 'B'**

Name of Firm/Contractor/Supplier	
Complete Address and Telephone Number	
Name of Proprietor/Partner/Managing Director/Director	
Phone Number	
Mobile Number	
e-Mail ID	
Name and address of service center nearby Deoghar	
Whether the firm is a registered Firm (Yes/No. Attach Copy of Certificate)	
PAN Number (enclose the attested copy of PAN Card)	
Service Tax Number. (Enclose the attested copy of Certificate)	
GST Number (Enclose the attested copy of Certificate)	
Whether the firm has Uploaded the Bank Draft/Pay Order/ Banker's Cheque of Earnest Money Deposit (EMD).	
Whether the Firm/Agency has signed each and every page of Tender/NIT	
EPF No. (Enclose the attested copy of EPF Registration Certificate)	
ESI Code.	
Any other information, if necessary.	

(Authorized Signature of the Bidder with Seal)

**Annexure 'C'****FORM FOR DETAILS OF ALL WORKS OF SIMILAR NATURE COMPLETED DURING THE LAST 07 (SEVEN) YEAR (from the last date of submission of bid)**

Sl. No.	Name of Work/ Project	Location	Owner or Sponsoring Organization	Cost of Work in Lakhs	Date of Commencement as per Contract	Stipulated date of Completion	Actual date of Completion	Litigation/ Arbitration pending/ In progress with details	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1.									
2.									
3.									
4.									
5.									
6.									
7.									

(Authorized Signature of the Bidder with Seal)

## AFFIDAVIT

### (To be Submitted on Notarized Non-Judicial Stamp Paper of Rs 100/- or above)

**e-Tender for the Work of “Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar” as per scope of work and is to be submitted to be submitted online by:**

- (a) Time and date of online submission and opening of Technical Bids: to be initiated later
- (b) Time and date of opening of Online Financial Bids: To be intimated later through website.

### **T E N D E R**

I/We have read and examined the notice inviting tender, schedule along with Annexure 'A' to 'F' as per Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special Conditions, Schedule of Rate/Bill of Material & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

If I/We, fail to furnish the prescribed Performance Guarantee within prescribed period, I/We agree that the said Executive Director, AIIMS, Deoghar or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the Earnest Money absolutely and my/our bid shall be rejected. Further, if I/We fail to commence work as specified, I/We agree that Executive Director, AIIMS, Deoghar or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said Performance guarantee absolutely. The said performance guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in clause 12.2 and 12.3 of the tender form. Further, I/We agree that in case of non-submission of Earnest money or Performance Guarantee as aforesaid, I/We shall be debarred for participation for one year in the retendering process of the work. I/We agree that in case of non-submission of Performance guarantee or non-commencement of work, I/We shall be suspended for 1(One) year from participating in the tenders of AIIMS, Deoghar.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of AIIMS, Deoghar, then I/We shall be debarred for tendering in AIIMS, Deoghar in future forever. Also, if such a violation comes to the notice of AIIMS, Deoghar before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of EMD/Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated: \* \_\_\_\_\_

Signature of Contractor with  
full Postal Address

Witness: \*

Address: \*

Occupation: \*

(\* To be filled by the Contractor.)

**AFFIDAVIT**

**(To be Submitted on Notarized Non-Judicial Stamp Paper of Rs 100/- or above)**

I/we ..... authorized signatory of (Mention name of firm/company and its complete address) do hereby solemnly affirm and declare as under:-

That I/we..... am/are registered as (mention name of \*firm/company) vide registration No..... under the provisions of (mention the name of the Act).

That I/we.....have applied in response to the Tender for "**Operation & Comprehensive Annual Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar**". That the above-named Bidder is eligible to submit the aforesaid Application, as neither the bidder nor any of its constituents have been barred by the Central Government and/or any State Government in India at any time prior to the date of submitting this affidavit.

That the ..... Bidder during the last three years has neither failed to perform on any Agreement nor was expelled from any project or Agreement nor any Agreement was terminated for any breach by the bidder.

I/We..... hereby certify that, the above firm has not been ever blacklisted by any Central/State Government/Public Undertaking/Institute on any account.

I/We..... also certify that, Firm will supply the item(s) as per the specification given by Institution and also abide all the Terms & Conditions stipulated in Tender.

I/We..... also certify that, the information given in Bid is true and correct in all aspects and in any case at a later date, it is found that any details provided are false and incorrect, any contract given to the concerned firm or participation may be summarily terminated at any state, the firm will be blacklisted and Institute may impose any action as per e-NIT Rules.

That the ..... Bidder confirms and agrees that, if any such violation comes to the notice of AIIMS DEOGHAR ("Owner") in the future, then the Owner shall be at liberty to initiate appropriate penal and legal action against the Tenderer and to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

Business Address: -

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

Name: \_\_\_\_\_

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

(Signature of Bidder with Firm's Seal)

Place: \_\_\_\_\_

Dated: \_\_\_\_\_

**VERIFICATION**

\*I/we..... the above-named deponent do hereby verify that the contents of the aforesaid paragraphs 1 to 8 are true and correct to the best of\*my/our knowledge and belief and nothing is concealed there from.

Verified at .....this .....day of .....

DEPONENT

\* Strike out whichever is not applicable.

## **GENERAL RULES & DIRECTIONS AND CONDITIONS**

Executive Engineer (Electrical), AIIMS, Deoghar on behalf of Executive Director, AIIMS, Deoghar invites Item Rate Tender [in Two Bid system (Technical & Financial)] from Eligible Agency/Contractor/Manufacturers/Original Equipment Suppliers/ Authorized firms.

1. **Name of Work:** Tender for "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar**" as per scope of work.
2. Intending Bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority of having satisfactorily completed similar works. The similar work means "**SITC/Operation and Maintenance of Central HVAC System including chillers, hot water generators, AHUs, FCUs by water circulation**". (Copy of WO(s) & respective completion certificate(s) must be furnished by the bidder in Technical Bid in support of eligibility)
3. **Eligibility Criteria:** As mentioned in point 9 of Information & Instruction to bidders for tendering.
4. **Preparation & Submission of Tender through Online**-The Tender should be submitted in **02 (Two)** parts i.e. **Technical Bid and Financial Bid** respectively. The Technical Bid should be sent by the Bidder through online as "Technical Bid" for "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar.**"
5. **Earnest Money Deposit**- As mentioned in point 9 (a) of Information & Instruction to bidders for tendering.
6. **Performance Bank Guarantee.** The successful contractor will be required to furnish a Performance guarantee of **5%** (Five Percent) of Contract Value after receiving notification of award in the form of Fixed Deposit Receipt or Bank Guarantee from any Nationalized Bank (as per clause-v) in the name of the "All India Institute of Medical Sciences, Deoghar" which shall be kept valid for a period of 60 days beyond completion of all the contractual obligations. ***Performance guarantee will be released after full and final settlement of Bill, without any interest.*** In case the contractor fails to deposit the said Performance Guarantee within the period including the extension period if any, EMD will be forfeited automatically without any notice.
7. The security deposit which is 2.5% of the Contract amount can be forfeited by order of this Institute in the event of any breach or negligence or non-observance of any condition of the contract or for unsatisfactory performance or non-observance of any condition of the contract. Performance Security will be discharged after completion of contractor's performance obligations (including the Warranty/Guarantee period) under the contract.
8. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost, all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions.
9. The Tender paper/documents can be seen/downloaded from Official website & submitted through online. For any query, Executive Engineer Electrical Office, [mail Id: [engineering@aiimsdeoghar.edu.in](mailto:engineering@aiimsdeoghar.edu.in)] AIIMS, Deoghar, may be contacted.
10. The Director, AIIMS, Deoghar does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.
11. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable to rejection.
12. The Director, AIIMS, Deoghar reserves to himself the right of accepting the whole or any part of

the bid and the bidder shall be bound to perform the same at the rate quoted.

13. The contractor shall not be permitted to bid for works in the AIIMS, Deoghar responsible for award and execution of contracts, in which his near relative is posted as an officer in any capacity the grades of Executive Engineer. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the AIIMS, Deoghar. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

14. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.

15. Bidders are strongly advised to inspect and assess the site conditions and its surroundings at their own cost and satisfy themselves before submitting their bids. The prospective bidders are advised to depute their technical experts with authorization letter to visit, assess and examine the conditions, requirements, nature & quantum of work which may be necessary for the purpose of bidding and submit a realistic offer for the successful execution of the work. In general, they shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A Bidder shall be deemed to have full knowledge of the site whether he/she inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

16. Bidders shall submit a realistic offer for the execution of the work at their own cost without any liability on AIIMS, Deoghar. Price quoted by the bidder shall include maintenance of the equipment for trouble-free performance during the period of contract.

17. The bid for the works shall remain open for acceptance for a period of 90 days from the date of opening of bids.

18. This notice inviting bid shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of "The Notice Inviting bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and rate quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

19. (a) **Security Deposit equal to 2.5% of the Contract Value will be deducted from the Bills of the Contractor.**  
(b) **The Income Tax as applicable shall be deducted from the Bill unless exempted by the Income Tax Department.**  
(c) **The quoted Rates shall be inclusive of GST.**  
(d) **Labour CESS @ 01% will be deducted from the Bill and other compliance shall be given by contractor in this regard.**  
(e) **Goods and Services Tax (GST)**  
I. **GENERAL REMARKS ON TAXES & DUTIES:** In view of GST Implementation from 1<sup>st</sup> July 2017, all taxes and duties including Excise Duty, CST/VAT, Service tax Entry Tax and other indirect taxes and duties have been submerged in GST. Accordingly, reference of Excise Duty, service Tax, VAT, Sales Tax, Entry or any other form of indirect Tax except of GST mentioned in the bidding document shall be ignored.  
II. **Bidders are required to submit copy of the GST Registration certificated while submitting the bids wherever GST (CGST & SGST/UTGST or IGST) is applicable.**  
III. **"GST shall mean Goods and services Tax charged on the supply of material(s) and services. The term 'GST' shall be construed to include the integrated Goods and Services Tax (Hereinafter referred to as "IGST") or central Goods and Services Tax (hereinafter referred to as "CGST") or State Goods and services Tax (Hereafter referred to as "SGST") or union Territory Goods and services Tax (hereinafter referred to as "UTGST").**  
IV. **Quoted price/rate(s) should be inclusive of all taxes and duties, including GST. The rates quoted shall be inclusive of all applicable taxes as prevailing on the date of submission. However, any subsequent changes in the applicable tax rates shall be reflected in the quoted rates accordingly."**  
V.  
20. The Bidder shall be solely responsible for compliance to the provisions of various Labour and industrial laws, such as, wages, allowances, compensations, EPF, Bonus. Gratuity, ESI etc. relating to personnel deployed by it at AIIMS, Deoghar site or for any accident caused to them and the institute shall not be liable to bear any expense in this regard. The Agency shall make payment of wages to workers engaged by it by the stipulated date irrespective of any delay in settlement of its bill by AIIMS, Deoghar for whatever reason. The Bidder shall also be responsible for the insurance of its personnel. The Bidder shall specifically ensure compliance of various Laws / Acts applicable to the place.  
21. **Breach of Terms and Conditions:** Non-compliance of any terms and conditions enumerated in the contract shall be treated as breach of contract or in case of breach of any terms and conditions as mentioned above, the Competent Authority will have the right to reject the bid at any stage without assigning any reason thereof and nothing will be payable by AIIMS, Deoghar.

22. **Termination of Contract:** AIIMS, Deoghar would have the right to terminate the contract, in case the work performance is not up to the standard, or in case there is any violation of AIIMS, Deoghar rules & regulations, or if there is any lapse in compliance of any labour legislation, or if there is any incident of indiscipline on the part of the Tenderer or his staff. The decision of Engineer-in-Charge in this regard would be final and binding on the Tenderer.

23. **Dispute Settlement:** It is mutually agreed that all differences and disputes arising out of or in connection with this agreement shall be settled by mutual discussions and negotiations if such disputes and differences cannot be settled and resolved by discussions and negotiations then the same shall be referred to the sole Arbitrator appointed by the Executive Director AIIMS Deoghar, whose decision shall be final and binding on both the parties. The contract shall be governed by laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/ processing.

24. Payment will be made on quarterly basis after due Certification of the Bills by the Representative of Engineer-in-Charge.

25. GST and other Taxes as applicable shall be recovered/ paid from the contractor's bill as per Govt. of India/AIIMS Rules.

26. **Penalty:** For non-compliance or partial compliance of satisfactory execution of items, the Engineer-in-charge reserves his rights to levy compensation in accordance with the scale of non-conformity and the period for which this non-conformity continues. The delay in attending complaint shall attract a levy of compensation as decided by EIC or his representative.

27. Emergency complains (24\*7) must be attended immediately and if there is a major complain, it should be rectified within 24 hours.

28. All necessary tools related to the work must be available at site within the seven days from the issue of work order.

29. The necessary quantity of spare parts related to maintenance work must be available at site before processing the quarter bill which is also verified by Engineer-in-Charge and make of the spares & consumables to be used for repair / maintenance of the machines are from OEM of equipments.

30. Vendor shall submit the following documents after execution of given work:

- a) Work Completion Certificate (with final Bill)
- b) GST return up to date Voucher.
- c) Bank Account Details.
- d) Certificate for engagement of Technical Staff.
- e) Stock Register and Material Consumed details duly signed by the concerned JEs.
- f) EPF & ESI challan copy of Manpower.
- g) Attendance copies of each month.
- h) Preventive Maintenance Record.
- i) Bank statement against salary credit of Manpower deployed.
- j) Any other documents to be required as per CPWD norms.

31. (i) The Quoted rate shall Include following amount-

- (a) Minimum wages per person per month
- (b) ESI
- (c) EPF

The amount mentions A to C in each category may increase or decrease depending upon the minimum wages prescribed under the statute. The contractor shall disburse wages to workmen engaged by 7<sup>th</sup> day of each month through Electronic Transfer (ECS) & The transfer statement should be deposited with the R/A bill. In case due to any circumstances beyond control of contract, payment shall be made by bearer cheque for the period up to maximum of three months, in any circumstances, cash payment of wages is not acceptable. The contractor will submit the documents along with the bill such as proof of deposit of ESI, EPF, GST & proof of payment of salary along with any deductions authorized by concern employee, if any.

**(ii) Labour Wages:**

The contractor must pay the prevailing minimum wages issued by the office of Chief Labour Commissioner, Govt. of India from time to time.

- Minimum Wages + VDA
- ESI – Employer Contribution @ 3.25% of above (Subject to wage limit of ₹21,000/-)
- EPF – Employer Contribution @ 12% + 1% (12% Subject to wage limit of ₹15,000/-)

32. Warranty documentation: The contractor must provide the warranty certificates, OEM warranty documents, and a record of replaced components.

33. Replacement Standard: Any part replaced under warranty must be new, original and compliant with OEM standards. Repaired and refurbished parts are not allowed unless specifically approved by the Engineer-in-charge.

**Executive Engineer Electrical  
AIIMS Deoghar**

## **SPECIAL CONDITIONS OF CONTRACT**

1. Any facility not mentioned in this scope of work, but which is vital to "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar.**" are assumed to be included in the scope of work.
2. The Contractor must ensure safety and provide adequate supervision/precautions and shall ensure that the workmen engaged by him are professionally competent and have the required expertise to carry out the intended maintenance.
3. During working at site, some restrictions may be imposed by Engineer-in-Charge/Security staff of Institute or Local Authorities regarding safety and security etc., the contractor shall be bound to follow all such restrictions/instruction & nothing extra shall be payable on this account & no claim for delay on this account shall be entertained.
4. The tender shall be based on Conditions of Contract and tenderers are required to quote their own rates against each item in schedule of quantities/ Bill of quantities (B.O.Q), which is enclosed. All rates shall remain same for the contract period/extended contract period.
5. If the contractor fails to proceed with the work within the stipulated time as specified from the date of issue of work order to proceed with the work, it shall be treated as failure on the part of the Contractor to discharge the Contractual obligations which may result in termination of the contract and forfeiture of the performance guarantee and Security Deposit.
6. At the end of the contract, contractor must hand over all the machines/equipment (as mentioned in the contract) in healthy and working condition before processing the final quarter bill.
7. All the maintenance works shall be carried out as per rules and specification of latest CPWD/BIS and as per I.E. Rules & Acts or as per the directions of Engineer-in-charge.
8. **Drawing and Specifications:**  
A copy of tender documents and all relevant drawings and specifications viz. Indian standards, latest CPWD HVAC specifications etc. shall be made available at site if & when asked for reference, if applicable.
9. **Cost of Tests:**  
The cost of preparing samples and carrying out tests (if required) for quality of material or workmanship will be borne by the contractor as are specifically mentioned in the specifications laid down in contract. The cost of all tests carried out by Laboratories directed by the Engineer-In-Charge will be borne by the contractor.
10. The work/Operation & CAMC shall be carried out strictly as per CPWD general specification for HVAC - 2024.
11. The contractor has to get approval of all the materials/parts/equipment from the Engineer-in-Charge before its actual use at site of work.
12. The scope of work includes all works required for execution operations and maintenance of HVAC system including cutting /grinding/welding etc. and making good for the same. Nothing extra will be paid to contractor for the same.
13. The watch and ward of material and installation shall rest on the part of contractor during execution of work and till handing over of the same after completion of work in accordance with schedule of work.
14. The contractor will take care of the building etc. while handling / installing the equipment to avoid damages to the building. If any damages occur during execution of work, it shall be made good by contractor without any extra cost.
15. Existing materials on good condition may be used after joint inspection by Engineer-in charge & AIIMS representatives & vendor.
16. Dismantling of non-used materials to be deposited at Engineering Dept. by the Firm.
17. For all items, CPWD specifications with correction slips up to the date of receipt of tender shall be

followed. For the items which are not covered under CPWD specifications, the special conditions /B.I.S. specifications shall apply. In this regard the decision of Engineer-in- charge shall be final & binding.

