

Notice Inviting e-Tender For

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM
FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.**

(File No.: AIIMS/BBSR/ENGG/ACR-2021/PET-CT/60)



**All India Institute of Medical Sciences
Engineering Branch, Bhubaneswar (Odisha)-751019
www.aiimsbhubaneswar.edu.in**

NIT No. : **AIIMS/BBSR/ENGG/ACR-2021/PET-CT/NIT/12**

Estimated Cost : **₹ 24,36,382/-** (Twenty-Four Lacs Thirty-Six Thousand Three Hundred Eighty-Two Rupees Only).

Completion Period : **60 Days** (from the date of issue of work order)

“Certified that, this tender document contains **53** pages only”.

**Executive Engineer (AC & R)
AIIMS, Bhubaneswar**

Government of India, Ministry of Health & Family Welfare, AIIMS, Bhubaneswar

Name of Work	:	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.		
NIT No.	:	<u>AIIMS/BBSR/ENGG/ACR-2021/PET-CT/NIT/12</u>		
<u>INDEX</u>				
			Page No	
1.	Cover			01
2	Subject & Index	-		02
3.	Notice Inviting e-Tender / Notice Inviting Tender	-		03
4.	Information & Instructions to Bidders for Tendering	-		04 to 06
5.	Declarations to be given by the Tenderers	-		07
6.	General Rules & Directions and General Conditions	-		08 to 12
7.	Form for Financial Information (Appendix `A` refers)	-		13
8.	FORM FOR DETAILED INFORMATION BY BIDDER	-		14
9.	PERFORMA FOR EARNEST MONEY DEPOSIT DECLARATION	-		15
10.	Percentage Rate Tender / Item Rate Tender & Contract for Works	-		16
11.	Special Conditions	-		17 to 19
12.	Technical Specification	-		20 to 30
13.	HVAC Drawing & Layout for PET- CT room.	-		31 to 32
14	Heater Control Wiring Layout	-		33to 35
15.	Approved Make	-		36 to 37
16.	Technical Bid (Eligibility Criteria)	-		38
17.	Affidavit	-		39
18.	Form for Performance Security (Bank Guarantee) (Annexure - I)	-		40
19.	Format for Agreement	-		41 to 44
20.	Proforma of Schedules	-		45 to 46
21.	Financial Bid (Schedule of Quantities)	-		47 to 50
22.	e-Tendering Instruction to the Bidder	-		51 to 53

NOTICE INVITING e-TENDER

(a)	Name of Work	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.
(b)	Tender No.	AIIMS/BBSR/ENGG/ACR-2021/PET-CT/NIT/12
(c)	Estimated Cost	₹ 24,36,382/- (Twenty-Four Lacs Thirty-Six Thousand Three Hundred Eighty-Two Rupees Only).
(e)	Earnest Money Deposit (EMD)	NIL
(f)	Performance Security (Bank Guarantee)	3 % of Tendered Cost.
(g)	Security Deposit	5% of the Final Value.
(h)	Tender documents will be Issued From	Download from Institute Website. (i.e. www.aiimsubnaneswar.edu.in, www.tenderwizard.com/www.eprocedure.gov.in).
(i)	Last Date, Time & Place of Submission	On 18 /06/2021 at 11:00 Hours through online.
(j)	Date, Time for opening of Tender (Technical Bids)	On 18 /06/2021 at 15:30 Hours.

1. The time of submission of e-Tender is **18 /06/2021 at 11:00 Hours**. The indenting Bidder must read the Terms & conditions of AIIMS, Bhubaneswar 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.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The Bid documents consisting of specifications, the schedule of quantities of various types of items to be executed and the set of terms & conditions of the contract & special conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website **www.aiimsubnaneswar.edu.in** Or www.tenderwizard.com/AIIMSBBSR.

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

INFORMATION AND INSTRUCTIONS TO BIDDERS FOR e-TENDERING

The Executive Engineer (AC&R) AIIMS, Bhubaneswar invites on behalf of Director, AIIMS, Bhubaneswar, Item Rate Tender in Two (02) Bid system (Technical & Financial) from eligible and reputed contractors of CPWD, AIIMS, any Central Govt., State Govt., PSU, Autonomous Body, Govt. Hospitals etc. having successfully completed works of similar nature as per eligibility criteria for the following work.

