

# INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES, PATNA-14.

(Web Site:- [www.igims.org](http://www.igims.org))

Only through E -tendering process on website [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)

## NOTICE INVITING TENDER FOR ELECTRICAL WORK,

### Short Tender Notice No :- 09/ (Electrical) /E-Tender/2018-19

Percentage rate for schedule item and Item Rate of Non-Schedule Items for Following Work in two bid system (Technical and Price bid) are invited through e-tendering process from eligible and qualified contractors for the following work. Intending bidders must be registered with e-procurement cell on [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in). After registration bidders will get user ID, password and digital signature which will provide an opportunity and eligibility to take part in e-tendering process.

Sl. No.	Name of work	Estimated Cost ₹	Earnest Money ₹	Cost of Bid Document Non Refundable ₹	E-tendering fee Non Refundable ₹	Time of completion of work
1	Annual comprehensive Maintenance of VRV, AHU, & Package Air conditioners installed at IGIMS Patna-14	8192100/-	163890/-	10000/-	5900/-	12 months
2	Annual comprehensive Maintenance of Split, & Window ( 1.5 TR and 2 TR capacity) Air conditioners installed at IGIMS Patna-14	1590800/-	31900/-	5000/-	1180/-	12 months

### Time schedule is as follows: -

01.	<b>Date/Time for obtaining BOQ</b> (Only on <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )	02/07/2018 to 16/07/ 2018 till 03.30 P. M.
02.	<b>Last date/ time for submission of complete tender/quotation Document</b> (Only on <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )	17/07/2018 at 3:30 PM
03.	<b>Last date/ time for submission of complete tender/quotation Document Hard copy</b> at Director's office IGIMS	18/07/2018 at 3:30 PM
04.	<b>Date / Place of opening of tender / quotation</b> (Technical bid only on <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )	19/07/2018 at 3.30 PM
05.	<b>Date / place of opening of tender / quotation</b> (Price bid only on <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )	<b>Date of opening of price bid of technically</b> viable tender shall be intimated only through <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> and on Institute web site <a href="http://www.igims.org">www.igims.org</a> .

The Details Can be viewed on Institute web site. [www.igims.org](http://www.igims.org)

S/d  
DIRECTOR  
IGIMS, PATNA

**Particulars in brief:**

- (1) Authority to sanction the tender: Director, IGIMS, Sheikhpura, Patna-8000014.
- (2) **Any bidder with valid Registration with Bihar Building Construction Department/ Bihar Road Construction Department/PWD/C.P.W.D./ Bihar Rajya Pool Nirman Nigam /Bihar Rajya Jal Parishad /Bihar Energy Department/ Power distribution company/Indian Railway, may participate in this tender.**
- (3) Tender shall be carried out only through e-tender procedure at the website ([www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)). For any information regarding e-tender procedure, bidder may contact at Help Desk, First Floor. M/22, Bank of India Building, Road No-25, Sri Krishna Nagar, Patna-800001. and may contact also on Ph-0612-2523006, Mob. 7542028164
- (4) Bidder desiring to participate in the tender shall have to get registered with e-procurement. Necessary registration forms are available at the website. Bidder will get user id and password by registration. Bidder shall have to obtain DSC (Digital Signature Certificates) also. Bidder shall be able to participate in tender using user id, password, DSC and internet.
- (5) Bidder shall have to obtain, download the tender papers and submit and upload their bids at the website [www.eproc.bih.gov.in](http://www.eproc.bih.gov.in)
- (6) In addition to uploading the bid along with required documents, Bidders also has to submit hard copy of tender in sealed envelopes containing all related documents (hard copy) of Technical bid super scribed as "Technical Bid" super scribed as "Bid for work Sr. no – of respective NIT no -----". This must reach to the office of the undersigned through Registered post/ Speed post/Courier Services only on or before the last submission day and time of tender as mentioned in TENDER NOTICE. IGIMS takes no responsibility for the delay or loss in transit of any document related to this Tender.  
In case of non submission of tender documents in technical bid in hard copy as per eligibility criteria bidder will be non responsive.
- (7) The cost of Bid document is non-refundable and it should be **paid in the shape of Demand Draft of any nationalized / schedule bank, In favor of Director, IGIMS PATNA scan copy of this Demand draft should be uploaded and original D.D. must be enclosed along with hard copy of technical bid.**
- (8) The Earnest money shall be acceptable with Technical bid in the shape of Demand Draft (D.D.) in favour of Director, IGIMS, Sheikhpura, Patna of any nationalised /schedule bank. **Scan copy of this Demand draft should be uploaded and original D.D. must be enclosed along with hard copy of technical bid.** The Bid validity period of 120 days from the date of submission of tender/quotation.
  - (a) Tender/quotation processing fee (Non Refundable as per NIT- is mandatory to be paid through on line mode i.e. Internet payment gateway (credit/debit card, net banking, NEFT/RT GS)
  - (b) Bids along with necessary on line payment must be submitted through e-procurement portal [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) before the date & time specified in the N.I.T. IGIMS does not take any responsibility for the delay/non submission of tender, quotation/ non reconciliation of on line payment caused due to non availability of internet connection, network traffic /holidays or any other reason.
- (9) Regarding any information of the proposed work, bidder should contact the Executive Engineer Electrical- I IGIMS Patna on any working day, before submission of bid.
- (10) The undersigned has right to extend or cancel the Bids without declaring any reason
- (11) **ELIGIBILITY CRITERIA :**
  - (A) **Experience :-**  
Interested bidders, who fulfill the following eligibility criteria, shall be only eligible to participate in this Bid process.  
The contracting Firm/ Agency should have satisfactorily completed any one of the following during the last seven years, ending March 2018.
    - i) Three similar Completed as per the nature of work in NIT, each costing not less than 40% (forty percent) of the estimated cost
    - ii) or completed two similar works as per the nature of work in NIT each costing not less than 50% (fifty percent) of the estimated cost