18. Wherever any reference is made of any Indian Standard, it shall be taken as reference to the latest edition with all amendments / revision issued thereto up to the date of receipt of tenders.
19. On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials. The contractor shall be bound to follow all such restrictions and adjust the program for execution accordingly, for which nothing extra shall be paid.
20. The work shall be carried out in a manner complying in all respects with the requirements of relevant bye- laws of the local bodies, Labour Laws, minimum wages act, workmen compensation act and other statutory laws enact by Central Govt. as well as State Govt.
21. No residential accommodation shall be provided to any of the staff engaged by the contractor. The contractor shall not be allowed to erect any temporary set up for staff in the AIIMS Deoghar campus.
22. No claims of the labours shall be entertained by the department including that of providing employment, regularization of services etc.
23. All labour & transportation, ladders, Hydra, scaffolding etc., electrical instruments/equipment's required for execution of the work shall be arranged by the contractor.
24. Staff employed by the contractor should be well behaved, polite & courteous. Any complaint against staff should be taken very seriously and such staff should be removed by the contractor immediately from the site and replacement shall be provided immediately.
25. All dismantled material will be removed from site by contractor after verification of measurement of the same by JE and Chases, holes & drilling works etc. shall be done using power operated tools in the cost of Contract. No extra will be paid for the same.
26. The contractor shall make all safety arrangement required for the labour engaged by him at his own cost. All consequences due to negligence or due to lapse of security/safety or otherwise shall remain with the contractor. AIIMS Deoghar will not be responsible for any mishap, injury, accident or death of the contractor's staff. No claim in this regard shall be entertained / accepted by the AIIMS Deoghar. Also, Contractor is responsible to the damage caused to any man/material/ Govt. property by his or his labour during execution of work and this should be rectified by the contractor at his own cost.
27. For non-compliance or partial compliance of satisfactory execution of items, the Engineer-in-charge reserves his rights to levy compensation as per clause 2 of CPWD GCC in accordance with the scale of non-conformity and the period for which this non- conformity continues. However, the total amount of this compensation for the whole contract shall not exceed 10% of the tendered value of this contract. This shall be without prejudice to other remedies available to Engineer-in-charge under this contract to act against the contractor.
28. The materials used for carrying out the work shall be of best locally available quality and the contractor has to carry out the necessary testing of the material (if required) as ordered by the Engineer-in-Charge for its conformity and all testing charges shall be borne by the contractor.
29. Initially this Contract is for **Two-year period**, if the work is satisfactory and approved by Engineer-in-charge, the Contract period can be extended to One more year on the same rate, terms & conditions and Bank Guarantee will be extended up to one year and the agreement will also be renewed, or supplementary Agreement may be executed.

30. A dedicated telephone number is to be provided by the contractor for logging of complaints.
31. In the case of discrepancy between the schedule of quantities, the Specifications and/or the Drawings, the following order of preference shall be observed: -
  - (a) Description of schedule of quantities/ Bill of quantity (B.O.Q).
  - (b) General rules & Directions and General Conditions/ Special Conditions/CPWD Specifications.
  - (c) Indian standards specifications/BIS.
  - (d) Any reference made to any Indian standards specifications in these documents, shall imply to the latest version of that standard, including such revisions/amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The contractor shall keep at his own cost all such publications of relevant Indian Standards applicable to the work at site.
  - (e) If there are varying or conflicting provisions made in any one document forming Part of contract, Engineer In-charge shall be deciding authority and regard to the intention of the document, his decision shall be final and binding on the Contractor.
32. The vendor shall submit color photographs during CMC, while submitting the Bills.
33. If the performance of the contractor is found unsatisfactory during the period of CMC, the contract shall be ceased, after giving notice period of 3 months by Engineer -in-Charge (EIC).
34. **Payment:** Quarterly payment will be made, subject to availability of budget/LOC, on submission of original tax invoice along with all necessary documents by the vendor after verification of work done by the vendor, in the same period, from AIIMS Authorities.
35. The contractor will be fully responsible for the safety of their workers, stocks, furniture, fixtures, machines and equipment etc. AIIMS Deoghar will not be responsible/liable for any damages caused to the contractor by any way including theft & fire etc. and no such claim to compensate any such damages will be entertained by AIIMS Deoghar. The contractor shall be responsible for any loss/theft /pilferage or damage to the properties belonging to AIIMS Deoghar, caused by their employees/staff negligence and will pay/compensate to AIIMS Deoghar or allow the amount of loss sustained by the AIIMS Deoghar, to be deducted from any such amount found due to the contractor. The responsibility for any such theft or loss or damages/ pilferage shall have to be decided on the finding of the inquiry committee, to be constituted for this purpose by the AIIMS Deoghar. If considered necessary, AIIMS Deoghar will also be free to take up the matter with the police for proper investigations/ action and recovery of loss due to such theft/ pilferage and damages etc.
36. The contractor will have to inform the name and qualification of the workers to be employed on different shifts to the Engineer-in-charge or his authorized representative.
37. The service provider shall ensure proper conduct of its personnel in office premises and enforce prohibition of consumption of alcoholic drinks / drugs, shewing of pan/ Gutka, smoking, using speakers for listening to music and loitering without any work. The workers should not be below the age of 18 years.
38. The agency is supposed to work on job contract basis and as such there will not be any separate payment for working on Saturday, Sunday or other gazette/national holidays etc. and the same is to be included in the monthly charge claim in the tenders by the contractor.
39. The on-duty staff must be in clean uniform, safety shoes, ID Card & badges. Nothing extra will be paid on account of uniform. In case the operator is found without uniform, the recovery @ 100/- per person per day will be made from the bill.
40. The contractor shall keep himself fully informed of all acts and laws of the Central and State Government, all order, decrees of statutory bodies, tribunals having jurisdiction or authority, which in any manner affect their engaged or employed staff and anything related to carry out the work.
41. It includes periodical checking & testing of all installations to keep ready for safe operation at all the time.
42. Suitable logbook for operation, testing and register for preventive maintenance carried out as per manufacturers recommendation shall be maintained at site by the contractor and shown to AE/JE (A/C & R) in-charge of the site fortnightly.
43. In case, the contractor stops the work in between or his work is discontinued due to unsatisfactory performance, the security deposit shall be forfeited by the department and other legal action may be taken by the dept. as deemed fit under contract rule.

44. No worker shall be employed for more than 8 hours, the firm/contractor shall maintain wage record and he should not pay less than the minimum wages as prescribed/amended by the Labour Department/ Govt. from time to time.
45. **The contractor/firm/agency are strongly advised to visit the site for work before quoting the rates, in order to ascertain the quantum and location of works.**
46. The agency will provide reliever/weekly rest/ leave to the employee within quoted rates as per tender.
47. 10 % stock inventory of each consumables item should be available at AIIMS Deoghar as per direction of engineer-in-charge.

**Executive Engineer (Electrical)**  
**AIIMS, Deoghar**

**TECHNICAL SPECIFICATION**

**1. GENERAL**

Technical specifications in this section cover the **“Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar”**.

**2. STANDARDS AND CODES.**

Latest up to date Indian Standard (IS) and Code of practice will apply to the equipment and the work covered by the scope of this contract. In addition, the relevant clauses of the Indian Electricity Act 2003 and Indian CEA Regulation 2023 as amended up to date shall also apply. Where-ever, appropriate Indian Standards are not available, relevant IEC Standard shall be applicable.

**3. ITEMS:**

<b>HIGH &amp; LOW SIDE MACHINERIES</b>					
	<b>Material Component (Chiller Plant)</b>				
<b>Sl no.</b>	<b>Description of Item</b>	<b>Make</b>	<b>Capacity</b>	<b>Qty.</b>	<b>Remarks</b>
	<b>Chiller: -</b>				
1	Centrifugal- type water cooled <b>Chiller</b> (In Plant Room), ( <b>Capacity 800 TR each</b> )	<b>DB</b>	<b>800 TR</b>	<b>5</b>	
	<b>Condenser Pump: -</b>				
2	<b>Condenser Water Pumps</b> (In Plant Room) (Discharge Capacity 546 cube m/ h <b>Head 22m</b> , Speed 1450 RPM, Starter Type- Star delta)	<b>XYLEM</b>	<b>60 HP</b>	<b>5</b>	
	<b>Chilled Water Pump: -</b>				
3	<b>Chilled Water Pumps Primary</b> (In Plant Room) (Discharge Capacity 436 cube m/h, <b>Head 15 m</b> , Speed 1450 RPM, Starter Type- Star delta)	<b>XYLEM</b>	<b>40 HP</b>	<b>5</b>	
	<b>Secondary Pump: -</b>				
4	<b>Secondary Pumping System</b> (In Plant Room) ( <b>Capacity 436 cube m /h, Head 32 m, Speed 1450 RPM</b> , Starter Type- VFD)	<b>XYLEM</b>	<b>75 HP</b>	<b>5</b>	
	<b>Cooling Tower: -</b>				
5	<b>Cooling Towers</b> (On Plant Room Terrace) (Type- FRP induced draft, Heat rejection)	<b>PAHARPUR</b>	<b>500 TR</b>	<b>10</b>	
	<b>Hot Water Generator: -</b>				
6	<b>Hot water generator (In Chiller Plant Room)</b>	<b>KEPL</b>	<b>400 KW</b>	<b>5</b>	
7	<b>Hot water generator (E-Block)</b>	<b>KEPL</b>	<b>80 KW</b>	<b>4</b>	

<b>SL No.</b>	<b>Description</b>	<b>CFM</b>	<b>QTY (NOS.)</b>	<b>MAKE</b>
A				<b>ACADEMIC BUILDING</b>

1	Air Handling Unit	7200	1	VTS
2	Air Handling Unit	5800	1	VTS
3	Air Handling Unit	13600	1	VTS
4	Air Handling Unit	5100	1	VTS
5	Air Handling Unit	10500	1	VTS
6	Air Handling Unit	5600	1	VTS
7	Air Handling Unit	6000	1	VTS
8	Air Handling Unit	8300	1	VTS
9	Air Handling Unit	8300	1	VTS
10	Air Handling Unit	3500	1	VTS
11	Air Handling Unit	4200	1	VTS
12	Air Handling Unit	2700	1	VTS
13	Air Handling Unit	2800	1	VTS
14	Air Handling Unit	2700	1	VTS
15	Air Handling Unit	2800	1	VTS
16	Air Handling Unit	4900	1	VTS
17	Air Handling Unit	6000	1	VTS
18	Air Handling Unit	6000	1	VTS
19	Air Handling Unit	5100	1	VTS
20	Air Handling Unit	5100	1	VTS
21	Air Handling Unit	8300	1	VTS
22	Air Handling Unit	8300	1	VTS
23	Air Handling Unit	5500	1	VTS
24	Air Handling Unit	6100	1	VTS
25	Air Handling Unit	8300	1	VTS
26	Air Handling Unit	8300	1	VTS
27	Air Handling Unit	4800	1	VTS
28	Air Handling Unit	8200	1	VTS
29	Air Handling Unit	6000	1	VTS
30	Air Handling Unit	10300	1	VTS
31	Air Handling Unit	6800	1	VTS
32	Air Handling Unit	6800	1	VTS
33	Air Handling Unit	6800	1	VTS
34	Air Handling Unit	5800	1	VTS
35	Air Handling Unit	9100	1	VTS
36	Air Handling Unit	6500	1	VTS
37	Air Handling Unit	8300	1	VTS

<b>B</b>	<b>D-BLOCK BUILDING</b>			
38	Air Handling Unit	11500	1	VTS
39	Air Handling Unit	11000	1	VTS
40	Air Handling Unit	3600	1	VTS
41	Air Handling Unit	4400	1	VTS
42	Air Handling Unit	7900	1	VTS
43	Air Handling Unit	5300	1	VTS
44	Air Handling Unit	2200	1	VTS
45	Air Handling Unit	5300	1	VTS

46	Air Handling Unit	2200	1	VTS
47	Air Handling Unit	7600	1	VTS
48	Air Handling Unit	7800	1	VTS
49	Air Handling Unit	2200	1	VTS
50	Air Handling Unit	5300	1	VTS
51	Air Handling Unit	7600	1	VTS
52	Air Handling Unit	3800	1	VTS
53	Air Handling Unit	2600	1	VTS
<b>C</b>	<b>C-BLOCK BUILDING</b>			
54	Air Handling Unit	CFM	1	VTS
55	Air Handling Unit	CFM	1	VTS
56	Air Handling Unit	CFM	1	VTS
57	Air Handling Unit	CFM	1	VTS
58	Air Handling Unit	CFM	1	VTS
<b>D</b>	<b>D-BLOCK BUILDING</b>			
59	Air Handling Unit	7500	1	VTS
60	Air Handling Unit	3000	1	VTS
61	Air Handling Unit	5800	1	VTS
62	Air Handling Unit	3000	1	VTS
63	Air Handling Unit	3000	1	VTS
64	Air Handling Unit	3600	1	VTS
65	Air Handling Unit	3600	1	VTS
66	Air Handling Unit	4600	1	VTS
67	Air Handling Unit	4600	1	VTS
68	Air Handling Unit	6700	1	VTS
69	Air Handling Unit	8400	1	VTS
70	Air Handling Unit	8000	1	VTS
71	Air Handling Unit	3000	1	VTS
72	Air Handling Unit	3700	1	VTS
73	Air Handling Unit	4400	1	VTS
74	Air Handling Unit	2500	1	VTS
75	Air Handling Unit	3600	1	VTS
76	Air Handling Unit	6100	1	VTS
77	Air Handling Unit	2500	1	VTS
78	Air Handling Unit	3900	1	VTS
79	Air Handling Unit	2500	1	VTS
80	Air Handling Unit	2500	1	VTS
81	Air Handling Unit	8300	1	VTS
82	Air Handling Unit	2500	1	VTS
83	Air Handling Unit	3700	1	VTS
84	Air Handling Unit	3600	1	VTS
85	Air Handling Unit	7600	1	VTS
86	Air Handling Unit	3700	1	VTS
87	Air Handling Unit	4500	1	VTS
88	Air Handling Unit	2500	1	VTS
89	Air Handling Unit	2500	1	VTS
90	Air Handling Unit	2500	1	VTS

91	Air Handling Unit	2200	1	VTS
92	Air Handling Unit	2500	1	VTS
93	Air Handling Unit	5100	1	VTS
94	Air Handling Unit	2900	1	VTS
95	Air Handling Unit	3700	1	VTS
96	Air Handling Unit	2900	1	VTS
97	Air Handling Unit	2900	1	VTS
98	Air Handling Unit	-	1	VTS
99	Air Handling Unit	2500	1	VTS
100	Air Handling Unit	2500	1	VTS
101	Air Handling Unit	-	1	VTS
102	Air Handling Unit	4700	1	VTS
103	Air Handling Unit	-	1	VTS
104	Air Handling Unit	-	1	VTS
<b>E</b>	<b>A-BLOCK</b>			
105	Air Handling Unit	5900	1	VTS
106	Air Handling Unit	4600	1	VTS
107	Air Handling Unit	800	1	VTS
108	Air Handling Unit	5500	1	VTS
109	Air Handling Unit		1	VTS
110	Air Handling Unit	8500	1	VTS
111	Air Handling Unit	4000	1	VTS
112	Air Handling Unit	5000	1	VTS
113	Air Handling Unit	4300	1	VTS
114	Air Handling Unit	800	1	VTS
115	Air Handling Unit	7200	1	VTS
116	Air Handling Unit	4800	1	VTS
117	Air Handling Unit	5400	1	VTS
118	Air Handling Unit	4900	1	VTS
119	Air Handling Unit	800	1	VTS
120	Air Handling Unit	7000	1	VTS
121	Air Handling Unit	4100	1	VTS
122	Air Handling Unit	6750	1	VTS
123	Air Handling Unit	4300	1	VTS
124	Air Handling Unit	800	1	VTS
125	Air Handling Unit	9000	1	VTS
126	Air Handling Unit	4800	1	VTS
127	Air Handling Unit	5400	1	VTS
128	Air Handling Unit	4100	1	VTS
129	Air Handling Unit	800	1	VTS
130	Air Handling Unit	9000	1	VTS
131	Air Handling Unit	4100	1	VTS
132	Air Handling Unit	5500	1	VTS
133	Air Handling Unit	4100	1	VTS
134	Air Handling Unit	800	1	VTS
135	Air Handling Unit	7000	1	VTS
136	Air Handling Unit	4000	1	VTS