Ser. No.	Description	Details
(a)	NIT No.	AIIMS/BBSR/ENGG/ACR-2021/PET-CT/NIT/12
(b)	Name of Work:	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.
(c)	Estimated Cost	₹ 24,36,382/- (Twenty-Four Lacs Thirty-Six Thousand Three Hundred Eighty-Two Rupees Only).
(d)	Earnest Money Deposit (EMD)	NIL
(e)	Period of Completion	60 Days (from the date of issue of work order)
(f)	Last date and time of online submission of tender	On 18 /06/2021 at 11:00 Hours through online.
(g)	Time and date of online opening of Tender (Technical Bid)	On 18 /06/2021 at 15:30 Hours.
(h)	Time and date of opening of Online Financial Bids	To be intimated later through website.

1. The intending bidder must read the terms and conditions of Tender document carefully. He/they should submit his/their bid if he considers himself eligible and he is in possession of all the certificates / documents required.
2. Information and Instructions for bidders for e-tendering posted on website shall form part of bid document.
3. 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 <http://www.tenderwizard.com/AIIMSBBBSR> or www.aiimsbhubaneswar.edu.in free of cost.
4. For e-tendering of this tender, AIIMS has engaged e-portal maintained by M/s ITI Limited, Bhubaneswar. Intending bidders shall have to register with M/s ITI Limited, Bhubaneswar to participate in the tendering process. For details kindly visit website <http://www.tenderwizard.com/AIIMSBBBSR> or contact **Shri SANJEEB MAHAPATRA (Mobile No. 7377708585)**. If needed they can be imparted training on online bidding process as per details available on the website.
5. The intending bidders must have valid class-III digital signature to submit the bid.

6. The bid can be submitted only after depositing e-tender Processing Fee in favour of ITI Limited and uploading the mandatory scanned documents as specified within the period of bid submission.
7. Bidder(s) must ensure to quote rate of each item. The column meant for quoting rate in figures appears in dark yellow colour and the moment rate is entered, it turns sky blue. 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). After submission of the bid online the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
8. 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.
9. Financial bids shall be opened online only for bidders for whom EMD undertaking and other mentioned 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.
10. If the contractor is found ineligible after opening of bids, his bid shall become invalid.
11. If any discrepancy is noticed between the eligibility documents as uploaded at the time of submission of bid and hard copies as submitted physically by the bidder, the bid shall become invalid.
12. ***The Bidder(s) shall have to submit original instrument/document(s) and self-certified copies of all the scanned and uploaded documents on same day of opening of tender in the office of Tender Opening Authority. List of mandatory Eligibility Documents to be scanned and uploaded within the period of bid submission: -***
 - (a) Performa for Earnest Money Deposit declaration (Appendix" C") duly completed and signed by the bidder.
 - (b) Appendix 'A to C' duly filled in (Pages 13 & 15 ref.) and signed with stamp.
 - (c) Certificates of Work Experience & Completion Certificate of Similar Work from Client not below the Rank of Executive Engineer or equivalent, as mentioned in Ser. No. - 4, Page No. - 8 refer under Eligibility Criteria.
 - (d) Certificate of Registration for GST and acknowledgement, up to date filed return if required.
 - (e) Copies of PAN Sheet.
 - (f) Copies of Balance Sheets.
 - (g) Copy of Affidavit. (As per page no 39)
 - (h) Copies of ESI Registration (enclose latest challan copy)
 - (i) Copies of EPF Registration (enclose latest challan copy)
 - (j) The Bidder(s) should have their Registered Office/Branch in Bhubaneswar. If not, an Office should be opened in Bhubaneswar within 15 (**Fifteen**) Days of the issue of LoA. Details of Address Proof of Office located at Bhubaneswar should be given to EE(AC&R).
 - (k) Declarations to be given by the Tenderer(s) (as per Page 07.).

(I) Each page of the e-tender documents should be duly signed with seal otherwise the bid shall become invalid.