- iii) or completed one similar work as per the nature of work in NIT costing not less than 80% (eighty percent) of the estimated cost.

(12) BIDDING PROCESS

DOCUMENTS AVAILABLE

Following documents related to this tender are available at website which should be downloaded by the bidder:-

TENDER DOCUMENT (Document available in Tender free View)

a) TECHNICAL BID SHEET

Bidder shall have to download empty document and upload filled file for evaluation of technical bid.

b) BOQ FINANCIAL BID

Bidder shall have to download BOQ and upload filled file for evaluation of financial bid.

c) Performa –I

Affidavit Format to be filled on non judicial stamp of Rs 1000/ and notarized if required to fulfill clause 14 A) ( vii)

(13) EVALUATION OF BID

Bid shall be evaluated in two stages:- it is expected that all the participating bidders or their representative will be present to witness the opening of Technical bid and Price Bid on the schedule date and time.

a) Evaluation of technical bid which consists of Eligibility of bid and documents to assign with technical bid.

b) Evaluation of financial bid

**( 14) Technical Bid Should contain:**

14. A) In the Technical bid, Bidders must submit and upload Notarized and self attested copy of the following required documents as per technical bid sheet to evaluate their eligibility, otherwise bid will not be considered for Evaluation of Technical Bid and bid will be summarily rejected:-

(i) Required original Bank Draft of any nationalized or schedule banks in favour of Director, IGIMS against cost of bid document fee as per instruction in N.I.T.

(ii) Required original Earnest money in shape of Demand Draft of any nationalized or schedule banks in favour of Director, IGIMS as per instruction in N.I.T

(iii) a) Notarized Copy of **Valid Registration in appropriate class with Bihar Building Construction Department/ Bihar Road Construction Department/PWD/ C.P.W.D./ Bihar Rajya Pool Nirman Nigam /Bihar Rajya Jal Parishad /Bihar Energy Department/ Power distribution company/ Indian Railway**

(iv) EPF / ESIC No. with up to date challan .

(v) GST registration & up to date clearance certificate.

(vi) PAN No. & Up to date income tax return Certificate.