137	Air Handling Unit	4700	1	VTS
138	Air Handling Unit	4400	1	VTS
139	Air Handling Unit	800	1	VTS
140	Air Handling Unit	7700	1	VTS
141	Air Handling Unit	4700	1	VTS
142	Air Handling Unit	5300	1	VTS
143	Air Handling Unit	4500	1	VTS
144	Air Handling Unit	800	1	VTS
<b>E</b>	<b>E-BLOCK</b>			
145	Air Handling Unit	11200	1	VTS
146	Air Handling Unit	3900	1	VTS
147	Air Handling Unit	5200	1	VTS
148	Air Handling Unit	5300	1	VTS
149	Air Handling Unit	3400	1	VTS
150	Air Handling Unit	3800	1	VTS
151	Air Handling Unit	8300	1	VTS
152	Air Handling Unit	3100	1	VTS
153	Air Handling Unit	2500	1	VTS
154	Air Handling Unit	2500	1	VTS
155	Air Handling Unit	7100	1	VTS
156	Air Handling Unit	6900	1	VTS
157	Air Handling Unit	4500	1	VTS
158	Air Handling Unit	5000	1	VTS
159	Air Handling Unit	3200	1	VTS
160	Air Handling Unit	7100	1	VTS
161	Air Handling Unit	4500	1	VTS
162	Air Handling Unit	5000	1	VTS
163	Air Handling Unit	5000	1	VTS
164	Air Handling Unit	3200	1	VTS
165	Air Handling Unit	4500	1	VTS
166	Air Handling Unit	4500	1	VTS
167	Air Handling Unit	5500	1	VTS
168	Air Handling Unit	5500	1	VTS
169	Air Handling Unit	3200	1	VTS
170	Air Handling Unit	7100	1	VTS
171	Air Handling Unit	4300	1	VTS
172	Air Handling Unit	4500	1	VTS
173	Air Handling Unit	4300	1	VTS
174	Air Handling Unit	3200	1	VTS
175	Air Handling Unit	7000	1	VTS
176	Air Handling Unit	4300	1	VTS
177	Air Handling Unit	4500	1	VTS
178	Air Handling Unit	4900	1	VTS
179	Air Handling Unit	3100	1	VTS
180	Air Handling Unit	4500	1	VTS
181	Air Handling Unit	7100	1	VTS
182	Air Handling Unit	4250	1	VTS

183	Air Handling Unit	5600	1	VTS
184	Air Handling Unit	3200	1	VTS
<b>G</b>	<b>F-BLOCK</b>			
185	Air Handling Unit	8300	1	VTS
186	Air Handling Unit	2650	1	VTS
187	Air Handling Unit	3200	1	VTS
188	Air Handling Unit	3200	1	VTS
189	Air Handling Unit	3200	1	VTS
190	Air Handling Unit	3200	1	VTS
191	Air Handling Unit	-	1	VTS
192	Air Handling Unit	-	1	VTS
193	Air Handling Unit	-	1	VTS
194	Air Handling Unit	-	1	VTS
<b>H</b>	<b>AUDITORIUM</b>			
195	Air Handling Unit	3200	1	VTS
196	Air Handling Unit	5400	1	VTS
197	Air Handling Unit	5400	1	VTS
198	Air Handling Unit	1600	1	VTS
199	Air Handling Unit	1600	1	VTS
200	Air Handling Unit	3600	1	VTS
201	Air Handling Unit	1600	1	VTS
202	Air Handling Unit	3100	1	VTS
203	Air Handling Unit	3100	1	VTS
204	Air Handling Unit	3100	1	VTS
205	Air Handling Unit	1600	1	VTS

<b>Fan Coil Units (FCU)</b>				
ACADEMIC BUILDING				
<b>ZONE-01, Ground floor</b>				
SL No.	Capacity (TR)	Fresh Air (CMH)	Make	QTY (NOS.)
1	1 TR	76 CFM	AERMEC	1
2	1	75 CFM	AERMEC	1
3	2	101CFM	AERMEC	1
4	1	66CFM	AERMEC	1
5	1	66CFM	AERMEC	1
<b>ZONE-02</b>				
6	1	66CFM	AERMEC	1
<b>ZONE-01, 1<sup>st</sup> floor</b>				
7	1		AERMEC	1
8	1		AERMEC	1
9	1		AERMEC	1
10	1		AERMEC	1
11	1		AERMEC	1
<b>ZONE-02</b>				
12	1		AERMEC	1

13	1		AERMEC	1
14	1		AERMEC	1
15	1		AERMEC	1
16	1		AERMEC	1
17	1		AERMEC	1
18	1		AERMEC	1
19	1		AERMEC	1
20	1		AERMEC	1
21	1		AERMEC	1
<b>ZONE-01, 2<sup>nd</sup> floor</b>				
22	1		AERMEC	1
23	1		AERMEC	1
24	1		AERMEC	1
25	1		AERMEC	1
26	1		AERMEC	1
<b>ZONE-02, 2<sup>nd</sup> floor</b>				
27	1		AERMEC	1
28	1		AERMEC	1
29	1		AERMEC	1
30	1		AERMEC	1
31	1		AERMEC	1
<b>ZONE-03, 2<sup>nd</sup> floor</b>				
32	1		AERMEC	1
33	1		AERMEC	1
34	1		AERMEC	1
35	1		AERMEC	1
<b>ZONE-01, 3<sup>rd</sup> floor</b>				
36	1		AERMEC	1
37	1		AERMEC	1
38	1		AERMEC	1
39	1		AERMEC	1
40	1		AERMEC	1
<b>ZONE-01, 4th floor</b>				
41	1		AERMEC	1
42	1		AERMEC	1
43	1		AERMEC	1
44	1		AERMEC	1
45	1		AERMEC	1
<b>ZONE-02, 4th floor</b>				
46	1		AERMEC	1
47	1		AERMEC	1
48	1		AERMEC	1
49	1		AERMEC	1
50	1		AERMEC	1
<b>ZONE-03, 4th floor</b>				

51	1		AERMEC	1
52	1		AERMEC	1
53	1		AERMEC	1
54	1		AERMEC	1
55	1		AERMEC	1
56	1		AERMEC	1
57	1		AERMEC	1
				Total que-nos-57
			D block building	
<b>Ground floor</b>				
<b>58</b>	<b>1.5 TR/ 1 TR</b>		AERMEC	<b>15 (1.5 TR-02 No./1 TR-13 No.)</b>
<b>1 st floor</b>				
<b>59</b>	<b>2.5 TR/ 1 TR</b>		AERMEC	<b>45(8/172)</b>
<b>2<sup>nd</sup> floor</b>				
<b>60</b>	<b>2.5 TR/ 1 TR</b>		AERMEC	<b>45(8/172)</b>
<b>3rd floor</b>				
<b>61</b>	<b>2.5 TR/ 1 TR</b>		AERMEC	<b>45(8/172)</b>
<b>4th floor</b>				
<b>62</b>	<b>2.5 TR/ 1 TR</b>		AERMEC	<b>45(8/172)</b>
				<b>Total que-nos 195</b>
			building F block	
<b>Basement</b>				
63	-		AERMEC	22
<b>Ground floor</b>				
64	-		AERMEC	22
<b>1 st floor</b>				
<b>65</b>	-		AERMEC	22
<b>2<sup>nd</sup> floor</b>				
66	-		AERMEC	22
<b>3rd floor</b>				
67	-		AERMEC	22
<b>4th floor</b>				
68	-		AERMEC	22
<b>5th floor</b>				
69	-		AERMEC	22
<b>Lift side</b>				10
				<b>Total que- Nos-164</b>
			B block building	
<b>Basement</b>				
70	1		AERMEC	1
71	1		AERMEC	1
72	1		AERMEC	1
73	1		AERMEC	1
74	1		AERMEC	1
75	1		AERMEC	1
76	1		AERMEC	1
77	1		AERMEC	1
78	1		AERMEC	1

79	1		AERMEC	1
80	1		AERMEC	1
81	1		AERMEC	1
82	1		AERMEC	1
83	1		AERMEC	1
84	2.5		AERMEC	1
85	1		AERMEC	1
86	1		AERMEC	1
87	1		AERMEC	1
88	1		AERMEC	1
89	1.5		AERMEC	1
90	1		AERMEC	1
91	1.5		AERMEC	1
92	1		AERMEC	1
93	1		AERMEC	1
94	1		AERMEC	1
<b>Ground floor</b>				
95	1		AERMEC	1
96	1		AERMEC	1
97	1		AERMEC	1
98	1		AERMEC	1
99	1		AERMEC	1
100	1		AERMEC	1
101	1		AERMEC	1
<b>Fourth floor</b>				
102	1.5		AERMEC	1
103	1		AERMEC	1
104	1		AERMEC	1
105	1		AERMEC	1
106	1		AERMEC	1
107	1.5		AERMEC	1
108	1.5		AERMEC	1
				<b>Total que – Nos- 39</b>
<b>E block building</b>				
	<b>Total number FCU of building-</b>	<b>Nos- 475 FCU</b>		

# SCOPE OF WORK & CONDITIONS

The scope of work includes Operation and comprehensive maintenance (including OEM certified all spares, non-consumables, consumable etc.) of the central air conditioning system including air handling & distribution system for two years.

Exclusion in scope of work: NIL

## **1. GENERAL CONDITIONS:**

- 1.1 The contractor has to associate OEM or his authorized service agent for maintenance of Centrifugal Chillers (Make: Dunham-Bush (DB)). The contractor has to draw the maintenance contract with OEM/authorized service agent of HVAC chillers units and copy of the contract shall be given to the Engineer-In-Charge just after award of work. Payment on this account will be made only after the drawing of agreement between the main contractor and the OEM or his authorized service agent.
- 1.2 The work is to be carried as per OEM maintenance schedule, CPWD General Specifications for Electrical Works & HVAC 2024 as amended up to date wherever applicable and to the entire satisfaction of the Engineer-In-Charge and as per scope of work.
- 1.3 The maintenance work as per maintenance manual of the OEM has to be carried out in time bound manner for which proper records history cards of each chilling machine, Hot Water Generator, AHU's, FCU's and equipment's etc. will have to be completed/filled by the contractor's staff.
- 1.4 This tender is for complete Operation and Comprehensive Maintenance of the Central Air-conditioning System comprising of all the machineries & equipment installed in the AC Chiller Plant including Chillers, Cooling Towers, Condenser, Pumps, Primary & Secondary Pumps, Hot water generators, VFDs & Automation of Pumps, Air washer, Air Handling Units, FCUs, Ventilation Fans, In-line Fans, Plant Manager with BMS system, UVGI, Heat Recovery wheels, Humidifier, Hepa filter, Electrical Panel and other associates equipment and works throughout the period of contract for 24x7x365 basis.
- 1.5 Total capacity of HVAC system installed at AIIMS Deoghar is 4000 TR and Total Hot Water Generator capacity is 480 KW.
- 1.6 The list of major equipment of HVAC system installed at AIIMS Deoghar to which operation and comprehensive maintenance has to be carried out in this work are given as Technical Specification.
- 1.7 Water and electricity will be provided by AIIMS Deoghar towards Operation and Maintenance of HVAC system and Hot Water Generator.
- 1.8 The minor items, instrumentation & control, field devices, control panels, water quality assessment etc. which are accessories but not listed in Technical Specification, are part of the complete systems covered under comprehensive maintenance.
- 1.9 Also, the piping network of chilled & Hot water circulation along with their accessories insulation such as bends, tees, reducer flanges, valves, Actuators, strainers outlets, bracket etc. of HVAC System are covered under comprehensive maintenance. Besides, ducting with different thickness of insulation pertaining to AHUs/ FCUs and associated volume Control Dampers, Fire Dampers, grills, diffusers, fusible link, Electrical panel etc. are also covered under comprehensive maintenance.
- 1.10 The scope of work as mentioned below are the minimum expected from the firm/agency/ contractor apart from breakdown maintenance and any other work required for operation and maintenance in proper way as per the operation and maintenance manuals of respective equipment as per sound engineering practices and as per CPWD general specifications & HVAC works 2024/ ISHRAE/ASHRAE recommendations.
- 1.11 Any work/ exigency pertaining to HVAC System of AIIMS, Deoghar even if it is not specifically mentioned in this document but required for proper functioning of HVAC system shall be carried out by the contractor at no extra cost.
- 1.12 The contractor shall have to take up both operation and preventive as well as breakdown

maintenance jobs comprehensively, which means it includes all provision of manpower/ supervisor/ Engineer/ spares/ repairs/ replacement etc. for both high side and low side equipment.

- 1.13 The Engineer-in-Charge or his representative shall give instructions regarding the jobs to be carried out as and when requirement arises at site. The contractor shall have to carry out the jobs and complete in all respect to the entire satisfaction of the Engineer-In-Charge, such as scheduled checking/servicing/overhauling of the machines as per instructions of Engineer and maintenance schedules indicated in the tender document or recommended by manufacturers of the machines as the case may be.
- 1.14 **Penalty:** In case of non-serviceability/dysfunction of the equipment for a longer, penalty as detailed below shall also be imposed on the contractor and the amount will be recovered from their respective quarterly bills.

**Minor Breakdown:** On getting the minor breakdown complain or failure of the HVAC system, Contractor's maintenance team must respond within **3 Hours** and carry out necessary repairs to restore the system in normal condition, failing which penalty of **₹1,000 per day up to 10% of the Tender value** will be recovered from the contractor.

**Major Breakdown:** On getting the major breakdown complaint or failure of the HVAC system, Contractor's maintenance team must respond within **3 Hours** and inform the concern AE/JE immediately regarding the complaint. After joint inspection with concern AE/JE, the complaint must be sorted out within **72 Hours or timeline given by the concern AE/JE according the nature of complaint**, the necessary repairs must be carried out to restore the system in normal condition, failing which penalty of **₹5,000 per day up to 10% of the Tender value** will be recovered from the contractor.

For any major repair or over-hauling work, the contractor shall inform in advance to the Executive Engineer before 72 hours of starting the work.

A penalty of Rs 5000/- per day will be levied if the inside conditions (temperature, relative humidity, proper air flow, IAQ etc.) are not maintained for more than 24 hours on any day irrespective whether it is on account of improper maintenance of High side equipment or the Low side equipment or inefficient operation or due to any breakdown.

Repeated complaints are not achieving desired parameters, penalty of Rs. 10,000/- per day.

However, there will be no compromise with respect to achieving desired parameters at respective location, failing which contractor has to take emergent step to achieve the desired parameters for repairing above machines on emergent basis.

- 1.15 The scope of work also includes repair/replacement/overhauling of all the parts of the HVAC machines/equipments, which become defective, inefficient or get damaged during working. The decision of the Engineer-in-charge regarding repair /replacement/ overhauling of any part of the machine will be final and binding on the contractor.

## 2. OPERATION:

- 2.1 The scope of work for operation and day to day maintenance of the HVAC system including air handling & distribution system shall be carried in shifts.
- 2.2 The HVAC System will operate in 3 Shift basis (24 hrs a day) & 365 days a year. The normal shift timings are as follows:

1st Shift	-	06:00 hrs to 14:00 hrs
2nd Shift	-	14:00 hrs to 22:00 hrs
3rd Shift	-	22:00 hrs to 06:00 hrs
- 2.3 Arrival & Departure of staff should be well-planned to up-keep the operation and maintenance requirement intact round the clock.
- 2.4 In order to have safe and effective operation of the system, the Contractor must ensure that the system is operated in the most efficient manner without sacrificing any safety aspect and giving due regard to the health of the machine/equipment as well as the working personnel. For this, the operating personnel should be conversant with the operating logic and control philosophy of

machines/equipment's and should be capable of recording the events / incidents during operation, noting the parameters & maintain the log books from time-to- time. Data such as load, important temperatures, pressures, levels etc. and other vital data observed during the operation shall be recorded.