13. The Technical Bid(s) shall be opened first by the Committee On **18 /06/2021 at 15:30 Hours**. The Financial Bid(s) (whose Technical Bid found to be eligible) will be intimated later through web site. After the evaluation of the Bid(s) AIIMS, Bhubaneswar will award the contract to the Lowest Evaluated Responsive Tenderer. Conditional Bid(s) will be treated as unresponsive and will be rejected.
14. Information and instruction for contractor will form a part of NIT.

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

DECLARATIONS TO BE GIVEN BY THE TENDERER(S)

It is to certify that: -

(a) I /We have gone through GCC of CPWD up to latest correction as available on website of CPWD/www.tenderwizard.com / www.aiimsbhubaneswar.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.

Date: _____

Signature of the Tenderer(s)

(b) "I, S/o Shri resident of hereby certify that none of my Relative(s) as defined in Paragraph 14 of CPWD W-6 is/are employed in AIIMS, Odisha. In case at any stage, it is found that the information(s) given by me/us is/are false/incorrect, AIIMS shall have the absolute right to take any action as deemed fit without any prior intimation to me".

Date: _____

Signature of the Tenderer(s)

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

(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, than I/We shall be debarred for bidding in AIIMS in future forever. Also, if such a violation comes to the notice of AIIMS, Bhubaneswar before date of start of work, the Superintending Engineer shall be free to forfeit the entire amount of Performance Guarantee".

Date: _____

Signature of the Tenderer(s)

GENERAL RULES & DIRECTIONS AND GENERAL CONDITIONS

The Executive Engineer (AC&R) AIIMS, Bhubaneswar invites on behalf of Director, AIIMS, Bhubaneswar, Item Rate Tender in Two (02) Bid system (Technical & Financial) from eligible and reputed contractors of CPWD, AIIMS, any Central Govt., State Govt., PSU, Autonomous Body, Govt. Hospitals etc. having successfully completed works of similar nature as per eligibility criteria for the following work.

1. **Name of Work: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.**

2. The work is estimated to cost of ₹ 24,36,382/- (**Twenty-Four Lacs Thirty-Six Thousand Three Hundred Eighty-Two Rupees Only**). The estimate, however, is given merely as a rough guide.

3. Intending Bidder(s) is/are 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 of HVAC Machineries & Refrigeration Accessories/ VRF/Dx System of Centralised Air conditioning including Air Ventilation System**. Copy of work order(s) & respective satisfactory completion certificate(s) must be furnished by the bidder in Technical Bid in support of eligibility.

4. **Eligibility Criteria.** Indenting Bidder(s), who fulfil following requirement shall be eligible to apply: -

- (a) Three (03) similar completed works (**SITC of HVAC Machineries & Refrigeration Accessories**) each of value **not less than 40%** (i.e. for ₹ 9,74,553/-) of estimated cost put to tender or Two (02) similar completed works (**SITC of HVAC Machineries & Refrigeration Accessories**) each of value **not less than 60%** (i.e. ₹ 14,61,830/-) of estimated cost put to tender or one (01) similar completed work (**SITC of HVAC Machineries & Refrigeration Accessories**) of value **not less than 80%** (i.e. ₹ 19,49,106/-) of estimated cost put to tender in **last 07 (Seven) Years** ending **31st March 2021**.
- (b) The Bidder should have registration up to date Employee Provident Fund (EPF) Commissioner and Employee State Insurance (ESI) Corporation.
- (c) The bidder should have positive net worth and should not have incurred loss in last 03 (Three) Years ending i.e. by **31st March 2021**, duly certified by Chartered Accountant.
- (d) The experience of similar work should be from Central Govt., State Govt., PSU, Autonomous Body, Govt. Hospitals.
- (e) Agreements shall be drawn with the successful bidder(s) for item/items on prescribed format. Bidder(s) shall quote their rates as per various terms and conditions of the said form which will form part of the agreement.
- (f) The bid document consisting of plans, specifications, the schedule of quantities of the various type of items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents.
- (g) Conditional Bids shall not be considered and will be out-rightly rejected at the very first instance.
- (h) **Average Annual Financial**, the turnover during the last 3 years, ending **31st March 2021** should be at least 30% of the estimated cost (i.e. ₹ 7,30,915/-)