**(vii) Copy of Valid Electrical Contractor License in Bihar, in the name of the bidder or its associate, issued from the competent government licensing authority (In case of bidder's associate holds the license the associate of the bidder has to submit a notarized affidavit on non judicial stamp of ₹ 1000/ of this subject in the format Performa - I along with the notarized copy of all the pages of original electrical license )**

14. B) Bidder should also upload and submit the following documents in addition to the required documents as per eligibility of bid in support of technical evaluation. Documents shall be attached in the same sequence as noted down below.

i) Audited Annual Financial Turnover of Chartered Accountant for the years

a- 2014-15

b- 2015-16

c- 2016-17

- ii) Experience Certificates of similar nature of work for which bidder is bidding issued by the work awarding agency on their letter head and duly signed by competent authority, for successful completion of works or final payment certificate during last five years, from date of submission of tender, specifying.
  - a- Name of work
  - b- Employer
  - c- Location
  - d- Contract amount
  - e- Date of start
  - f- Date of completion
- iii) Details of financial availability:-
  - a- Undertaking on non-Judicial stamp of ₹ 1000/, for cash investment of 25% of estimated cost for this work.
- iv) Document showing ownership of plants and equipment needed for successful completion of the related work for which bidder is bidding:
- v) Certificates in the form of Affidavit on non judicial stamp of ₹1000/- by the bidder for: -
  - a- Bidder has not been debar/rescind for any project which was taken up by bidder for last five years.
  - b- Bidder had no relative or any person directly or indirectly involved in design, execution, and supervision and testing of this tender.

**14. C) – In addition to above documents bidders must submit and upload following documents along with Technical bid as per respective work Sr. no. of the work of this tender for which bidder is bidding**

- (i) For the work Sr. no 1 of this tender bidder must have an authorized service centre at Patna of any brand Dakin/ Carrier/ Hitachi , for any of these, VRV/VRF /Package/ AHU type air conditioners. The bidder for this work must attach a certificate from the OEM (Dakin/ Carrier/ Hitachi) of this effect that the bidder is a authorized service agency of that brand located at Patna with full address and phone number on their company's letter head duly signed by competent servicing authority of that brand and upload & submit, the same along with the Technical bid.
- (ii) For the work Sr. no 2 of this tender bidder must be an authorized service agency of any of these window/ split air conditioners, Diakin,/Voltas/ Carrier or any reputed brand. The bidder for this work must attach a certificate from the OEM (Diakin/ Voltas/ Carrier, or any reputed brand) of this effect that the bidder is a authorized service agency of that brand located at Patna with full address and phone number on their letter head duly signed by competent service authority of that brand and upload & submit, the same along with the Technical bid.

**(15) EVALUATION OF FINANCIAL BID**

- i- The financial bid of only those bidders shall be opened who will qualify in evaluation of Technical Bid.
- ii- The Bidder should quote the rates including item of works incorporated in BOQ, all materials, all labour, all taxes, royalty, carriage, tools and plants and contingent expenses.
- iii- It will be presumed that the Bidder has carefully examined & have satisfied himself completely with: nature of works, extent of liability of the work, bill of Quantity specification, conditions of Tender, approved quarries, materials carriage leads, condition of the site of works, means of communication, approach road for access to the works site, availability of site, labor in connection with the completion of work etc. No claim either for cost or for extension of time will be entertained on anyone of these or similar ground.
- iv- Period of maintenance and quantity of A/c stipulated in the BOQ of this work may increase or decrease as per requirement .
- v- If amount of financial bid of bidders are same, work shall be allotted by draw of lots.
- vi- Any information related to tender shall be collected from the office of the related Executive Engineer on any working day.
- vii- Tender incomplete in any respect shall not be entertained.
- viii- Conditional Tender shall not be entertained.

**(16) CONDITIONS FOR TENDER**

- I. On acceptance of tender, it will be obligatory to deposit Initial Security money @ 5% of the amount of the approved tender, in shape of Demand Draft in favour of Director, IGIMS, Sheikhpura, Patna-14.