- 2.5 Before and during operation of the system, observance of basic rules of operation, systematic and careful inspection of the individual parts of the system and equipment, checking the functions of all sub- assemblies and components in time are essential and to be ensured. The checks have to be made strictly in accordance with the check lists for the machine.
- 2.6 During operation, if any abnormality, defect / fault is noticed, the same shall be promptly communicated and remedial steps must be taken and the contractor shall place a suitable mechanism for rectification of problems so that delay in operation can be avoided.
- 2.7 In no case, running of system should be without proper & required no. of manpower. Similarly, operation of machines/equipment shall not be carried out in abnormal condition(s) and by compromising with safety of machines by repeated & prolonged by-passing of safety devices, field devices, etc. Normally bypassing of field devices and safety devices is not permissible. However, the same if done for operational urgency should be made good promptly.
- 2.8 Smooth starting and running of the plant, AHU, TFU change over, FCU, inspection, recording of different parameters, checking of refrigerant leakage, proper air distribution by adjusting dampers, operation of pumps/valves, cooling tower motors, operation of all AHUs, operation of heating system during winters and conversion of cooling mode to heating mode of the plant/system, motor control centers, inspection of filters/coils, cleaning and replacement of the same if required, topping of oils, water etc. as per the normal operating standard of the manufacturer and as per the direction of the Engineer-In-Charge.
- 2.9 The operator shall monitor less or excessive cooling, frosting, pressure gauge indication and circulation of water etc. He shall report immediately any complaints or defects to the EIC investigate and set right the fault as soon as possible.
- 2.10 Daily general cleaning of the equipment installed in the plant and upkeep of plant room.
- 2.11 Checking and maintaining proper water level in cooling towers, make up tank and overhead tanks.
- 2.12 Visual checking of all equipments installed in the plant.
- 2.13 Checking of water leakages from the pump glands, valves and taking necessary preventive measures for arresting of leakages.
- 2.14 Checking of refrigerant gas leakages from the system and taking necessary preventive measures for the arresting of leakages. The refrigerant gas for any leakage or any reason whatsoever will be provided by the contractor.
- 2.15 Any other specific jobs that are not mentioned but required for smooth operation of the plant/HVAC system is in the scope of contractor and as instructed by EIC. No extra payment on this account will be made.
- 2.16 Checking motor control centre/power control centre, VFDs for proper functioning of indication lamps/meters/heater circuits.
- 2.17 Checking and repair of any abnormal noise and overheating equipments/panels.

- 2.18 Any other specific jobs that are not mentioned but required for smooth operation of the plant/HVAC system is in the scope of contractor and as instructed by EIC. No extra payment on this account will be made.
- 2.19 Checking motor control centre/power control centre, VFDs for proper functioning of indication lamps/meters/heater circuits.
- 2.20 Checking and repair of any abnormal noise and overheating equipments/panels.

### 3. MAINTENANCE:

- 3.1. All the spares, non-consumables & consumables as required for routine & preventive maintenance, Breakdown repairs, overhauling and off season maintenance are to be arranged by the contractor from the OEM/authorized agencies of OEM (wherever applicable) for the equipment installed in HVAC plants and their accessories at AIIMS Deoghar. No extra cost on this account will be made.
- 3.2. Maintenance primarily aims at keeping the system in efficient and reliable operating conditions, minimizing the downtime during operation so as to ensure their maximum availability and productivity.
- 3.3. The contractor's scope covers deployment of different maintenance teams as per requirement comprising of engineer, technicians, skilled/semiskilled workmen for efficient and effective preventive, predictive and corrective maintenance during the term of the contract.
- 3.4. The contractor shall carry out the maintenance such as (a) Preventive Maintenance comprising planned maintenance or schedules maintenance, Condition based Maintenance and (b) Corrective Maintenance (Unscheduled Maintenance) comprising Breakdown Maintenance and Post fault maintenance for all the systems or subsystems.
- 3.5. The contractor shall prepare a routine maintenance plan and ensure timely maintenance of the system as per the plan. The maintenance planning shall be made on the basis of
  - a) Preventive Maintenance
  - b) Pending scheduled activities
  - c) Observation made during execution of PMS.
  - d) Observation made during operation Condition monitoring.
  - e) Observation of AIIMS inspection
  - f) Observation of OEM experts
  - g) Any additional works /requirements
- 3.6. Carrying out of daily/weekly/monthly/quarterly/half-yearly/yearly maintenance as per OEM recommendation and as instructed by the Engineer-In-Charge.
- 3.7. **Written Clearance:** Where the maintenance period is expected to exceed 4 hrs., the Contractor must obtain written clearance, in a format acceptable to AIIMS, with due intimation to the EIC & the concerned Executive Engineer clearly indicating the nature of maintenance intended to be undertaken, expected time of commencement and completion.

For undertaking the major maintenance activities, planning shall have to be done by the Contractor in advance and in consultation with the Engineer-in-charge so as to make the best use of the idle period. The contractor shall properly plan for execution of maintenance activities during non-

operational time of systems/equipments.

3.8. Painting works of machines/equipments/pipelines etc. for corrosion protection is included in scope of the Contractor. The Contractor shall promptly take remedial measures like mechanical chipping followed by application Zinc rich primer where rusting starts so that further deterioration can be avoided till the planned painting starts.

#### **4. IMPROVEMENT PLANS:**

During the course of the Contract, the Contractor may suggest improvement plans to make the HVAC system more reliable and efficient. AIIMS, DEOGHAR shall examine such plans and if such plans are acceptable, AIIMS reserves the right to implement the plan either by engaging the Contractor or any other agency. In such cases, the Contractor shall extend all co-operations to AIIMS for implementation of any modification plan with least interruption to the site activities. In case the Contractor is entrusted with the modification work, the Contractor shall have to carry out the work without discontinuing the on-going operational and maintenance contractual obligations in any manner.

#### **5. SUPPLY OF T & P AND CONSUMABLES:**

The Contractor shall provide all T&P, testing equipment, ladder(s), scaffolding, High Pressure Jet Pump, Vacuum Pump, Chain Pulley Blocks, High pressure hose for DA and oxygen, cutting set with regulator, welding cable, holder, screen, scraping & cleaning hand tools, all consumables such as DA & Oxygen, different types of electrodes, oil seals, V- belts, Adhesive, Insulation material, G.I sheets for ducts, bolts & nuts, cotton cloth/wastes/rags, hydraulic oil seals, O-rings, gaskets, end – connectors, nipples & ferules, all types of Filters (Oil & Air), C-shine/ drain cleaning material, fuses, capacitors, Indication Lamps, Connectors, PVC tape, EPR tape, Ampere tape, Electrical Cleaning agent (CRC Lectra Clean , CRC 226 etc.), Diesel, Petrol, lubricants and Chemicals for chemical dosing of Cooling Tower Water etc. necessary for smooth O & M of the HVAC System.

All the mechanical, electrical & OEM spares required for operation, routine maintenance and breakdown maintenance of the High Side & Low Side of the HVAC System will be supplied and installed/rectified by Contractor. However, any loss of spares due to faulty operation or inadequate maintenance of the High Side & Low Side of the HVAC System shall be to the Contractor's account.

#### **6. MAINTENANCE OF RECORDS:**

Following Documents / Records are to be maintained at site by the contractor:

- a) Daily Log Book of Chillers/BMS
- b) Complain Log Book
- c) Site Materials Account Register
- d) Equipment History Card/ checklist
- e) Chiller Plant, Cooling Tower, Tertiary Pump check list
- f) AHU, Exhaust/ Fresh Air, FCU and Hepa-filters Check List.
- g) Pressure Gauge and Temperature Meter and other measuring instrument calibration test once per year or as recommended by Engineer-in-charge'
- h) Maintenance Schedule Activity
- i) Attendance Register
- j) Breakdown Report
- k) Maintenance Report:
  - i. Report on house -keeping & safety as per the format acceptable to AIIMS.

- ii. Spares Consumption Report as per the format acceptable to AIIMS.
- iii. Air balancing and water balancing should be done in the alternate quarter.

The format of the above Log Books and reports for reporting shall be prepared and implemented as per the requirement of the Engineer-in-charge.

#### 7. Contractor's personnel:

7.1 Contractor Personnel means the Manager/Engineer/Supervisor, technicians and other personnel including labours to be deployed by the Contractor for smooth Operation & Maintenance of the HVAC System of AIIMS, Deoghar. A total of minimum 24 nos. of man-power for operation and Maintenance excluding Engineers, required for operation and Maintenance thoroughly familiar with the type of machines/equipment's shall be deployed at the site for 365 days basis as mentioned below:

<b>MINIMUM MANPOWER REQUIRED FOR OPERATION AND MAINTENANCE OF HVAC SYSTEM</b>				
Designation	Qualification	Requirement	Salary	Remarks
Engineer	B. Tech in Mechanical /Electrical with 2 years' Experience in HVAC machineries operation and maintenance <b>OR</b> Diploma in Mechanical /Electrical with 5 years' Experience in HVAC machineries operation.	1		Highly Skilled
Chiller plant Operator	ITI in HVAC/RAC related course with 3 years' experience in Chiller Operation	6		Skilled
AHU/FCU Operator	ITI In Mechanical/ Electrical OR 12th Pass with 3 years' experience in O&M HVAC System.	8		Semi-skilled
Electrician	ITI in Electrical trade with 02 years experience in O&M HVAC System	1		Skilled
Fitter	ITI in Fitter Trade with 02 years experience in O&M HVAC System	1		Skilled

Welder	ITI in Welder Trade with 02 years experience in O&M HVAC System	1		Skilled
AC & R Technician	ITI in RAC Trade with 02 years experience in O&M HVAC System	1		Skilled
Helper	8th /10th Pass with 2-year Experience in HVAC field	5		Unskilled
	<b>Total</b>	<b>24</b>		

Note: -

- a) This is the minimum number of manpower, which contractor has to deploy. The contractor may increase the manpower as and when/ if required for proper functionality of maintenance of system (AIIMS will not pay any extra for increase in manpower).
- b) The contractor should submit a detailed general and shift duty chart of proposed staff to be deployed one month in advance before the start of every month and schedule of detailed works to be carried out.
- c) Any extra manpower/ expert team/ specialized manpower if required at any time for attending any repair/breakdown shall be deployed by the agency at his own cost for which nothing extra shall be payable.

7.2 All the manpower should be duly qualified/ experienced and capable to handle Electrical/ Heating & Air-Conditioning works to the satisfaction of Engineer-in-charge. They should be fully conversant with relevant Indian Standards and should follow Electrical / Industrial safety norms/ practices.

7.3 The Contractor shall submit a consolidated list of contractor's personnel (O&M staff) indicating the name, date of birth, trade, grade, experience, qualification etc. for the O & M of the system.

7.4 The core personnel of the contractor including engineers so deployed must have adequate qualification & experience in their respective fields such as assembly and sub-assembly of the machines/equipment's including electrical circuit of electrical power/control system, PLC & VFD system (Automation System) etc. and are in a position to plan the maintenance requirement and rectify any defects developed during the operation of the system with minimum down time.

7.5 The Contractor shall furnish the details of the manpower deployment pattern in appropriate format for smooth O & M of the System to AIIMS within 15 days of issue of LOA for acceptance.

7.6 During the continuance of the Contract, if the Contractor intends to induct new work men or make alterations in their grade, the Contractor shall communicate the same for appraisal of AIIMS.

7.7 In case of breakdown maintenance / major repair or replacement maintenance work, where AIIMS reasonably determines that the Contractor has not employed the required resources, then AIIMS shall have the right to ask the Contractor to arrange for such resources.

7.8 The Contractor shall be solely responsible for compliance to provisions of various labours, industrial, safety, any other laws applicable and all statutory obligations such as wages, allowances, compensations, EPF, Bonus, Gratuity, ESI, etc. relating to security of manpower deployed in AIIMS, Deoghar. AIIMS shall have no liability in this regard. The latest Notification from the Office of the Chief Labour Commissioner (C), Ministry of Labour & Employment, Govt. of India shall be considered to determine the latest daily wage rates under different categories and any subsequent changes in statutory rates/changes as per Govt. orders constituting daily wages structure i.e EPF,

ESI etc. will be amended time to time by the contractor.

- 7.9 The contractor shall be solely responsible for any accident/ medical/ health related liability/ compensation for the labour deployed by it at AIIMS, Deoghar site. AIIMS shall have no liability in this regard.
- 7.10 The contractor is advised to ensure that the payment is regularly credited to the bank account of the individual staff employed and pay-slips for respective payments are duly stamped and signed and issued regularly.
- 7.11 If any man power from contractor side strike or show non-satisfaction due to payment issue or any other issue caused by the contractor, because of which the quality of work is hampered, strong action will be taken against the contractor as per the labour law & penalty as deemed fit shall be imposed.
- 7.12 The staff employed by the contractor should be well behaved, polite, & courteous. The Contractor must disengage immediately the workmen in case of indiscipline, misconduct, negligence in duty, suppression of facts, deliberate mishandling of machine & equipment, sabotage, professional incompetency etc. and replace him with due intimation to AIIMS.
- 7.13 The manpower provided by the contractor shall not claim to become the employees of AIIMS, Deoghar and there will be no Employee and Employer relationship between the manpower engaged by the Contractor for the deployment in AIIMS, Deoghar site.
- 7.14 Any damage caused by the workmen engaged by the Contractor to any machinery or equipment or installation of AIIMS due to negligence, ignorance or malafide intention shall be made good at the cost of the Contractor within a reasonable period of time acceptable to AIIMS, failing which the cost of the damages assessed by AIIMS shall be deducted from the bill of the Contractor or any money due to the Contractor.
- 7.15 The contractor shall provide uniform and Personal Protective Equipment (PPE) to their workmen. The contractor shall issue Identity Cards to his workmen at his own cost and shall duly be intimate in writing the Engineer-In-Charge as and when there is any change.
- 7.16 During the period of contract, Watch & Ward and Housekeeping/cleanliness of the machines/equipments shall be the responsibility of the Contractor at his own cost.
- 7.17 The Contractor shall observe all applicable regulations regarding safety of man and machine. Authority for Access: No person other than Contractor's Personnel shall be allowed to operate the machines / equipments except with the consent of AIIMS. The personnel of the Contractor must possess proper identity card having their photographs. The Contractor shall grant access to all machine related data, records, reports and software that is being generated or used as part of its services for the plant for verification of AIIMS. All such data shall be the property of AIIMS and shall not be used by the Contractor for any purposes other than contractual requirements. Use of such information for any other purpose by the Contractor is strictly prohibited.
- 7.18 The contractor shall notify AIIMS promptly regarding the occurrence of any emergency situation and take quick action to prevent any threatened damage, injury or loss to the machine or persons or property of AIIMS.

## 8. SAFETY :

- 8.1 All equipment shall be complete with approved safety devices wherever a potential hazard to personnel exists and with provision for safe access for personnel to and around equipment for operation and maintenance functions. Special care shall be taken to ensure against entry of rats, lizards and other creeping reptiles which may create electrical short circuit inside live equipment.
- 8.2 Safety aspects in work places have to be followed as per relevant Standards & Codes. Any accident or damage to life of man and machinery shall be treated as negligence & it is purely the responsibility of the contractor. AIIMS, Deoghar will not be responsible for any accidents or

damages. Safety of all the staff under this contract is the sole responsibility of the contractor. There shall be no liability on AIIMS, Deoghar to pay any compensation arising out of any labour dispute or accident etc. at site.

## **9. SCHEDULE OF ANNUAL OPERATION & COMPREHENSIVE MAINTENANCE:**

### **9.1 High side scope of work**

1. Operation of the plant on 24 hours basis including Saturday, Sundays and holidays as required by the deployment.
2. All routine / schedule checks of High side equipments should be carried out as per manufacturer recommendations and tentatively as mentioned below. Proper records should be maintained showing the details of works carried out, parts repealed if any, and may be shown to Engineer-in-charge as & when demanded.
3. Replacement of all type of defective mechanical, electrical components, instruments, electrical accessories, perishable and non-perishable items, VFD, refrigerant, oil filters, shaft seal, v-belt / coupling and other damaged part of compressor inclusive of impellers and all parts of cooling towers & flappers including fills required for smooth functioning of HVAC system.
4. The viscosity and suitability of compressor oil will have to be checked and the firm will furnish certificate in this regard. During test of oil, if the results are not found as per required standards for running compressor, the agency shall change the oil. The decision of Engineer-in-charge will be final & binding to the contractor. Topping up of refrigerant and compressor oil. (The prescribed oil and gas shall be supplied by the firm for the purpose for all centrifugal units.).
5. Attending to any special repair job as & when felt necessary.
6. Firm shall provide 4 working hours call back service for fault rectification. All faults to be cleared within reasonable period of time or stand by equipment to be made operational for service. All faulty equipments to be collected from site and repaired equipments delivered or replaced if required & fitted at site. A proper record of the work undertaken including full details of the fault attended etc. shall be maintained and kept in the plant room for the inspection of Engineer-in-charge.
7. All instrumentation and cabling under the original agreement i.e. instrumentation & logging to be maintained and operated as per requirement at site. (This includes replacement of defective instruments & cables).

### **9.1.1 CHILLERS:**

#### **A Weekly Preventive Maintenance**

1. Check  $\Delta T$  (DELTA T) for condenser fouling and evaporator fouling.
2. Verify water parameters.
3. Check oil return system/suction & discharge pressure.
4. Inspection of starter.
5. Check all VFDs of chiller.
6. Check all pumps of chiller.