5. **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(s) through online as **“Technical Bid” for Name of work: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.**
6. **Earnest Money Deposit.** There will be no Earnest Money Deposit. The bidder has to submit the Performa for Earnest Money Deposit **Declaration (Appendix” C”)** duly completed and signed attached in page 15 of the Tender Document.
7. **Performance Bank Guarantee.** The successful contractor will be required to furnish a **Performance guarantee of 03% (Three Percent) of Contract Value after receiving notification of award in the form of Fixed Deposit Receipt or Bank Guarantee from any Nationalized Bank duly pledged in the name of the "All India Institute of Medical Sciences, Bhubaneswar"** which shall be kept valid for a period of 60 days beyond completion of all the contractual obligations. The Performance Guarantee can be forfeited by order of this Institute in the event of any breach or negligence or non-observance of any condition of contract or for unsatisfactory performance or non-observance of any condition of the contract. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest. In case the contractor fails to deposit the said Performance Guarantee within the period including the extension period if any, he/she will be debarred for a period as decided by the Engineer In charge.
8. Intending Bidder(s) is/are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids, the means of access to the site and in general 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 inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder(s) shall be responsible for arranging and maintaining at his/their 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(s) implies that he/they has/have read this notice and all other contract documents and has/have made himself/herself/themselves 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 on-line. For any query, Executive Engineer (AC& R), Phone: 9437317123, AIIMS, Bhubaneswar, may be contacted.
10. The Director, AIIMS, Bhubaneswar 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, Bhubaneswar reserves to himself/herself 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(s) shall not be permitted to bid for works in the AIIMS, Bhubaneswar responsible for award and execution of contracts, in which his/their near relative is posted as an officer in any capacity between the grades of Superintending Engineer and Assistant Engineer (both inclusive).

He/They shall also intimate the name of person(s) who are working with him/them in any capacity or are subsequently employed by him/them and who are near relatives to any gazette officer in the AIIMS, Bhubaneswar. Any breach of this condition by the contractor(s) 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. The bid for the works shall remain open for acceptance for a period of **90** days from the date of opening of bids.
16. 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.
17.
 - (a) **Security Deposit equal to 5% of the Final 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.**
 - (e) **Water charges @ 1% of the gross bill amount will be deducted if water supply is taken from AIIMS departmentally.**
 - (f) **Electrical charges as per actual meter reading shall be deducted from the bill. If connection is taken directly without installation of meter with prior permission from Executive Engineer (Electrical), then amount as per the usage shall be deducted from the gross bill amount as suggested by Executive Engineer (Electrical).**
18. All the work shall be completed within **60 (Sixty)** Days 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. If the contractor fails to complete the work on or before the stipulated date, then a penalty at the Rate of **1.5% per month of delay** to be computed on per day basis of the total order value shall be levied subject to maximum of **10% of the total order value.**
19. **List of Documents to be submitted along with the Technical Bid.**
 - (a) Performa for Earnest Money Deposit declaration (Appendix" C") (page no-15).
 - (b) Page No-13 & 14 (Appendix A & B) duly filled in.
 - (c) Certificates of Work Experience & Completion Certificate of Similar Work from Owner.
 - (d) Certificate of Registration for GST and acknowledgement of up to date filed return if required.
 - (e) All documents as per Ser. No. 12 (a) to (l) (Page - 05 refers).

20. **Goods and Services Tax (GST).**

- (a) **GENERAL REMARKS ON TAXES & DUTIES:** In view of GST Implementation from 1st 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.
- (b) Bidders are required to submit copy of the GST Registration certificated while submitting the bids wherever GST (CGST & SGST/UTGST or IGST) is applicable.
- (c) "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").
- (d) Quoted price/rate(s) should be inclusive of all taxes and duties, except GST (i.e. IGST or CGST and SGST /UTGST applicable in case of interstate supply or intra state supply respectively and cess on GST if applicable) on the final service. However, GST rate (including cess) to be provided in the respective places in the price Bid. Please note that the responsibility of payment of GST (CGST & SGST or IGST or UTGST) lies with the supplier of Goods/services (service provider) only. Supplier of Goods/Service (Service provider) providing taxable service shall issue an invoice/Bill, as the case may be as per rules/regulation of GST. Further, returns and details required to be filled under GST laws & rules should be timely filed by supplier of Goods /services (Service provider) with requisite details.
- (e) The contractor(s) must be submitted GST Challan copy in original duly signed with stamp of firm, against this work before releasing Security Deposit (SD) money.