- II. If Earnest money already deposited along with the tender is likely to form part of Initial Security Money Deposit, then the Balance Initial Security money shall be deposited to execute Agreement, within 10 (ten) days of issue of letter of acceptance of tender, failing which, the offer shall be rejected and Earnest money forfeited.
- III. Earnest money of the unsuccessful Bidder will be refunded on request by Bidder.
- IV. Power of attorney of authorized signatory and Constitution of firm shall have to be produced by Contractor on demand.
- V. Letters issued through registered post /speed post shall be deemed to have been served to the bidder.
- VI. IGIMS reserves the right to reject the lowest or in part any bid or all bids without assigning any reason.
- VII. If it will be required or considered that certain item which has been quoted in non schedule by the bidder and is not required while carrying out the work, such item or part will be excluded from the work without any obligation to the contractor. The Bidder will not have any claim on such items.
- VIII. Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders on their own cost, to acquaint themselves from the nature of the work and nature of the ground and sub-soil, the form and nature of the site, the means of access to the site, the volume of work involved, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their work tender. The bidder shall be deemed to have full knowledge of the site, nature of work etc, whether he inspects it or not. It is to note that and no extra charges for complete work either in civil, electrical or mechanical work, etc will be paid to the contractor. Any misunderstanding or otherwise shall not be allowed.
- IX. The work to be awarded by this tender shall be treated as indivisible works contract.
- X. IGIMS reserves the right to inspect the works intimated to have been completed by the applicant and reject any prospective application without assigning any reason.
- XI. The tender for the works shall remain open for acceptance for a period of 120 days from the date of opening of tenders.
- XII. Completion period: The completion period indicated in the tender documents is for the entire work of planning, designing, supplying, installation, testing, commission and handing over of the entire job to the satisfaction of the Engineer - in - charge.

**Warranty:**

- XIII. The contractor/supplier has to warrant that goods supplied under this work is new, unused and incorporate all recent improvements in design and materials and shall have no defect arising from design of used material or workmanship or from any actor omission of the contractor
- XIV. All the items covered in the BOQ, shall carry minimum twelve months onsite Comprehensive Warranty, commencing from the date of completion of entire job. The after – sales service support / warranty services has to be provided at IGIMS, Patna-14.
- XV. The repairing / rectification (if any) of the items under warranty must be done at site within 24 hours after intimation.
- XVI. The bidders name, dated signature & seal should appear on each page of the Tender Document in the hard copy.
- XVII. The bidder shall be responsible for the delivery of the material/ equipment to site and shall include in his bid all the necessary arrangements for transport, loading and off-loading (including cranes, lifting tackles, wire rope, winches, slings, etc.). All the necessary arrangement along with material for installation, testing and commissioning to complete the work will be contractor's responsibility. IGIMS will not accept any claims for additional costs in this regard.
- XVIII. If the contractor or his workmen or employees shall break, deface, injure, or destroy any part of a building, road kerb, fence, enclosure, water pipes, cables, drains, electric or telephone posts, wires, etc. The contractor shall repair the same at his own cost. If failed, IGIMS will get it done by other agency and deduct the occurred expenses of which IGIMS decision is final.
- XIX. **Safety:** The successful bidder shall follow the Safety Code and Model Rules for the Protection of health for Workers.
- XX. The quality of all the items to be utilized by the successful bidder must be get approved by the Executive Engineer Electrical-I, before installation and utilizing it.
- XXI. The successful bidder has to submit daily progress report and submit the measurement of the work to the Executive Engineer Electrical- while execution of the work.