#### **B Monthly Preventive Maintenance**

1. Clean all sensors.
2. Refrigerant leak check.
3. Check Oil heater operation.
4. General cleaning of water chilling machine and panels with blower.

5. Check oil pump discharge pressure.
6. Measure oil filter pressure drop.
7. Measure and log the sub cooling and superheat.
8. Checking of looseness of nut bolts, electrical connections and tightening of the same.

**C Quarterly Preventive Maintenance**

1. Check the operating parameters of all the Chillers and submit the report to E-I-C.
2. Review the previous months operating log records and alarm history.
3. To clean the Electrical panels and entire electrical connections every quarterly with air blower.
4. To check the system operating pressures and temperatures to ensure proper operating conditions of pumps.
5. Check for a sign of refrigerant leakages through standard procedure and rectify the leaks if found.
6. Check the operation of Expansion valves.  
To check the operation of safety control/ microprocessor by conducting control test.
7. To check /calibrate flow switch for proper functioning.
8. Tightening the entire electrical contractor terminals.
9. To check the compressor motor starter and associated interlocks etc.
10. Inspect vibration eliminators for secureness and damage -physical inspection can be done and reported, however the working efficiency cannot be ascertained.
11. Test secureness of mounting points and tighten all major points.
12. Measuring operating voltage and ampere and record readings.
13. Inspect starter for signing of wear, arcing, overheating burns etc.
14. Inspect wiring and connections for signs of wear, arcing, overheating burns etc.
15. Check high compressor motor temperature.
16. Check leakage in compressor.
17. Check high pressure safety switch.
18. Verify the refrigerant charging.
19. Inspect unusual vibration & noise (if any).
20. Inspect moisture indicator for evidence of moisture.
21. Record the compressor suction and discharge pressure.
22. Inspection of BMS system.
23. Record compressor oil pressure.
24. Clean water strainers in both chilled and condenser line.
25. Check compressor oil for discoloration/contamination.
26. Check operation of solenoid valve, refrigerant control.
27. Check the condenser fans to ensure guards are in place and free of obstruction.
28. Check condenser fan motors and related bearings and repair/Replace if any.
29. All the faulty parts replacement is in the scope of agency.
30. To provide and replace internal oil& filters, as & when required during the contract period.
31. To provide and replace refrigerant driers, as & when required during the contract period.
32. To inspect oil quantity and replacing the same, if required.
33. Half yearly detailed parameters monitoring of chiller systems for diagnostics, analysis of chiller health and submit the report to customer.
34. To check the operation of VFDS of Chiller and Pump systems and if service required, it is to be done by the vendor.
35. Chiller should be serviced under the supervision of OEM service Engineers towards proper execution of maintenance.

36. Periodical software up-gradation in chillers.
37. **Condenser and Evaporator coil de-scaling with copper friendly chemical recommended by OEM and rodding twice in a year or as required or as instructed by the Engineer -in - Charge.**
38. Lubricate all the valves and bearings of Motor and Pumps.
39. Meggerings of related all motors and record readings and verify the operation of the electrical interlocks.
40. Vendor to discuss with admin the plan for the quarterly maintenance before the PMS activity and service report after PMS.
41. Full range of monitoring, diagnostics, analysis, recommendations, optimization of your equipment as per requirement.
42. Check Evaporator function and repaire if required.
43. Check Insulation of chiller, HVAC Pipeline inside plant /outside & rectify/Replace if required.
44. If chiller is not performing efficiently then rectification/replacement work regarding any required equipments will be in the scope of agency.

#### **D      Annual Preventive Maintenance**

1. Replace Oil filters, Oil return filter and refrigerant filter.
2. To clean all the containers (Oil pump and Oil Heater) during annual visit.
3. Compressor Oil analysis.
4. Low and High pressure cut off setting.
5. Low pressure switch setting.
6. Vane closing switches.
7. Temperature control stats.
8. Pump interlocks.
9. System freeze stats.
10. Repairing of the leakages of Heat Exchangers as and when required.
11. To attend to the complaints as and when called for.
12. Oil pump timers and system monitor timer.
13. Replenish refrigerant as and when required basis.
14. To check the functioning of Pressure and Temperature gauges and perform the calibration of these devices once a year and submit the report to E-I-C.
15. Replacement of Pressure and Temperature gauges across the Chiller and condenser as when required.
16. Annual testing of compressor oil and replacement of oil as based on the Lab report.
17. Repair and replacement of VFDs.
18. Verify the working condition of all indicator/alarm lights and LED/LCD displays/Motherboards/EXV cards/ISM /CCM boards. Repair/Replace if required.
19. Test oil pressure safety device as required. Calibrate and record settings.
20. Test the operation of the chilled water pump start auxiliary Repair minor leaks as required Eg: Valve packing, flare nuts, contacts, if applicable.
21. Lubricate all the pipelines valves and bearings of Motor and Pumps.
22. Verify the operation of Oil heaters.
23. Vane closing switches.
24. Service Provider shall carry out the total maintenance work for chiller units in all respect for healthy operation of the units.
25. Inspect all Electrical Panels and Electrical devices using Thermal Scanning
26. Water balancing of condenser line in chiller plant once in a year and submit the report to E-

I-C.

27. Servicing of VFDs of Chiller twice in a year.
28. Servicing of Hot water generators machine.
29. All replacement/Repairing of any equipment are in the scope of agency.
30. It is the contractor's responsibility that Chillers must be checked by the authorized representative of the original manufacturer annually and a service report is to be submitted to the Engineer in-charge. Also, Chiller should be serviced under the supervision of OEM service Engineers towards proper execution of maintenance.

### **9.1.2 COOLING TOWERS:**

**The following points should be considered during the tender period.**

1. Day to day operation and routine maintenance.
2. Check the water level, oil level of the gearbox if required fill it.
3. Check  $\Delta T$  (DELTA T) for cooling tower fouling.
4. Inspect clogging of water sump, fills, nozzles, adjust bleed, float and central valves for desired water level (replace fills/Nozzles/Header if required).
5. Check for unusual noise/vibration in fan and fan guard, motor drive shaft and guard, bearing etc. Also Re-balancing of fan & fan guard, drive shaft & guards.
6. Pressure-wash cooling tower and tower structure.
7. Clean the sump and replace water in the sump on monthly basis.
8. Check AMP of motor and motor winding for overheating.
9. Complete cleaning the whole parts of Cooling Tower weekly basis.
10. Tighten loose bolt of FRP, gear box, structure bolt connection and motor.
11. Drain cooling tower twice in a month along with condenser pipeline water.
12. Check oil seals and oil level of gear reducer and top up if required.
13. General cleaning for inside and outside daily basis.
14. Check the distribution basin for corrosion, leaks and sediments.
15. Check for any leakages in gear reducer, water basin and float valve.
16. Clean Pot Strainer & Replace the pot strainer net (If required).
17. Re-winding of Cooling Tower motor and replacement of its related accessories like terminal etc. Replacement of coupling, Spyder/bush and other related accessories as and when required.
18. Water quality such as PH, Hardness, and TDS etc. for cooling tower and chilled water line shall be monitored on a weekly basis or as frequency decided by the Engineer-in-charge.
19. Chemical treatment/Dosing of the Cooling Tower water shall be done to make it free from corrosion, deposits and biological growth.
20. Cleaning of PVC fills with suitable chemical (once in a year or as directed by E.I.C.). If Fills/nozzle/header etc. not working efficiently then replacement will be made by the agency as directed by E.I.C.
21. Painting of Cooling Tower Base structure, Condenser pipeline once a year. It is prime responsibility of agency to keep safe Base structure.
22. Proper Lifting/Shifting Arrangement of motor/heavy equipments is in the contractor scope with safety precaution.

### **9.1.3 Pumps, VFD, AHU, FCU and other related Units:**

#### **a) Pumps & VFDs:**

1. Day to day operation and routine maintenance.
2. Check for leaks on suction and discharge pipes.
3. Check for seals and packing glands etc. and any leakage from glands, seal or flange joints.
4. Replace the seal if required.
5. Check motor and pump operation for excessive vibration, overheating, noise, etc. Motor rewinding to be done (if required). Check alignment of pumps, motor and rectify if required.
6. Lubricate pump and motor bearing (replace bearing if required).
7. Clean exterior of pump, motor and surrounding area.
8. Clean strainer, replace strainer mesh if required.
9. Weekly check of coupling condition adjust & replace if required.
10. Monthly check for leaks in isolation of valves, strainers and flexible connections.
11. Clean pump exterior monthly basis.
12. Check motor earthing, megger motor and connection wiring on each leg.
13. Check VFDs operation, attend troubleshooting and rectify if any.
14. Check the connection, termination, terminal blocks, tighten and clean the panel.
15. Clean the VFDs with an air blower.
16. Repair or replace VFDs if required.
17. Check shaft or shaft sleeve for scoring.
18. Half Yearly flow checking and submission of report to Engineer-in-Charge.
19. Quarterly service of Pump, electrical panels, replacement of MCB/MCCB, Electrical Panel and other electrical equipments & repair if required.
20. Annual painting of condenser piping, plant piping etc. to prevent it from rusting will be done as per schedule or when intimated by the Engineer-in- Charge.
21. Dewatering for HVAC trench/ HVAC plant: Agency shall have to make proper arrangement (Suitable Pumps, Piping etc.) for dewatering of the HVAC trench and plants as and when required.

#### **b) AHU / TFA , Air- washer, Inline Fans, Ventilations Fans etc.**

1. Day to day operation and routine maintenance.
2. Check the unit for noise, vibration and any abnormality.
3. Clean filters periodically (in every fifteen days) as per PPM (replace filters if required).
4. Weekly check condensate drains for any blockage, clean if required.
5. Weekly check drain pan for any blockage, clean if required.
6. Weekly check for air and water leakages in AHU & pipeline and rectify as necessary.
7. Monthly check fan belt for correct tension and sign of wear and alignment of fan and motor.
8. Repair or replace VFDs of AHU and TFA, if required.
9. Monthly check functioning of lights and limit switch interlocking & proper illumination.
10. Quarterly service of motor of AHUs, electrical panels, replacement of MCB/MCCB, Electrical Panel and other electrical equipments & repair if required.
11. Check strainer, transformer, PICV valve (Combination valve), actuator, flair nut, flexible pipe etc. of FCUs and repair/replace if required.
12. Lubricate, greasing motor and blower bearing (replace bearing and blower if required).
13. Clean coil and cabinet in monthly basis with (a) spray of high pressure clean water (not exceeding 35 psi) (b) spray of chemical, if necessary. Purge air from all water coils.

14. Use fin comb to straighten coil fin after coil cleaning, if needed.
15. Check the motor belt and pulley for proper alignment (replace belt if required).
16. Check the unit's control valves, actuators, Sensors etc.
17. Clean Y-strainers (replace strainer's mesh if required).
18. Check the starter panels, check tightness of contacts, clean the panel with blowers and clean the contacts with CRC if required.
19. Check Cooling Coil and clean if required.
20. Inspect blower blade for wear and crack or damage and replace the same if required.
21. Check pressure drop at filters and compare it with manufacturer recommendations.
22. Check for air and water leakages.
23. Monthly check looseness of any bolt in fan casing, motor base etc.
24. Clean interiors and check for corrosion, check tightness of all sections.
25. Check functioning of Air washers repair/replace if required.
26. Check UVGI, Fire dampers and repair/Replace if required.
27. Clean Y Strainer, Filters, Drain pan, Drainpipe etc.
28. Check Electrical panel rectify if required.
29. Check blower motor& rectify if required.
30. Check Staire, Tube axial fans, Lift pressurization fans, Bathrooms fans, Inline fans etc. & Repair if required.
31. Check Starter panel &repair if required.
32. Check filters condition replaced if required.
33. Check motor earthing, megger motor and connection wiring.

c) **Fan Coil Unit (FCU):** The following points should be attended during CMC period.

Weekly	Check the water leakage.
Weekly	Clean air filters.
Weekly	Check drain pan for any blockage.
Monthly	Clean filters and Y-strainers, if required.
Monthly	Check the fan belt tension, abnormal noise and rectify if required.
Monthly	Check any water leakage from unit.
Monthly	Inspect the condensate drain pan and ensure that it is clean, and water flows freely.
Monthly	Check the condition of access door hinges for proper fixing.
Monthly	Check the unit is secured.
Monthly	Check the operation of inlet /outlet isolation valve.
Monthly	Check the looseness of any bolts in fan casing motor base etc.
Monthly	Check the associated damper movement and apply grease for bearings.
Quarterly	Inspect cooling coil and clean if required.
Quarterly	Clean strainers of FCU.
Half yearly	Check blower, motor unit etc. clean lubricate.
Half Yearly	Check and receive the vibration value and compare with recommended values.
Half yearly	Check tightness of electrical connections.
Half yearly	Add water and flush condensate drain pan, trap and drain line.
Half yearly	Check the condition of inlet strainers and clean if required.
Half yearly	Check the proper functioning of the 3 -way and 2-way valve.
Half yearly	Check the interconnection, copper piping, canvas and cooling coils.
Half yearly	Check full load current of motor.
Half yearly	Check the tightness of terminals of motor.
Half yearly	Check motor running current.

Yearly	Check blower, motor unit etc. clean and lubricate.
Yearly	Check electrical control and connection.
Yearly	Check and clean cooling coil with water, if necessary.
Yearly	Check 2/3-way valve for proper operation.
Yearly	Check insulation resistance (Megger) of motor.
Yearly	Check/ clean cooling coils and fins and repairing /replacement of canvas.

Check thermostat (controller) of FCUs and repair/replace, if required.

**d) Hot Water Generator, Humidifiers:**

1. Day to day operation and routine maintenance.
2. Check the unit for any abnormality and rectify it.
3. Monthly verify water parameters.
4. Check the operating parameters of all the units and fill out a daily log sheet. Contractor should ensure optimum RH% and humidity control in conditioned space and record it in logbook.
5. To check /calibrate all instruments/switches /gauges for proper functioning weekly basis.
6. Check weekly basis heater elements/ controls/ panel etc. and replace spares if required.
7. Any other work to upkeep the unit in healthy condition.
8. Check valves should be checked for leakage and replacement made where necessary.
9. All electrical connections should be checked for tightness daily basis.
10. Low water cut off should be checked to insure that it is functioning properly.
11. Probe for low water cut off should be checked for deposits and cleaned if necessary.
12. Heating elements should be removed. If scale has begun to form, all elements should be cleaned/replaced as required and the hot water generator be drained and flushed.
13. Pressure control should also be removed to insure that the bellows have not become clogged.

**e) Ducting, grill and chilled water pipeline and other piping system:**

1. Ducting and chilled water pipeline insulation is under contractor scope of work.
2. Diffuser, grill, damper and ducting cleaning half yearly.
3. Leakage repairing etc. contractor scope of work.
4. Fire actuator for fresh air damper contractor scope of work.
5. Fire dampers check &Repair if required.
6. Repair/Re-insulation of ducting/Pipeline& insulation is in scope of Agency.
7. Check HVAC pipelines & repair/replace if required.
8. Check all piping and support system for leaks/corrosion and repair/paint as necessary.
9. Check for damage & deterioration of insulation or cladding. Rectify as necessary.
10. Check GI and PI duct repair/replace if required.

**f) Electrical Panels:**

1. Monthly clean and adjust all switch gear, contactors, relays and associated equipment.
2. Monthly check and proper operation of thermal over load and protection devices.
3. Monthly check and ensure tightness of all equipment fastenings and cable terminations within switch boards.
4. Monthly vacuum clean all panels.
5. Monthly checking of the Bus bars for looseness of joints and tightening of the connection if required and cleaning of the bus bars.
6. Monthly checking of the control supply for its healthiness and its connections for tightness and taking remedial actions, if required.

7. Monthly cleaning of the bus bar supports for any crack.
8. Monthly checking of earthling connections and taking remedial actions, if required.
9. Monthly checking/sealing of cable entries.
10. Monthly maintenance of starter modules including cleaning of all parts with blower and manually, if required. Cleaning of all fixed & moving contacts of contractor with CTC including the replacement, if required.
11. Monthly checking of insulation resistance.

**g) Motors:**

1. Monthly general cleaning of water.
2. Monthly greasing of bearings.
3. Monthly opening and re-fixing terminal box cover & tightening of cable terminations.
4. Monthly measuring IR valve of motor and cable separately and recording the same.
5. Monthly checking of earthing continuity.
6. Monthly checking of motor protection devices and their calibrations, if required.
7. Monthly checking of foundation bolts and tightening, if required.

**h) Air Distribution System:**

1. Daily opening and re-fixing of false ceiling where ever maintenance work carried out.
2. Monthly check operation of all modulating and fixed dampers controlling air flow through unit. Lubricate all damper bearings and linkages as necessary.
3. Monthly carry out space temperature checks on air-conditioned areas with digital temp. & RH meter. Balance airflow as necessary to compliance with requirements of original specifications.
4. Monthly check noise level of discharged air from diffusers. Cleaning of air diffusers/grills etc.
5. Monthly check for duct air leak & insulation damage and repair as necessary.