21. The Agency 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, Bhubaneswar 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, Bhubaneswar for whatever reason. The Agency shall also be responsible for the insurance of its personnel. The Agency shall specifically ensure compliance of various Laws / Acts, including but not limited to with the following and their re-enactments / amendments / modifications: -

- (a) The Payment of Wages Act 1936.
- (b) The Employees Provident Fund & MP Act, 1952.
- (c) The Contract Labour (Regulation) Act, 1970.
- (d) The Payment of Bonus Act, 1965.
- (e) The Payment of Gratuity Act, 1972.
- (f) The Employees State Insurance Act, 1948.
- (g) The Employment of Children Act, 1938.
- (h) The Motor Vehicle Act, 1988.
- (j) Minimum Wages Act, 1948.

22. **Termination of Contract.** AIIMS, Bhubaneswar 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, Bhubaneswar 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 and the agreement may be

terminated. The decision of AIIMS, Bhubaneswar's management in this regard would be final and binding on the Tenderer. In such an event, AIIMS, Bhubaneswar shall have the right to engage any other tenderer to carry out the task.

23. **Arbitration.** The Arbitration shall be held in accordance with the provision of the Arbitration and conciliations Act, 1996 and the venue of arbitration shall be at Bhubaneswar. The decision of the Arbitrator shall be final and binding on the both parties.
24. **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 Director, AIIMS, BHUBANESWAR 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.
25. The Lowest Bidder will be decided as per the Commutation Rates quoted by the Bidder for individual item.
26. Mode of Payment:
(a) The 100% payment will be released after due verification of final bill by Engineering-in-Charge or his representative after completion of work. The deduction of 5% towards security deposit and other deduction towards taxes as per Government of India/AIIMS rule will be made from the bill. No provision is given for RA bill payment in this contract.
(b) It will be mandatory for the bidders to indicate their bank account number and other relevant e-payment details so that payment could be made through RTGS/ Other mechanism.
28. GST and other Taxes as applicable shall be recovered/ paid from the contractor's bill as per Govt. of India/AIIMS Rules.
29. **Vendor shall submit following documents after execution of given work:**
(a) Work Completion Certificate
(b) Testing & Commissioning Certificate
(c) Material Test Certificate
(d) Warranty/Guarantee Certificate
(f) Colour Photos for Executed work on glossary paper
(g) Non-Objection Certificate (NOC) against this work execution.
(h) GST return up to date Voucher.
(i) Bank Account Details.

Executive Engineer (AC & R)
AIIMS Bhubaneswar

Appendix `A`

FORM FOR DETAILS OF ALL WORKS OF SIMILAR CLASS COMPLETED DURING THE LAST 07 (SEVEN) YEAR

S · N	Name of work/ project	locat ion	Owner or Sponso ring Organiz ation	Cost of work in lakhs	Date of Commen cement as per Contract	Stipulat ed date of Comple tion	Actual date of Comple tion	Litigation/ Arbitration pending/in progress with details	Remarks
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1									
2									
3									
4									
5									
6									

(Authorized Signature of the Bidder with Seal)

Appendix `B`

FORM FOR DETAILED INFORMATION BY BIDDER

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 centre nearby Bhubaneswar	:
Whether the firm is a registered Firm (Yes/No. Attach Copy of Certificate)	:
PAN Number. (enclose the attested copy of PAN Card)	:
GST Number (enclose the attested copy of GST Certificate)	:
Whether the firm has Uploaded the Bank Draft/Pay Order/ Banker's Cheque of Earnest Money Deposit (EMD).	:
Whether the Firm/Agency is 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)

Appendix `C`

PERFORMA FOR EARNEST MONEY DEPOSIT DECLARATION

Whereas, I/We.....(Name of Agency).....have submitted bids
for.....
.....