- XXII. The rate for all items of work shall include the cost of all labour, materials and all other inputs involved in the execution of the complete work and nothing extra on any account will be paid to the agency other than his quoted rates.
- XXIII. While installing or commissioning the contractor or his authorized representative should always be available at the site of work to take instructions from department officers and ensure proper execution of work.
- XXIV. The contractor shall maintain all work executed in good condition till the completion of entire work allotted to the contractor. No payment will be made to the contractor for damages caused by rains, floods or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the owner's property and to the work for which the payment has been advanced to him under the contract during the execution of the works.
- XXV. The garbage, removed from the site shall be disposed off by the contractor at any suitable place as directed by the Engineer-In-Charge.
- XXVI. Material must be properly packed against any damage and insured up to the destination. The material should be directly dispatched to the installation site at IGIMS, Patna -14.
- XXVII. All the expenses involved in delivering, unloading etc. the equipment at our site, shall be borne by the Bidder. All aspects of safe delivery shall be the exclusive responsibility of the Bidder. IGIMS will have the right to reject the component/equipment supplied, if it does not comply with the specifications at any point of installation, inspection and testing.
- XXVIII. EMD is liable to be forfeited and bid is liable to be rejected, if the bidder withdraws or amends impairs or derogates from the tender in any respect within the validity period of the tender.
- XXIX. If any equipment/material or part thereof is lost or rendered defective during transit, the supplier shall immediately arrange for the replacement of damaged equipment or part thereof, as the case may be, at no extra cost.
- XXX. Rates should be quoted including the cost of inspection, testing of material at the manufactures premises by IGIMS representative before dispatch, supply at site, unloading, erection, commissioning, testing and maintenance of supplies / materials given under BOQ, including all the prevailing taxes applicable at the time and others which may be deducted at source .
- XXXI. Along with TDS or any applicable taxes, 1% labour cess will be deducted from the successful bidder's bill as per prevailing Bihar state government rules.
- XXXII. IGIMS shall have the sole right to assess the performance of the tendered equipment(s) /components, primary / intermediate and or final, and reject the same without assigning any reason / explanation to the bidder if the performance is found to be unsatisfactory. The decision of IGIMS will be final and binding on the contractor.
- XXXIII. Price basis should be FOR, IGIMS Patna only. The quoted price will be considered firm and no price escalation will be permitted.
- XXXIV. The Contract period for the annual CMC of works sr. no 1 or 2 can be extended further on same terms and condition along with agreement rate if IGIMS requires it for required period.

#### **SECURITY DEPOSIT:**

- XXXV. The amount of Security Money shall be 10% (Ten Percent) of the work order Value- and deduction/deposit shall be made in following manner.
- a) Initial Security Deposit of (Five Percent) of the estimated value, which has to be deposited by the contractor through D. D. payable to Director IGIMS Patna and remain with IGIMS till expiry of warranty period.
- b) Balance 5% (Five Percent) Security Money shall be deducted from each running account bill of work done under this work order.
- XXXVI. Security deposit shall be refunded after expiry of warranty period (12 months from the date of completion of work order) provided, there are no defects in work and has satisfactorily removed all surplus material, rubbish from site. The Security deposit shall be totally non-interest bearing and the bank guarantee, if furnished, shall also not entail any liability towards bank interest, money or bank charges etc. on IGIMS.

#### **Payment:**

- XXXVII. a) For work Sr.No.1 Annual Comprehensive Maintenance of Package AC, VRV AC, A.H.U Units, the payment will be released on monthly basis through R.A Bills after satisfactory certificate by the Engineer in charge.
- c) For work Sr.No.2, Annual Comprehensive Maintenance of Split and Window AC unit of 1.5/2 TR Capacity, the payment will be released on monthly basis through R.A Bills after satisfactory certificate by the Engineer in charge.

Penalty-

XXXVIII. a) For work Sr. no 1 - In case of failure to attend the defects noticed/intimated in any type of AC, VRV AC, AHU, Package AC within 24 hours in case of minor fault or 3 days in case of failure of compressor or any major problem a Penalty of Rs. 1000/ per day/AC will be imposed. The decision of Engineer In charge will be final in this regard compensation to be paid under this provisions of this clause shall not exceed 10 % of total order value for the work.

b) For work Sr. no 2 - In case of failure to attend the defects noticed/intimated in any type of AC, Split air conditioning or window A/c within 24 hours in case of minor fault or 2 days in case of failure of compressor or any major problem a Penalty of Rs. 200/ per day/AC will be imposed. The decision of Engineer In charge will be final in this regard. Penalty to be recovered under these provisions of this clause shall not exceed 10 % of total order value for the work.

XXXIX. The contractor shall clear the site thoroughly of all scaffolding materials and rubbish etc. left out of his work and dress the site around the building to the satisfaction of the Engineer before the work is considered as complete.

XL. The quoted rate shall be complete in all respects including the cost of all materials, labour, tools & plants, machinery, deductible Bihar Government taxes etc prevailing at the time of pavement. IGIMS shall not be supplying any material, labour, plant etc.