**i) Ventilation System (Inline Fan/Axial Fan):**

1. Monthly check & adjust as necessary the airflow of all fans are in compliance with the original specifications.
2. Monthly check the tension of all belt drives and adjust as necessary.
3. Monthly check and lubricate all fan bearings.
4. Tighten motor terminals.
5. Monthly check starter contacts.
6. Monthly check and calibrate overload settings.
7. A system check shall be carried out for all Mechanical ventilation (MV), Pressurization and Exhaust system to verify the performance of the system.

**j) BMS**

1. Weekly check the incoming voltage in the panel.
2. Monthly check and tighten nuts and bolts etc.
3. Monthly check and tighten termination etc.
4. Monthly look for sign of discoloration due to overheating.
5. Quarterly check the data from transformers.
6. Quarterly check for updates for software.
7. Quarterly check for validation of system.
8. Yearly checking, servicing and testing of all sensors, VFDs, automation instruments etc. along with centralized BMS system.

**k) Fire Exhaust fan/Fire Damper**

1. Fresh air fan and Exhaust fan motor, fan blade etc. repairing / replacement in contractor scope of work.
2. Quarterly fan cleaning and servicing.

3. Electrical parameters checking monthly.
4. Fire damper actuator and controller repairing, checking etc.& replace if required.

**I) UVGI lamp:**

1. Lamp Checking for proper working.
2. Fault rectification/replacement if any.
3. Check panel and repair if required.

**m) Other Works**

1. Repair and maintenance of all low side damaged ducts.
2. Repairing of insulation of all chilled water pipelines.
3. Diffuser, grills, dampers and toilet inline fan cleaning as per schedule.
4. Leakage repairing etc. contractor scope of work.
5. Fire actuator for fresh air damper under contractor scope of work. Oil/Refrigerant gas, filters for chiller, pump, motor, cold storage etc. to be provided as and when required for proper functioning of HVAC system.
6. Check electrical overload protection systems and other electrical systems.
7. Any other requirement to keep the whole HVAC Plant systems efficient, in proper, healthy running condition as per operation and maintenance manual of various equipment.
8. Attending all Electrical and Mechanical breakdown of the Plant and other equipment.
9. All spares parts repairing/replacement to make HVAC System proper functioning.
10. It is mandatory to submit Validation/Calibration Certificates of all instruments used for Operation and Maintenance of HVAC systems, wherever applicable.
11. Replaced parts/ spares, used burnt oil etc. will be property of the vendor. It is his responsibility to dispose off it immediately as per norms of Pollution Control Board.
12. Operation and maintenance of whole BMS system including all controller and DDC panel (i.e. LT panel, Lifts, fire system, HVAC system etc.). BMS system shall be updated with the latest version compatible with the existing system and in case of incompatibility need to replace the system with compatible software, if any modification or hardware instrument required for the system, it is in the scope of the contractor. Contractor must be doing routine, half and yearly preventive maintenance of the whole BMS system.
13. The contractor must maintain the comfort condition at all locations of the hospital like temperature, humidity, odor and ventilation as per requirement 24x7x365.
14. Contractor must maintain Fire Alarm & Public Alarm System (FAPA system) synchronization with AHU, DDC controller, lifts and Fresh Air Unit. If the fire damper, damper Relay module and controller find faulty then need to be replaced on an immediate basis.
15. Replacing spare parts of all machinery, equipment, electrical panels etc. due to normal wear& tear.
16. To repair/ replace controls if found necessary.
17. The Plant room should be kept well illuminated, ventilated and all items are secured to ensure safety and security of humans & machines.
18. If due to any reason, any maintenance routines could not be undertaken, the same to be brought into the notice of the Engineer in-charge as soon as possible.  
Maintaining electrical hygiene for up keeping of all electrical equipment and system viz. motors, starters, electrical wiring including cable w.r.t operation, safety and fire prevention point of view.
19. Painting and surface preparation for painting of all supporting steel structure of HVAC System as per equipment details, Piping work including cooling tower base shall be done on yearly basis.
20. The scope of maintenance includes all kinds of repairs, replacement of all spares,

consumables, refrigerant gas, oil etc. These spares shall be replaced with the same type, make and quality. However, if the same is not readily available in the market, the alternate item should be approved by the Engineer in-charge before use at site.

21. The contract shall include emergency call back service at all hours round the clock for rectification of complaints immediately if noticed during the operation.
22. Since the plant is catering to the HVAC requirements of AIIMS Raipur, which has a very sensitive patient care area hence the contractor will have to attend to any fault/breakdown immediately. If the desired staff is not deputed in reasonable time, institute officials will beat liberty to employ staff to get the work done by other agency at the risk and cost of the contractor for which the decision of Engineer in-charge will be final and binding.
23. During the running of the contract the responsibility of physical custody of the plant will rest on the contractor.
24. Besides the logbooks, the contractor shall maintain a complaint register also in the plantroom so that complaints are entered with the date and time in the register by the complainant directly or informed telephonically.
25. The surrounding areas with machinery will be kept neat & clean. Items such as soap, detergent, cotton waste, sanitizer, etc. will be arranged by the contractor. Proper cleanliness shall be maintained in all work areas including all the equipment complete with panels etc. is under the scope of this work.
26. Half-yearly inspect make-up tank, drain, clean and flush out tanks as necessary.

## 9.2 Operation and Maintenance (Routine & Preventive)

### **9.2.1 Work to be done on daily basis:**

1. Start and stop the unit as required by area in charge.
2. Check the unit for noise, vibration, water leakage and any abnormality.
3. Check the smooth operation of the unit.
4. Check and rectify the refrigerant leakage in the chiller.
5. Maintain the operating logbook of the unit and area for DBT, WBT, and RH of AHU on hourly basis.
6. Maintain the cleanliness of the units.
7. The readings of the suction and discharge pressure, oil pressure, oil & refrigerant level, suction and discharge pressure of pumps, Voltmeters & Ammeters etc. shall be checked and recorded in the LOG-BOOK (provided by firm/agency/contractor) on hourly basis. Necessary action shall be taken if the readings are not normal.
8. To check all the electrical motors and their bearings, AHU panels and cooling tower panels for abnormal noise/heating and to take necessary action if found malfunctioning.
9. To check the water level in the make-up water tank in the Cooling Towers and check the functioning of the float valve. See proper function of the Cooling Towers.

### **9.2.2 Work to be done on weekly basis:**

1. Check the refrigerant system.
2. Clean all the strainers and the filters.
1. Check alignment/looseness of the entire belt driven equipment and rectify if required.
3. Oiling and greasing of the moving part of the unit.
4. Filters of AHUs, Fresh air inlet are to be cleaned regularly as per service maintenance schedule.
5. Check water inside the makeup tank for hardness/dirty and fill with soften water if required.
6. To check the lugs/thimbles/terminal points of the electrical motor, switches, starters, single-phase preventers and the indication lights etc.

7. Check fan Belt for correct tension and sign of wear and alignment of fan and motor.

#### **9.2.3 Work to be done on monthly basis:**

1. To check the gland/seal, coupling of Pumps and Cooling Towers.
2. To check the solenoid valve, safety controls Mechanical, Electrical/Electronics and the interlocking of the various equipment.
3. To check and clean the nozzles of the Cooling Towers and to clean the basin and sump of Cooling Towers. Look for water escaping from sides or from overflow and take remedial measures.
4. Cleaning all FCU units, AHU, CSU.
5. Clean and check all AHU/CSU starter panel, LT panel, in case of exhaust fan panel, all types of HVAC system related electrical panel.
6. Check equipment earthing of complete plant and indicate in logbook.
7. All Pre-Filters/Fine filters to be cleaned as per schedule.
8. To check Harmonic filter at chiller plant, if required maintenance/replace.

#### **9.2.4 Work to be done on quarterly basis:**

1. To check and lubricate (if required) the bearing of the motors and keep the proper record.
2. Check the foundation bolts of the Pumps and motors and take the necessary action if required.
3. To check and reset the relays and controls, and to maintain the proper record. Carry out servicing of the main switches/ACBs as required. To tighten all screws, nuts, bolts of the Electrical Power/control system.
4. Check the quantity of Air flow from various outlets in each Room/Area as per drawing and do adjustments of dampers etc. as and when required.
5. AHU/CSU belt alignment and replace if required.
6. Test all controlling and safety of the unit.
7. Check and adjust cooling tower fan blade and spray nozzle.
8. All Grills/Diffusers of the HVAC system need to be cleaned by maintaining a proper schedule and whenever instructed by Engineer In-charge.
9. BMS Engineer has to visit the site physically to check and rectify any fault present in the BMS system.
10. Service of chillers has to be done by the Agency.

#### **9.2.5 Work to be done on half yearly basis:**

1. Check and Clean water strainer in chilled water circuit if required.
2. Check the overload by measuring the amperage, check anti-recycle timer and operation of the electrical interlock, and voltage across the compressor terminal.
3. To tighten the clamps of cooling tower blades.
4. Cleaning of starters of all motors during winter shutdown.
5. Check the functioning of all controls and reset if required.

#### **9.2.6 Work to be done on yearly basis:**

1. Checking of smooth operation of Dampers
2. Descaling of the condensers of each chiller
3. Check for obstructions loose boards' fallen insulation on air ducts/ Chilled water pipe and hot water pipe, replace it if required clean baskets of pot strainers and "Y" strainers for AHU' s.
4. Drain all water from condenser pipelines and fill fresh water.
5. Change the oil in the oil sump. Replace filter and check oil temperature control.

6. Inspect starter contacts are shielded, transformer, and motor terminals, check connection in starter, tighten motor terminal control circuit terminals.
7. Inspect, calibrate and adjust to original specification, all safety and operating controls including low temperature and high- pressure cut outs, motor protector, oil pressure control, and fan temperature control.
8. Chemical cleaning of cooling coils of AHU and Condenser.
9. Cleaning/Replacement of cooling tower fills.
10. Servicing of LT panel and its breaker.
11. Check all wirings for loose contacts and rectify.
12. Contractor must submit the chiller/ air cooled chiller - Chilled water and condenser approach reports (i.e. chillers efficiency reports generated by OEM) annually.
13. Contractor must submit a fitness certificate of all high side equipment annually.
14. Inspection and maintenance schedule shall be carried out as per OEM's operation & maintenance recommendations as directed by Engineer-in- charge.
15. Painting of condenser water lines, rusted cable trays, support pillars, Plant room, AHU rooms, Acoustic& other equipment as required.
16. Perform megger testing and record motor winding resistance.

**9.2.7 Work to be done on weekly basis (MOTs/ICUs /OTs):**

1. Clean all the strainers and the filters.
2. HEPA filter set point change.
3. Check HEPA filter, repair or replace if required.
4. Check alignment/looseness of the entire belt driven equipment and rectify if required.
5. Oiling and greasing of the moving part of the unit.
6. Filters of AHUs, Fresh air inlet and outlet are to be cleaned regularly as per service maintenance schedule.
7. To check the lugs/thimbles/terminal points of the electrical motor, switches, starters, single phase preventers and the indication lights etc.
8. Check fan Belt for correct tension and sign of wear and alignment of fan and motor.
9. Check UVGI rectify/Replace if required.
10. Check Heat recovery wheel, Humidifier etc. & rectify if required.
11. Check blower, Motor, coils rectify/Replace if required.
12. Temperature & RH% Required-
  - a) Temperature:  $21\pm3$  °C
  - b) Relative Humidity:  $55\pm5$  %
13. Mode of Measurement for Operation: Operation of HVAC plant will be measured as per total TR of installed chillers.
14. The contract period of the work is for two year where after expiry of each year AIIMS Deoghar will evaluate the performance of services of the agency. If the services are found satisfactory, the agency allowed to continue the contract for one additional year at quoted price.

**Motor Control Centre (MCC) Panel (Chiller plant):**

	PREVENTIVE MAINTENANCE (FIRST VISIT)	HALF YEARLY CHECKUP (2 <sup>ND</sup> VISIT)	HEALTH
Equipment	Description of work		Description of work
Air Circuit Breaker	Visual checking of ACB and physical checking of Breaker Housing	Visual checking of ACB and physical checking of Breaker Housing.	
	Checking ACB spring charge electrically /manually	Checking ACB spring charge electrically /manually	
	Checking ACB tripping through protection relay.	Checking ACB tripping through protection relay.	
	Measurement of contact resistance (by mill volt drop test or with digital micro-ohmmeter)	Measurement of contact resistance (by mill volt drop test or with digital micro-ohmmeter)	
	Physical checking of breakers and breaker operation test both manually and electrically (5 operations each)	Physical checking of breakers and breaker operation test both manually and electrically (5 operations each)	
	Check fixed and moving contact & measurement of IR values	Check fixed and moving contact & measurement of IR values	
	Check close & trip coil, check earth continuity	Check close & trip coil, check earth continuity	
	Cleaning the breaker compartment thoroughly	Control circuit checking with auxiliary rotary switch checking	
	Control circuit checking with auxiliary rotary switch checking	Lubricate the breakers if necessary	
	Lubricate the breakers if necessary	Apply grease /petroleum jelly on moving required part .IR test with IR tester.	
Control & Relay Panel with CT & PT	Closing and opening timing test for all three poles	Check spring charging motor.	
	Apply grease / petroleum jelly on movable required part .IR test with IR tester	Physical checking of breaker housing	
	Check spring charging motor	No unplugged holes to be left and no foreign materials left over.	
	Check Auxiliary supply and control voltage	Check Auxiliary supply and control voltage	
	Check control and power fuses / indication lamps	Check control and power fuses / indication lamps	

	resistance and ratio test. Numerical Relay functional checking and testing.	
<b>Panel Bus -Bar, Cable Compartment &amp; Breaker Compartment</b>	Checking the space heater	Checking the space heater
	IR test of bus	IR test of bus
	Cleaning the breaker compartment thoroughly	Cleaning cable end termination and tighten if required
	Contact resistance test without opening of busbar insulation tape and compound	Cleaning of the cable chamber and outside panel
	Cleaning of the cable chamber and outside panel	Check the shutter operation
	Cleaning cable end termination and tighten if required	Check tightness of circuit & earth connections
	Apply grease /petroleum jelly on required parts	Alignment check of ACB for proper rack-in and rack out
	Check the shutter operation	Alignment of panel doors for Breaker chamber and Rear doors
	Check Tightness of circuit & earth connections	Check of limit switches, control cable conduit
	Alignment checks of ACB for proper rack in and rack out	Condition of all indicating instruments, cleaning and lubrication moving parts, tightening of nuts and bolts, checking of trolley wheels alignment during insertion
Checking of limit switches, control cable conduit		

	Phase barrier setting in cable chamber	
	Condition of painted surfaces, condition of structure, door, wiring, instruments, relays, power isolating contacts and auxiliary isolating contacts.	
	Condition of all indicating instruments, Cleaning & Lubrication of moving parts, tighten of nuts & bolts, checking of trolley wheels alignment during insertion.	
	Alignment of panel doors for breaker chamber, rear door.	

Changing of all required spares will be under scope of the contractor.

**Pre and Fine filter replacement of AHU as and when required will be under the scope of Contractor.**

**Note: Low side operation, repairing and new replacement of above all machinery, equipment, field devices and installations should be comprehensively under contractor scope of work.**

### Checklist

Item Description	Period
MCC Panel parameters	
Chiller Data	Daily
Secondary Pump, Primary Pump & Cooling Tower Data	
AHU motor amp, canvas, terminal, belt, pulley, filter section, drain line, heater, UV lamp, limit switch and bulb, lamp, valve etc.	
FCU motor amp, canvas, terminal, belt, pulley, filter section, drain line, heater, UV lamp, limit switch and bulb, lamp, valve etc.	Fortnightly
Cassette unit amp, terminal, blower, filter section, drain line, valve etc.	
Starter panel for supply and exhaust amp, terminal, MCB, contactor, relay etc.	Monthly
Automation and VFD Panels checking etc.	
Functionally Checking of all types of valve at branch line	
Axial flow fan amp, terminal, actuator etc.	Quarterly
Hepa-filters validation reports	Half-yearly

## Servicing

Item Description	Period
AHU pre-filter and HEPA filter cleaning	
AHU fresh air chamber cleaning	Monthly
Cassette type unit blower and filter section servicing	
FCU blower section and filter section servicing	
Actuator Servicing	Quarterly
Strainer cleaning	
Cooling Tower De-scaling and Basin cleaning	
Butter fly valve servicing	
Grill and diffuser cleaning	
VFD servicing	
Axial flow fan cleaning	
Duct cleaning	
AHU Coiling coil De-scaling	
ACB in MCC panel servicing	
Chiller condenser/evaporator de-scaling	

### **PRE-TAKEOVER ACTIVITIES:**

The successful bidder upon being selected for the work shall be issued with Letter of Acceptance (LOA). On receipt of LOA the successful bidder (hereafter referred to as 'the Contractor') shall start following mobilization activities at his own cost and complete within 30 days of issue of LOA. Thereafter, Work Order will be issued and the work will be commenced. The contractor shall take over the site within 15 days of issue of work order and signing the agreement.