I/We hereby submit following declaration in lieu of submitting Earnest Money Deposit

1. If after opening of the tender, I/We withdraw or modify my/our bid during the period of validity of tender (including extended validity of the tender) specified in the tender documents.

Or

2. If after the award of work, I/We fail to sign the contractor to submit Performance Guarantee before the deadline defined in the tender document.

I/We shall be suspended for One year and shall not be eligible to bid for AIIMS Tender from the date of issue of suspension order.

Name:

(Full signature of the bidder with Firm's seal)

Place: _____

Dated: _____

Percentage Rate Tender / Item Rate Tender & Contract for Works

E-Tender for the work of: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.

To be submitted online by:

Time and date of online Opening of **Technical Bids.** : **18 /06/2021 (15:30 Hours).**

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 Appendices 'A' to 'C' as per Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special Conditions, Schedule of Rate & 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 Director, AIIMS, Bhubaneswar or his successors, in office shall without prejudice to any other right or remedy, be at liberty to debar me for 01 (One) year. Further, if I/We fail to commence work as specified, I/We agree that Director, AIIMS, Bhubaneswar or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to suspend me for one year. 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 the tender form. Further, I/We agree that in case of non-submission of Performance Guarantee as aforesaid, I/We shall be debarred for participation for one year in the tendering process of the work.

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, Bhubaneswar, then I/We shall be debarred for tendering in AIIMS, Bhubaneswar in future forever. Also, if such a violation comes to the notice of AIIMS, Bhubaneswar before date of start of work, the Administrative Officer shall be free to forfeit the entire amount of 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(s)

with full Postal Address

Witness: *

Address: *

(* To be filled in by the Contractor.)

Occupation: *

SPECIAL CONDITIONS

1. Site Visit:

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 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. 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. Bidders shall submit a realistic offer for the execution of the work at their own cost without any liability on AIIMS, Bhubaneswar. Submission of a bid by a bidder implies that he/she has read the Tender document and has made himself / herself 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.

Contractor(s) has/have to ensure safety and provide adequate supervision/precautions.

1. During working at site, some restrictions may be imposed by Engineer-in-Charge/Security staff of Corporation or Local Authorities regarding safety and security etc., the contractor(s) 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.
2. Electricity for erection of cable, T&P etc at site shall be arranged by Vendor (s)
3. 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 (B.O.Q), which is enclosed. All rates shall remain firm for the contract period/extended contract period.
4. 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, The Competent Authority shall forfeit the earnest money deposited (EMD) by him along with the tender.
5. All the works to be carried out in accordance with latest CPWD/BIS Specifications & also followed by the I.E. rules and as per the directions of Engineer-in-charge.

6. Packing:

The supplier shall provide such packing of the goods, as is required to prevent their damages or deterioration during the transit to their final destination as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit.

7. Drawing and Specifications:

A copy of tender documents and all relevant drawings and specifications viz. Indian standards, latest CPWD specifications etc. shall be made available at site if & when asked for reference.

8. Cost of Tests:

The cost of preparing samples and carrying out tests for quality of material or workmanship will be borne by the contractor except for such exclusions as are specifically mentioned in the specifications laid down in contract. The cost of all test carried out by Laboratories directed by the Engineer-In-Charge will be borne by the contractor.

9. The work shall be carried out strictly as per the attached technical specifications, relevant IS specifications.
10. The contractor has to get approved all the material from the Engineer-in-Charge before its actual use at site of work.
11. The scope of work includes all minor building works required for execution work such as cutting of wall etc. and making good the same. Nothing extra will be paid to contractor for the same.
12. 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.
13. 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.
14. Existing materials on good condition may be used after joint inspection by Engineer-in charge & AIIMS representatives & vendor.
15. Dismantling of non-used materials to be deposited at Engineering Dept. by the Firm.
16. For all items of said work; 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.
17. 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.
18. 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.
19. 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.
20. 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 campus.
21. No claims of the labours shall be entertained by the Department including that of providing employment, regularization of services etc.
22. All T&P, ladders/Hydra etc, Electrical instruments for execution of internal electrification work, required for execution of the work shall be arranged by the contractor.