XLI. The contractor has to ensure co-ordination with Institute authorities to maintain the smooth functioning / operation of existing Institute timing without disruption during the execution of work. This may require working rescheduling the normal working hours, working in restricted period etc. Nothing extra shall be payable on this account.

XLII. In the case of any tender where unit rate of any item/ items appear unrealistic, such tender will be considered as unbalanced and in case the bidder is unable to provide satisfactory explanation such a tender is liable to be disqualified and rejected.

XLIII. On account of security consideration, some restrictions may be imposed by the security staff on the working and movement of men and materials etc. The contractor shall be bound to follow all such restrictions/ instructions and he shall organize his work accordingly. No claim on this account, whatsoever, shall be payable.

XLIV. The contractor shall be responsible for completing the work and for satisfying all terms and conditions of the Contract without any extra payment over his quoted rates unless otherwise specified. The contractor shall quote his rates for various items of work accordingly and no claim whatsoever shall be entertained for any incidental or extra work involved in the execution of the work as per nomenclature of the item and the specifications indicated in the tender documents.

XLV. The contractor shall provide following manpower at IGIMS during entire contract period readily available for the works to be carried out to rectify the breakdown as well as preventive maintenance work. :

a) Minimum 1 qualified Engineer, 3 Senior qualified Technician and 3 helpers for Work Sr.No.1 of this tender

b) Minimum 2 skilled Air Conditioning Technicians and 2 Nos Technical helper for work Sr. no 2 of this tender

XLVI. The contractor has to establish a fully equipped workshop with manpower as in XLV above, sufficient spares and consumables in the campus of IGIMS to attend the problems in the entire contract period. Space will be provided by the IGIMS.

XLVII. The Contractor shall arrange necessary accommodation, lighting, drinking water and contingent medical aid for labors at his own cost and Contractor shall com The Contractor shall arrange necessary accommodation, lighting, drinking water and contingent medical aid for labors at his own cost and Contractor shall obey the labour rules prevalent in the locality.

XLVIII. The Contractor shall be responsible for any damage or loss to public property due to negligence of his labor or staff and the damages shall be made good at his own cost.

XLIX. Contractor shall be held responsible for any accident occurring due to negligence at works site and compensation against such accident shall be borne by contractor.

- L. No work beyond agreement shall be executed by the contractor unless ordered by the Engineer in Charge in writing in the Site Order Book and the claim for such work shall be submitted regularly in every month. If the claim is not received in the month to which it relates, it shall be treated as debarred and be disallowed.
- LI. No claim shall be entertained on account of fluctuation in rates, idle labor, non supply of materials or delays due to any other reasons.
- LII. All required papers as per eligibility of bid & documents to assign with technical bid must be notarized for this work by Public notary.
- LIII. All required papers in original must be shown by the bidder only to Executive Engineer (E) I /Superintending Engineer, IGIMS on next day at 3.00 PM of opening of technical bid. In case of non production of original documents the bidders will be declared technically non responsive.**
- LIV. The Contractors employing trucks for carriage of materials and for other works have to comply with the rules of the Motor Vehicles Act.
- LV. The Contractor shall not be entitled to claim or for compensation, for any loss suffered by him due to (A) Natural calamities, (B) Act of enemies, (C) Transport and procurement difficulties or (D) Circumstances beyond the control of the Department.
- LVI. On Account of Income Tax and GST certain percentage will be deducted from the bill of the contractor as per Government Rule.
- LVII. Neither any interest shall be paid nor will any claim be entertained on account of delayed payment due to non availability of fund.
- LVIII. The contractor shall have to rectify at his own defective works found during checking or inspection of the higher authorities.
- LIX. On completion of works contractor shall have to remove all materials and leave the space tidy and ready for use, all as per direction of Engineer in Charge.
- LX. Agreement of work will be executed as per F2 form and all documents attached will be part of the agreement
- LXI. Special terms and condition:-
- (a) The contractor will have to make a list of Package AC, VRV, A.H.U Units for work Sr.No.1 ; Split and Window AC unit of 1.5/2 TR Capacity for Work Sr.No.2 which are running at the time of starting of the work and this will be covered under C.M.C. Contactor will have maintain separate register for these ACs and logging for all the works is to be maintained for respective units on concerned pages.
- (b) Servicing of AC units is to be scheduled and it has to be maintained as per our requirement in this tender.
- (c) All breakdown calls should be attended within 24 hours.
- (d) The contractor has to carry out a preventive maintenance , as and when required and at least 3 times in one quarter of a year for each AC units
- (e) Preventive maintenance for work Sr.No.2 should consist of full servicing of AC i.e. proper washing of indoor unit cooling coils, indoor unit blower fan and outdoor unit condenser coils, washing of air filter, checking of wiring connections( both internal and external), checks for refrigerant leakage, checks for any loose joints/connection of any component of AC.
- (f) Maintenance work consists of both breakdown and preventive measures. In case of failure of any component/part of the AC, the contractor shall provide the replacement for said defective components. The contractor shall also be responsible for the transportation and installation of the replacement components for said machine at the site. No extra cost will be provided for this. The replacement component/spare must be of reputed make.
- (g) The contractor has to keep sufficient spares, consumables for Work Sr.No.1 like refrigerant, contactor, air handling motor belt, thermostat etc so that any break down period will not exceed more than 24 hours.
- (h) The Tools required for maintenance shall have to be supplied to its workers by the contractor.
- (i) All spares and consumables items used must be brand new. On arrival of the materials or equipments at site they shall be inspected and tested by the Engineer-in-charge.