### **1.0 ESTABLISHMENT:**

- 1.0.1 The contractor shall set-up its establishment such as office & office facilities and initiate related activities for taking over the machine.
- 1.0.2 Nomination of Authorized representative.

The Contractor shall nominate his representative as Overall In-Charge for the Contract to ensure that all the obligations under the Contract are discharged smoothly. He shall be authorized and empowered by the Contractor on all matters concerning this Contract. In all such matters, the Contractor shall be bound by the communications, directions, requests and decisions issued in writing to / by the Contractor's Representative. The Contractor's representative will report to the AIIMS's designated officer (s) in matters relating to performance of the Services under the contract.

### **1.1 HANDING OVER AND TAKING OVER OF THE HVAC SYSTEM:**

- 1.1.1 The handing over and taking over process includes joint inspection of the system, spares and store items by the representative of Purchaser and the Contractor. The joint inspection report shall contain the condition and status of the various components of machine, availability of spares and store items with specific comments on the detected visual abnormalities if any non-availability of immediate spares and store items.

These Report / documents are treated as base level document for effecting proper O & M planning and monitoring of the system. AIIMS will provide all drawings, manuals, past maintenance record and major failures, test records, log books etc. if available, to the Contractor.

- 1.1.2 Development of formats acceptable to the AIIMS during the term of the contract for reporting the feed-back, status of O&M activities and maintaining records & log books, etc. shall be the responsibility of the Contractor and shall be carried out in consultation with EIC.
- 1.1.3 The Contractor shall ensure that all the required personnel / resources are available at the time of the handover so as to be able to appropriately takeover and commence the intended services as per contract.
- 1.1.4 All equipment/ spare(s) taken for maintenance during the contract period shall be handed over back to AIIMS, Deoghar in good working condition.
- 1.1.5 The doors of all the AHU/AV units and Tertiary Pumps have been provided with Lock & Key arrangement. One set of key will be handed over to the contractor on award of work for operation & maintenance of the system. The keys shall be kept by the contractor till expiry/termination of the contract and the same shall be handed over back to the department.

## **2.0 STANDARDS OF PERFORMANCE OF SERVICES:**

The Services shall be performed in accordance with the express and implied standards including the following:

- The provisions of this Contract
- The Operating logic of Machines/ Equipment's
- Operation and Maintenance as per the O&M Manuals and taking into account the current status of the machine.
- All Directives Compliance with statutes, regulations as per clause.
- Quality Control in accordance with the requirement of ISO.
- Operate and maintain the HVAC System in accordance with sound industrial practice, financial & administrative practice and ensuring that the System is to be transferred to AIIMS on expiry of the contract period in good working condition.

## **ADDITIONAL CONDITIONS OF CONTRACT**

### **1.0 SITE VISIT:**

**1.1** AIIMS, Deoghar may conduct joint site visit, pre-bid and/or post-bid meeting. The bidder should attend the site visit as well as the pre-bid meetings, if any.

**1.2** Bidders are strongly advised to inspect and assess the site conditions and its surroundings and satisfy themselves before submitting their bids. A site visit shall be conducted for interested eligible bidders. The prospective bidders are advised to depute their technical experts with authorization letter to visit, assess and examine the conditions, requirements, nature & quantum of work and locations of installations which may be necessary for the purpose of bidding and submit a realistic offer for the successful execution of the work. The successful bidder may be required to take up initial repair works if any after finalization of tender. In general, they shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A Bidder shall be deemed to have full knowledge of the site whether he/she inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

**1.3** Submission of a bid by a bidder implies that he has read the Tender document and has made himself aware of the terms & conditions and scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of work.

### **2.0 BID PRICES:**

**2.1** The Bidder shall indicate on the prescribed Bill of Quantity, the landed prices of all the goods and services at AIIMS, Deoghar in accordance with terms & conditions and scope of work of Tender Document. It must include all the taxes, duties, fees, all types of Cess, insurance, transportation, packing, forwarding, administrative charges/ contractor overhead and profit amount and all other incidentals required for execution of the contract in all respect. Variation in taxes due to change in Govt. Regulations only shall be considered, provided such change has taken place within the period from 28 days prior to the last date of bid submission to the original completion date of the Contract.

**2.2** The rates quoted by the contractor shall be net so as to include all requirements described in the contract document and no claim whatsoever due to fluctuations in the price of the material and labour charges.

**2.3** The Contractor may arrange way bill at his cost for inter-state transportation of all the materials required for successful execution of the work.

### **3.0 PERIOD OF CONTRACT:**

The period of contract shall be 2 (Two) year from the date of commencement of work. The contract can further be extended at the discretion of the AIIMS, Deoghar and upon mutual consent of both the parties, subject to satisfactory performance by the contractor with same terms & conditions and rate for 3<sup>rd</sup> year of the contract.

### **4.0 DATE OF COMMENCEMENT & COMPLETION OF WORK:**

The Contractor shall commence the work within 07 (Seven) days from the date of issue of LoA. However, the Contractor must furnish the Security Deposit within this period so as to enable issue of work order prior to commencing the work at site.

### **5.0 PAYMENT TERMS/SCHEDE:**

The Contractor shall submit bill in duplicate at the end of every quarter. The bill in duplicate along with all supporting documents as required under this contract and prescribed check list/logbook shall be submitted to the Engineer-In-charge. The payment shall be made as below.

Payment shall be made on quarterly basis provided that the bill submitted should be in order in all respect and the statutory deductions of GST and other taxes applicable shall be recovered/paid from the contractor's bill as per Govt. of India /AIIMS rules.

**Vendor shall submit following documents along with the bill for payment:**

- (a) Complain reports duly signed by the user and duly verified by the JE concerned.
- (b) Service reports of PMS work during the Quarter verified by the JE concerned.
- (c) Wage, EPF & ESI Statement of workmen during the Quarter.
- (d) Warranty/Guarantee Certificate
- (e) GST return up to date Voucher.
- (f) Bank Account Details.
- (g) The documentary evidence in support of payment made to his fellow workmen for the period duly certified by the EIC.
- (h) An Undertaking that all statutory rules and regulation have been followed.

**6.0 DEDUCTION ON DEFAULT:**

Availability factor of HVAC system as per norms on demand, maintaining the rated capacity, up keeping of proper cleanliness/housekeeping, carrying out proper maintenance, attending breakdown in time (rectification of faults) and following the safety aspects, statutory norms and regulations are the essence of this contract. Therefore, the Contractor shall meet the performance parameters / norms / obligations pursuant to the contract. Failure on the part of the Contractor to comply with the requirements shall attract a deduction on account of underperformance as mentioned below:

**Minor Breakdown:** On getting the minor breakdown complain or failure of the HVAC system, Contractor's maintenance team must respond within **3 Hours** and carry out necessary repairs to restore the system in normal condition, failing which penalty of **₹1,000 per day up to 10% of the Tender value** will be recovered from the contractor.

**Major Breakdown:** On getting the major breakdown complaint or failure of the HVAC system, Contractor's maintenance team must respond within **3 Hours** and inform the concern AE/JE immediately regarding the complaint. After joint inspection with concern AE/JE, the complaint must be sorted out within **72 Hours** or **timeline given by the concern AE/JE according the nature of complaint**, the necessary repairs must be carried out to restore the system in normal condition, failing which penalty of **₹5,000 per day up to 10% of the Tender value** will be recovered from the contractor.

For any major repair or over-hauling work, the contractor shall inform in advance to the Executive Engineer before 72 hours of starting the work.

**6.1 DEDUCTION FOR POOR OPERATION and/or MAINTENANCE:**

Poor Operation and / or Maintenance shall mean

- i) Operation of machine(s)/equipment(s)
- ii) in abnormal condition(s).
- iii) Compromising in safety of machines by repeated & prolonged by-passing of safety devices, field devices, and monitoring/controlling devices during operation.
- iv) Tampering of Operational limits of the machine/equipment.
- v) Consecutive failure of any system / equipment or any component / sub-system i.e. Repetition of a fault for the same reason.
- vi) Maintenance not following the sound engineering practice.
- vii) Non-availability of any component in position which are available at the time of taking over the machine.
- viii) Nonworking of any system continuously without information to AIIMS.
- ix) Non-execution of deficiencies communicated by AIIMS in a mutually agreed period.
- x) Non-attendance and non-completion of breakdown in time agreed between AIIMS and the Contractor.
- xi) Unauthorized absent of any manpower or a workman found sleeping/ casual sitting during working hours or not following the Institute's general guidelines etc.
- xii) Any Tools & Tackles or the stock of material not found sufficiently and hampering the day-to-day work. Operation and /or Maintenance of machine/equipment shall be treated under poor

Operation and / or Maintenance if there is occurrence of any one situation or combination of situations as mentioned above as per the EIC. This will attract a deduction from the bill. The deduction to be made is as under.

**6.2 DEDUCTION DUE TO POOR CLEANLINESS / HOUSEKEEPING:**

The machine/equipment is to be kept in a reasonably cleaned condition. In case the level of cleanliness/housekeeping is not up-to the satisfaction of EIC during inspection, the contractor shall initiate immediate steps to undertake cleaning/housekeeping work in a time bound manner failing which the Contractor shall be liable for a deduction of **₹.5,000/-** for the 1<sup>st</sup> violation and **₹.10,000/-** for the 2nd violation from the quarterly bill. In the event the Contractor is found to be negligent in house- keeping continuously, it may result in termination of the Contract.

**6.3 DEDUCTION FOR NON-PROVISION OF PERIODIC INSPECTION:**

A deduction of **₹ 2,50,000/-** only shall be made from the Contractor's bill for not providing expert (**OEM**) services in time (**i.e. In Every year**) as specified (Periodic Inspection) of Scope of Work on each occasion for Chillers side Equipment's.

**PENALTY FOR INADEQUATE PLANNING FOR CRITICAL SPARES:**

In case of requirement of any material/component for which AIIMS has not been informed in advance, the Contractor shall arrange the material /component and make the machine/equipment functional at his own cost. If AIIMS arranges the material / component, the cost will be recovered from the monthly bill of the Contractor. In addition, the downtime of machine/equipment will be considered towards non-availability of machine/equipment and deduction as decided by the EIC shall be effected Running Bills the bills.

**Following registers are to be maintained by the contractor:**

- a) **Service/Breakdown Register:** The serviced/maintained/repaired has to be recorded in register and endorsement from End User Department has to be obtained in register.
- b) **Complaint Register:** All complaints received with respect to Hospital under this contract are to be recorded with time and date of receipt, as and when complaints are received from end user departments.
- c) **Spare Register:** All spares are to be recorded in the register. Spares taken outside the premises also to be recorded with serial number of spare and in and out date and time.
- d) **Tool and Tackle Register:** All tools and tackles used for the effective maintenance of Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar HVAC System are to be recorded in the register.
- e) **Attendance Register:** All the workers attendance should be maintained day wise in the register & submitted the same in the EE (ELECTRICAL) office for cross checking.
- f) **Wages Register:** Details of payment to workmen indicating the wages, EPF, ESI etc. to be maintained by the contractor & counter signed by the EIC.

**Checklist for Documents Required with Technical Bid**

**(To be attached with the Technical Bid)**

(Page no must be filled in sequence and uploaded else the bid shall be rejected)

S. No.	Details Provided	Compliance (to be ticked as attached)	Page no. of bid
1	Criteria of eligibility (Read and Attached)	Yes/No	
2	Copy of constitution or legal status of the bidder manufacturer/Sole proprietorship/firm/agency etc. (Attached)- Notarizes affidavit on Rs 100 non-judicial stamp	Yes/No	
3	Copy of registration certificate with CPWD, railway, any State Government department, central government, Autonomous body, PSU & MES as mentioned in NIT.	Yes/No	
4	Notarized undertaking on Rs. 100 non-judicial stamp paper with duly signed copy as per NIT.	Yes/No	
5	Copy of PAN Card Registration (Attached)	Yes/No	
6	Copy of GST registration certificate. (Attached)	Yes/No	
7	Copy of EMD (Attached)/ MSME registration.	Yes/No	
8	Copy of Average annual turnover duly verified by CA (Attached)	Yes/No	
9	Acceptance of tender condition (Filled and Attached)	Yes/No	
10	General Conditions of Contract (Read and Accepted)	Yes/No	
11	Copy of Completion Certificate as per NIT	Yes/No	
12	Technical Specification/System Details (Read and Accepted)	Yes/No	
13	Scope of Work (Read and Accepted)	Yes/No	
14	Annexure– I (Details of Bidder) (Filled and Attached)	Yes/No	
15	Annexure–II (UNDERTAKINGFOR NON-BLACKLISTING) (Filled and Attached)	Yes/No	
16	Annexure–III (Details of all works of similar class completed) (Filled and Attached)	Yes/No	
17	Annexure–IV (Financial Information) (Filled and Attached)	Yes/No	
18	Annexure–V (TENDER ACCEPTANCE CERTIFICATE)	Yes/No	

19	Integrity pact	Yes/No	
20	Valid Solvency Certificate as per NIT	Yes/No	
21	Special Conditions of Contract (Read and Accepted)	Yes/No	
22	Check List (Filled &Attached)	Yes/No	

**FORM OF PERFORMANCE SECURITY (BANK GUARANTEE)**

1. In consideration of the Director, AIIMS, Deoghar (hereinafter called "the Government") having offered to accept the terms and conditions of the proposed agreement between and (hereinafter called "the said Contractor(s)") for the work (hereinafter called "the said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs.\_\_\_\_\_(Rupees \_\_\_\_ only) as a security/ guarantee from the contractor(s) for compliance of his obligation in accordance with the terms and conditions in the said agreement.

I/We (hereinafter referred to as Bank) hereby (Indicate the name of the Bank) undertake to pay to the Government an amount not exceeding Rs. \_\_\_\_\_(Rupees \_\_\_\_\_ only) on demand by Government.

2. I/We do hereby undertake to pay the (Indicate the name of the Bank) amount due and payable under this Guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor (s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_(Rupees \_\_\_\_\_ only).

3. I/We the said bank undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor (s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

4. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the contractor (s) shall have no claim against us for making such payment.

5. I/ We further agree that the guarantee herein contained (Indicate the name of Bank) shall remain in full force and effect during the period that would be taken for the performance of the said agreement and it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid, and its claims satisfied or discharged, or till Engineer-in-charge on behalf of the Government, certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor(s) accordingly discharges this guarantee.

6. I/We further agree with the Government that the (Indicate the name of Bank) Government shall have the fullest liberty without our consent, and without affecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor (s) and to forbear or enforce any of the terms and conditions relating to the said agreement & we shall not be relieved from our liability by reasons of any such variation or extension being granted to the said contractor (s) or for any forbearance, act of omission on that part of the Government or any indulgence by the Government to the said contractor (s) or by any such matter or thing whatsoever which under the law relating to sureties would , but for this provision, have effect of so relieving us.

7. The guarantee will not be discharged due to the change in the constitution of the Bank or the contractor (s). We lastly undertake not to revoke this (Indicate the name of Bank) guarantee except with the previous consent of the Government in writing.

8. This Guarantee shall valid up to \_\_\_\_\_ unless extended on demand by Government, notwithstanding anything mentioned above, our liability against this Guarantee is restricted to Rs. \_\_\_\_\_(Rupees \_\_\_\_\_ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this Guarantee all our liabilities under the Guarantee shall stand discharged.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ for \_\_\_\_\_

(Indicate the name of Bank)

## **INTEGRITY PACT**

To,  
Executive Director,  
AIIMS Deoghar

**Subject: "Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar."**

Dear Sir,

I/We acknowledge that AIIMS DEOGHAR is committed to following the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE APPLICATION SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/ we confirm acceptance and compliance with the integrity agreement, in letter and spirit and further agree integrity agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by AIIMS Deoghar. I/ We acknowledge and accept the duration of the integrity agreement, which shall be in line with article 1 of the enclosed integrity agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, AIIMS DEOGHAR shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender.

Yours faithfully

Signature of Bidder (s)

Name and Address:

Seal of bidder

Date:

**Format for Integrity Agreement**  
**(To be made on Rs 100/- Judicial Stamp Paper)**

This Agreement is made at.....on this.....day of..... 20.... .

**BETWEEN**

Executive Director, AIIMS, Deoghar represented through Executive Engineer (Electrical), AIIMS, DEOGHAR,  
.....

..... (Address), (Hereinafter referred as the "**Principal/Owner**", which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

**AND**

..... (Name and Address of the Individual/firm/Company) through..... (Hereinafter referred to as the (Details of duly authorized signatory)

**"Bidder/Contractor"** and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

**Preamble**

WHEREAS, the Principal/Owner has floated the Tender (NIT No..... )

(Hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for: "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar**" referred to as the "**Contract**".