- j) The contractor shall include and provide for securely protecting and packing the equipment in accordance with the best-established practices so as to protect the contents from damage during transit, storage, etc. The Contractor shall be entirely responsible for loss, damage or deterioration to the equipment occasioned by faulty, defective or insecure packing.
- k) In respect of termination of contract, addition, alteration or modification in any of the conditions of contract, rights are reserved with the IGIMS, without assigning any reason.
- l) Contractor shall provide a checklist book to its worker in which they will note down the work done daily and present it daily to be signed by the Engineer in charge.
- m) Contractor should provide a service checklist book for both work Sr.No.1 & work sr no 2.
- n) The original documents of the contractor is to be shown and get verified by the Executive Engineer(Electrical) before opening the Technical bid.
- o) The contractor must have a fully equipped workshop at Patna. IGIMS representative may inspect the workshop at any working day and time.

**LXII. Work specification for Sr. No 1 of this tender.**

**A) AHU units**

- Cleaning AHUs
- The Housing of AHU should be cleaned properly.
- Drainage should be checked when condensate generation is high. It is recommended that visible rust is removed and surfaces repainted to return their appearance to new. Drain pipe should also be checked.

**• Components**

- Defective electrical switches and sockets connections etc has to be maintained.
- Fix leaks in cabinet and supply ducts - Door maintenance, Gaskets, frames, hinges and latching handles tend to loosen and wear. It is to be maintained.
- Clean heating and cooling coils.
- Clean and adjust dampers.

**• Fans, bearings and belts:**

Motor exterior should be periodically cleaned.

- Check for signs of corrosion
- Lubricate the bearings if required.

Feel the motor frame and bearings for excessive heat or vibration. Listen for abnormal noise that may indicate a potential motor failure. Promptly identify and eliminate the source of the heat, noise, or vibration.

Verify that belt and motor drive guards are securely fastened so as not to cause vibration and noise and possible damage to equipment and personnel. Maintain proper belt tension and alignment.

- Clean filters. Filter cleaning intervals should be every 1–3 months, depending on particulate loading from indoor and outdoor air. Filters should be changed as and when required.
- Direct expansion (DX) coils.- Check for leakage of refrigerant should be done. Damage and wear and tear to coils should be checked.
- Check that:
  - Dampers are operating freely;
  - Linkages are properly lubricated;
  - Motors and pistons are working and responding to control signals;
  - Temperature and humidity sensors are working and properly calibrated.
- Tune-up AHU controls. Controls should be checked frequently for proper operation.

- All wiring connections both internal and external should be checked.

**For Outdoor unit connected to AHUs**

- Check condition and operation of unit.
- Check fixings are secure
- Check fan blade for vibration and noise, and clean and tighten it if necessary.
- Check condenser coil and clean if necessary.
- Check refrigerant system for leaks, operating pressure.

- Motor exterior should be periodically cleaned.
- Check fan motor for signs of corrosion
- Lubricate the bearings if required.
- Feel the motor frame and bearings for excessive heat or vibration. Listen for abnormal noise that may indicate a potential motor failure. Promptly identify and eliminate the source of the heat, noise, or vibration.
- Check compressor and fan motors, record motors current draw at full operating load and compare with rated output.

#### **b) PACKAGE units:**

##### **• Outdoor unit**

- Check condition and operation of unit.
- Check fan blade for vibration and noise, and clean and tighten it if necessary.
- Check condenser coil and clean if necessary.
- Check refrigerant system for leaks, operating pressure.
- Motor exterior should be periodically cleaned.
- Check fan motor for signs of corrosion
- Lubricate the bearings of motor if required.
- Feel the motor frame and bearings for excessive heat or vibration. Listen for abnormal noise that may indicate a potential motor failure. Promptly identify and eliminate the source of the heat, noise, or vibration

##### **• Indoor unit**

- Check air filter and clean if necessary.
- Check cooling coils and clean if necessary.
- Inspect PCB and remote is functioning properly or not, if malfunctioning, get it repaired or replaced.
- Check Drain tray for garbage and clean it if necessary.
- Check drain pipe and clean it if necessary.
- All wiring connections both internal and external should be checked.
- Checks for any loose joints/connection of any component/part of AC.

Tune up package AC settings/controls: Control setting and sensor calibration should be checked.

Check compressor and fan motors, record current draw at full operating load and compare with rated output.

**These preventive measures/activities must be carried out minimum 4 times or as and when required in one year.**

#### **C) VRV units**

##### **INDOOR UNITS**

Check condition and operation of units.

Check controls including thermostats, set points, safety controls and devices.

Check air filters and cooling coils of indoor unit and clean it if necessary.

Check Drain tray for garbage and clean it if necessary.

NOTE: The outdoor unit services multiple indoor units, ensure they are all serviced and record quantity serviced in service sheet.

##### **OUTDOOR UNIT**

Check condition and operation of unit.

Check fixings are secure including pipe work system.

Check fan for vibration and noise and clean if necessary.

Check heat exchanger coil and clean if necessary.

Check refrigerant system for leaks, operating pressure.

##### **ELECTRICAL**

Check condition and operation of all electrical components including:-

all safety devices all connections for security, tightness, contact and corrosion

relays and contactors all overloads and circuit breakers

all indicator lights

Check compressor and fan motors, record current draw at full operating load and compare with rated output.

**These preventive measures/activities must be carried out minimum 4 times or as and when required in one year.**

#### **XLIII. Work specification for Sr. No 2 of NIT-IGIMS/EW/E tender/110/2017-18**

##### **• Outdoor unit**

- Check condition and operation of unit.
- Check fan blade for vibration and noise, and clean and tighten it if necessary.
- Check condenser coil and clean if necessary.

- Check refrigerant system for leaks, operating pressure.
- Check fan motor for signs of corrosion
- Lubricate the bearings of motor if necessary.

- **Indoor unit**

- Check air filter and clean if necessary.
- Check cooling coils and clean if necessary.
- Clean blower fan.
- Inspect PCB and remote is functioning properly or not, if malfunctioning, get it repaired or replaced.
- Check Drain tray for garbage and clean it if necessary.
- Check drain pipe and clean it if necessary.
- All wiring connections both internal and external should be checked.
- Checks for any loose joints/connection of any component/part of AC.

Tune up Split AC settings/controls: Control setting and sensor calibration should be checked.

Check compressor and fan motors, record current draw at full operating load and compare with rated output.

- Check condition and operation of unit.
- Clean air filters.
- Clean cooling coils.
- Clean condenser coils.
- Check PCB and control system
- Check wiring connections both internal and external.
- Clean blower fan and fan blade.

Check compressor and fan motors, record current draw at full operating load and compare with rated output.

**These preventive measures/activities must be carried out minimum 3 times and as and when required as per instruction in one year.**

**S/d**

Director  
IGIMS Patna-14