**AND** WHEREAS the Principal/Owner values full compliance with all relevant laws of the Land, Rules & Regulations, Economic use of resources and of fairness/ transparency in its relation with its Bidder(s) and Contractor(s).

**AND** WHEREAS to meet the purpose aforesaid both the parties have agreed to enter to this Agreement (hereinafter referred to as "**Integrity Pact**" or "**Pact**"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under: -

**Article - 1: Commitment of the Principal/Owner.**

1. The Principal/Owner commit itself to take all measures necessary to prevent corruption and to observe the following principles:

- (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender processor the Contract execution.
- (c) The Principal/Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

2. If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal Code (IPC)/Prevention of Corruption Act, 1988 (P C Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

#### **Article - 2: Commitment of the Bidder(s)/Contractor(s)**

1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standard and makes, and report to the Government/Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.

2. The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution: -

(a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind what so ever during the Tender process or during the execution of the Contract.

(b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.

(c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

(d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

(e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to, or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**

5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may be fall upon a person, his/her reputation or property to influence their participation in the tendering process).

#### **Article - 3: Consequences of Breach.**

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/Contractor accepts and undertakes to

respect and uphold the Principal/Owner's absolute right: -

1. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article-2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may before vigor for a limited period as decided by the Principal/Owner.**
2. **Forfeiture of E M D / Performance Guarantee/Security Deposit :** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contractor has accrued the right to terminate/determine the Contract according to Article-3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
3. **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

#### **Article - 4: Previous Transgression.**

1. The Bidder declares that no previous transgressions occurred in the last 05 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.
3. If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/ Owner may, at its own discretion, revoke the exclusion prematurely.

#### **Article - 5: Equal Treatment of all Bidders/Contractors/Sub-contractors.**

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all sub-contractors a commitment in Conformity with this Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-contractors/sub-vendors.
2. The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
3. The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

#### **Article - 6: Duration of the Pact.**

1. This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contractor till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.
2. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, AIIMS, Deoghar.

#### **Article - 7: Penalty:** As per given in the Additional Condition of Contract.

#### **Article - 8: Payment**

- a. **Quarterly** 100% of RA Bill (Quarterly Running Bills) payment will be released after due certification of

Bill by Engineering-in-charge or his representative **on submission of original tax invoice along with all necessary documents by the vendor after verification of work done by the vendor, in the same period, from AIIMS Authorities.**

- b.** Security Deposit 2.5% will be deducted from the bills of the Contractor.
- c.** The Income Tax as application shall be deducted from the bills unless exempted by the Income Tax Department.
- d.** All the work shall be completed within **02 year** from the date of issue of work Order by the Institute. All the aspects of safe installation shall be the exclusive responsibility of the Contractor.
- e.** It will be mandatory for the bidders to indicate their bank account number and over relevant payment details so that payment could be made through RTGS/Other mechanism.
- f.** GST and other taxes as applicable shall be recovered/paid from the contractor's bill as per Govt. of India/AIIMS Rules.

**Article - 9: Other Provisions.**

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the **Deoghar** of the Principal/Owner, who has floated the Tender.
2. Changes and supplements need to be made in writing. Side agreements have not been unmade.
3. If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
4. Should one or several provisions of this Pact turnout to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Agreement/Pact, any action taken by the Owner/Principal in accordance with this **Agreement/Pact or interpretation thereof shall not be subject to arbitration.**

**Article - 10: LEGAL AND PRIOR RIGHTS.**

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Pact.

IN WITNESS WHEREOF the parties have signed and executed this Pact at the place and date first above mentioned in the presence of following witnesses:

.....  
(For and on behalf of Principal/Owner)

.....  
(For and on behalf of Bidder/Contractor)

**WITNESSES:**

1. ....  
(Signature, Name and address)

2. ....  
(Signature, Name and address)

Place:

Dated:

## **Independent External Monitor (IEM)**

Details of Independent External Monitor (IEM) are furnished below:

- 1. Shri Shanker Reddy**  
Email Id- [shankerreddyips@gmail.com](mailto:shankerreddyips@gmail.com)
- 2. Shri Arun Kumar Sharma**  
Email Id- [sharmaak6@gmail.com](mailto:sharmaak6@gmail.com)

## PROFORMA OF SCHEDULES

### SCHEDULE 'A'

Schedule of quantities: - (ENCLOSED)

### SCHEDULE 'B'

Schedule of materials to be issued to the contractor. **NIL**

### SCHEDULE 'C'

Tools and plants to be hired to the contractor. **Deleted**

### SCHEDULE 'D'

Additional Condition and specifications: Enclosed.

### SCHEDULE 'E'

(Reference to General conditions of Contract.)

Name of Work: "Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar".

Estimated Cost of Work: ₹ 4,48,40000/-

(a) Performance Guarantee = **5% of Tendered Value**

(b) Security Deposit = **2.5% of Final Value**

### SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer Inviting Tender: - Executive Engineer(Electrical), AIIMS, Deoghar

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined: -

in accordance with Clause -12.2 &12.3 = no limit

### Definitions

**See below**

2 (v) Engineer-in-Charge **Executive Engineer  
Electrical AIIMS, Deoghar**

2(viii) Accepting Authority **Executive Director  
AIIMS, Deoghar**

2(xi) Standard Schedule of Rates - **CPWD Schedule of Rates (E &M ) 2025**

9(ii) Standard AIIMS Contract Form - **GCC for CPWD maintenance Works - 2023 as amended and up to and including correction slip**

(i) Time allowed for submission of Performance guarantee, :07 Days

Program Chart (Time & Progress) and applicable Labour Licenses,  
Registration with EPFO, ESIC & BOCW Welfare Board or proof of  
applying thereof from the date of issue of letter of acceptance

(ii) Maximum allowable Extension with late fee @ 0.1% of : 01 to 15 days

Performance guarantee amount beyond the period provided in  
(i) above.

**Clause – 2.**

Authority for fixing compensation under Clause 2

: Executive Director, AIIMS, Deoghar

**Clause – 2A.**

Whether Clause 2A shall be applicable

: No

**Clause – 5.**

Time allowed for execution of work

: **2 Year (From the date of commencement of work).**

Time of start of work:

Within Seven days after issue of work order.

Number of days from the date of issue of letter of acceptance for reckoning date of start

: **07 Days**

Authority to decide fair & reasonable extension of time for completion: of work

**Executive Director, AIIMS, Deoghar**

**Clause – 6A.**

Whether Clause 6A shall be applicable

: Yes

**Clause – 7A.**

Whether clause 7A shall be applicable

: Yes.

**Clause – 10B(ii).**

Whether Clause 10B(ii) shall be applicable

: No.

**Clause – 10C.**

: **Applicable only for Extended period in case the contract period extends after 24 months. (Note: - If the Contract Completion period is under 24 months the clause deemed to be deleted)**

: **Not applicable.**

**Clause – 10CA.****Clause – 11**

: CPWD General Specifications for Electrical works Part 1 Internal 2023, General Specifications for Heating, Ventilation & Air-Conditioning (HVAC), 2024

**Clause – 16.**

Competent Authority for deciding reduced rates

: **Executive Director  
AIIMS, Deoghar**

**Clause – 25.**

Settlement of dispute & Arbitration:

- i) **Conciliator**- Dispute Redressal Committee (DRC) to be constituted by **Executive Director, AIIMS, Deoghar.**
- ii) Arbitrator appointing authority- **Executive Director, AIIMS, Deoghar.**
- iii) **Place of Arbitration- Deoghar.**

**Clause – 32. Requirement of Technical Staff and rate of recovery in case of non-compliance shall be as per the following table: -**

Value of Work	Ser. No	Minimum qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical representative)	Minimum Experience in years	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause36(i)	
							(Figures)	(Words)
For Agreement amount up to Rs150 Lakhs	(a)	Graduate Engineer OR Diploma Engineer	Mechanical /Electrical	Principal Technical representative	02 years for Graduate Engineer/ 05 years for Diploma Engineer	02	Rs 25000/-	Rs Twenty-Five Thousand only

The bidder during the **“Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar”** period has to engage 24 Nos. of Manpower as per the details mentioned in scope of work & conditions failing which penalty of **Rs. 1200/day/manpower** will be deducted from quarterly Bill.

**Form of Earnest Money Deposit (Bank Guarantee Bond)**

WHEREAS Bidder..... (Name of Bidder) (Hereinafter called "the bidder") has submitted his tender dated ..... (Date) for the Operations & Comprehensive maintenance contract of ..... (Name of work) (Hereinafter called "the tender").

KNOW all people by these presents that we..... (Name of Bank) having our registered office at ..... (Hereinafter called "the Bank") are bound unto Executive Director, AIIMS Deoghar in the sum of Rs..... (Rs in words.....) for which payment well and truly to be made to the said Executive Director, AIIMS Deoghar, the Bank binds itself, his successors and assigns by these presents.

Sealed with the common seal of the said bank this ..... Day of .....20... .

THE CONDITIONS of this obligation are:

1. If after opening of tender, the Bidder withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the form of Tender.
2. If the Bidder having been notified of the acceptance of his tender by the Executive Director, AIIMS Deoghar
  - a.) fails or refuses to execute the form of Agreement in accordance with the instructions to the bidder, if required; OR
  - b.) Fails or refuses to furnish the performance Guarantee, in accordance with the provisions of tender document and instructions to the bidder; OR
  - c.) fails or refuses to start the work, in accordance with the provisions of the contract and Instructions to contractor; OR

We undertake to pay to the **Executive Director, AIIMS Deoghar**, either up to the above amount or part thereof upon receipt of his first written demand, without the **Executive Director, AIIMS Deoghar**, having to substantiates his demand, provided that in his demand the **Executive Director, AIIMS Deoghar**, will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the **date** after the deadline for submission of tender as such deadline is stated in the Instructions to the Bidder or as it may be extended by the **Executive Director, AIIMS Deoghar**, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE .....

SIGNATURE OF THE BANK

WITNESS .....

SEAL

(SIGNATURE, NAME AND ADDRESS)

\*Date to be worked out on the basis of validity period of 6 months from the date of issue.

**Details of the Bidder**

<b>S. No.</b>	<b>Details of Bidder</b>	
1	Name of Firm/Service provider	
2	Complete Address:	
3	Name of Proprietor/Partner/Managing Director /Director.	
4	State clearly whether it is sole proprietor or partnership firm or a company or a Government Department or a Public Sector Organization	
5	Whether each page of NIT and its annexure have been signed and stamped	
6	Whether the firm is a registered firm Yes/No (attached copy of certificate).	
7	Copy of GST Registration	
8	Permanent Account No. (Copy must be provided)	
9	Copy of Income Tax Return Acknowledgement for last Three years	
10	Any other information, if necessary	
11	Official Email ID	
12	Contact No.	

**Note: All pages should be numbered & indexed.**

Date:

Place:

Name:

Business Address:

Signature of Bidder:

Seal of the Bidder:

### **Pledge of Compliance**

(To be given by the authorized signatory of the Bidder)

Name:

Designation

Date:

### **DECLARATION**

I, (name designation with company name), acting on behalf of (company name & address), which is a bidder for the work "**Operation & Compressive Maintenance Contract of High and Low side of HVAC System at AIIMS, Deoghar.**"

Hereby undertake that my Firm/company is fully conscious that if my Firm/company is selected for providing the services to AIIMS DEOGHAR, at no point of time my Firm/company or its officials performing any responsibility on its behalf, or any associates sub-hired by us for executing any activity in the part of the project assigned to us, shall consciously or callously do anything to delay, obstruct or stall the progress of the project or any activities, decisions or actions related to the project, nor shall it refuse to cooperate or comply with any provisions of the Agreement or with any instructions issued by AIIMS DEOGHAR, including its authorized representatives, officials, PM/PMC and/or MPD (Project Architect) for the stated or unstated reason that AIIMS DEOGHAR's position, approach or assessment related to any elements or aspects of the Project is at variance with the position, approach or assessment of my company or its officials.

It is further undertaken that in the event of any breach of the above undertaking during the entire period of project implementation assigned to my Firm/company, the full responsibility of any losses incurred by AIIMS DEOGHAR, including financial, time or reputation losses, as assessed by AIIMS DEOGHAR, shall lie with my company and its officials and my company shall fully compensate AIIMS DEOGHAR for all such losses without resort to conciliation or arbitration processes.

Date:

Signature of the Bidder/Authorized Signatory Seal of Bidder

**UNDERTAKING FOR NON-BLACKLISTING**  
**(To be submitted on letter head of the company/firm)**

I hereby certify that the above firm has not been ever blacklisted by any Central / State Government/ Public Undertaking / Institute on any account.

I also certify that the firm will supply the item as per the specification given by the Institute and also abide by all the terms and conditions stipulated in tender.

I also certify that the information given in the bid is true and correct in all aspects and if in any case at a later date, it is found that any detail/s provided are false and incorrect, any contract given to the concerned firm or participation may be summarily terminated at any stage, the firm will be blacklisted and Institute may have imposed any action as per NIT rules.

Date:

Name:

Place:

Business Address:

Signature of Bidder: Seal of the Bidder:

### **FINANCIAL INFORMATION**

**Financial Analysis** – Details to be furnished duly supported by figures in balance sheet/profit & loss account duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

S. No.	Gross Annual Turn Over & Profit/Loss	2022-23	2023-24	2024-25
1				
2				
3				

Signature of Bidder  
with Seal

*Signature of Chartered Accountant with Seal*

**TENDER ACCEPTANCE CERTIFICATE**  
(To be submitted on Letter Head of the Company/Firm)

To,

The Executive Director,  
All India Institute of Medical Sciences, Deoghar (Jharkhand.)

**Name of work: “Operation & Compressive Maintenance Contract of High and Low side of HVAC System at AIIMS, Deoghar.”**

I / We, the undersigned have examined the above-mentioned Tender Enquiry Document, including amendment/corrigendum (if any). We now offer to undertake/complete the works in conformity with your above-referred document for the sum as shown in the Price Schedules (BoQ) uploaded herewith and made part of this bid. If our bid is accepted, we undertake to provide the items/services for which the tender has been concluded, in accordance with the delivery schedule specified in the Schedule of Requirements. We further confirm that, if our bid is accepted, we shall provide you with a Performance Security of the required amount in an acceptable form as mentioned in your NIT. I/We agree to keep our bid valid for a period of 180 (one hundred eighty) days for acceptance as required in your NIT Document, read with modification, or for a subsequently extended period, if any, agreed to by us. We also accordingly confirm to abide by this bid up to the aforesaid period and this bid may be accepted any time before the expiry of the aforesaid period. We further confirm that, until a formal Agreement / Contract is executed; this bid read with your written acceptance thereof within the aforesaid period which shall constitute a binding contract between us. We further understand that you are not bound to accept the lowest or any bid you may receive against your above-referred advertised tender enquiry. We confirm that we do not stand deregistered/banned/blacklisted by Central/State Govt./Ministries/Departments/PSU etc. I/We confirm that I/we fully agree to the terms and conditions specified in the above-mentioned Tender Enquiry Document, including amendment/corrigendum, if any.

We here by certify that if at any time, information furnished by us is proved to be false or incorrect, we are liable for any action as deemed fit by the purchaser in addition to forfeiture of the Bid Security / Performance Security.

Further that, if such a violation comes to the notice of the Department, then I/we shall be debarred for bidding in AIIMS Deoghar/institute in the future forever. Also, if such a violation comes to the notice of the institute before the date of start of work, the Engineer-in-Charge shall be free to forfeit the EMD/ Performance Guarantee/ Security deposit.

(Scanned copy to be uploaded at the time of submission of bid along with the technical bid)

Name:	
Business Address:	
Place:	
Date:	

### Schedule of Quantities/Bill of quantities (BOQ)

**Name of Work: “Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Deoghar”.**

Sl. No.	Description of Item	Unit	Qty	Rate per unit (₹)	Total Amount (₹) (Incl. of GST)
1	Operation and Comprehensive Maintenance of the Central Air-conditioning System comprising of all the machineries & equipment installed in the AC Chiller Plant including Chillers, Cooling Towers, Condenser, Pumps, Primary & Secondary Pumps, Hot water generators, VFDs & Automation of Pumps, Air washer, Air Handling Units, FCUs, Ventilation Fans, In-line Fans, Plant Manager with BMS system, UVGI, Heat Recovery wheels, Humidifier, Hepa filter, Electrical Panel and other associates equipment and works throughout the period of contract for 24 hrs x 365 days as per conditions and scope of work of the Tender. Hepa Filters Validation of OT in every 6-months and if found faulty then replace it.	Quarterly	08		
	<b>Total Amount (₹) (Including of GST)</b>				
	<p><b>Note:</b> “The rates quoted above shall be inclusive of all applicable taxes as prevailing on the date of submission. However, any subsequent changes in the applicable tax rates shall be reflected in the quoted rates accordingly.”</p>				