23. 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.
24. All dismantled material will be removed from site by contractor after verification of measurement of the same by concern JE.
25. 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 Bhubaneswar 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 Bhubaneswar. 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.
26. 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.
27. 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. 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 take action against the contractor(s).
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 as ordered by the Engineer-in-Charge for its conformity and all testing charges shall be borne by the contractor.
29. 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 (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, Engineering In-charge shall be deciding authority and regard to the intention of the document, his decision shall be final and binding on the Contractor.

Executive Engineer (AC & R)
AIIMS Bhubaneswar

SIGNATURE OF THE CONTRACTOR

TECHNICAL SPECIFICATION

1. Project Objectives:

The proposed project shall be air-conditioning of proposed PET-CT room within the campus of AIIMS (All India Medical Science), Bhubaneswar. The project objective includes energy efficiency, centralized grouped location of services installation to ensure easy maintenance, state of the art technology, fast track installation and compliance to all statutory regulations. Any facility not mentioned in this scope, but which is vital to **“SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR”** are assumed to be included in the scope of work.

2. GENERAL:

The system selected is a modular system, with number of indoors connected to centrally located outdoor units, as per detail designing given in the tender. The outdoor units for all the system shall be air cooled type and mounted on terrace/outside of the building. Indoor units in various areas shall be as per enclosed drawings / Bill of Quantities All the **Ductable AC** air conditioners shall be fully factory assembled, wired, internally piped & tested. The outdoor unit shall be pre-charged with first charge of R 410A or Eqv. CFC free refrigerant. Additional charge shall be added as per refrigerant piping at site. All the units shall be suitable for operation with **415 V + 10%, 50 Hz + 3%, 3 Phase supply** for outdoor units & **220 V + 10%, 50 Hz + 3%, 1 Phase supply** for indoor units. The **Ductable AC** system shall provide stable, trouble free & safe operation, with flexibility of operating desired indoor units. The outdoor units must be capable of delivering exact capacity proportional to the number of indoor units switched on & the heat load in the air-conditioned area. The proportional operation shall be achieved by varying speed of the compressor in the outdoor units / change in compressor configuration or capacity as per load.

3. CEILING MOUNTED DUCTABLE TYPE UNIT:

- (a) Unit shall be suitable for ceiling mounted type. The unit shall include **pre-filter, fan section & DX coil section**. The housing of unit shall be light weight powder coated galvanized steel. The unit shall have high static fan for Ductable arrangement, without causing any excessive vibration & noise.
- (b) Fan section with Statically & dynamically balanced Comefri / Kruger / Nicotra / Punker or equivalent make direct /belt-drive DIDW forward/backward curved centrifugal fan, TEFC squirrel cage induction drive motor.
- (c) Coil sections with **6-row DX type cooling coil**. Face velocity not over 500 FPM. Seamless copper coils of plate finned compact tape with a minimum of air by pass. Copper tubes with smooth non-corrugated fins of aluminium.
- (d) Filter Sections with Fine **Filters (90% down to 10 Micron)**, All filters should be washable type. Comprising heavy gauge construction with Echelon arrangement of filters, slides & end cap shall permit filter access at any end & compressing device hold filter snugly together.

- (e) The cold air supplied by these units will be supplied to the area to be air conditioned, through duct system specified in the tender.
- (f) Each indoor unit must have **Electronic Expansion** valve operated by microprocessor thermostat-based temperature control to deliver cooling/ heating as per the heat load of the room.
- (g) The Sound Pressure level of unit at the highest operating level shall not exceed **38 dB (A)**, at a vertical distance of 1.5 m below the units with duct connected to the unit.

4. Compressor shall be provided with the following safety controls: -

- (a) High discharge pressure (**HP**) **safety (cut out)** to stop the compressor automatically, in case discharge pressure exceeds a **pre-set safe value**. This safety shall operate when discharge head pressure exceeds the set point. Only manual resetting shall be provided for this safety.
- (b) Low suction pressure (**LP**) **safety (cut-out)** to stop the compressor automatically, in case suction pressure falls below a pre-set value. This safety shall operate when the suction pressure falls below the set point. Automatic resetting shall be provided for this safety, with adjustable cut in and cut-out pressures. This safety shall be used for pumping down the system for shutting off the refrigeration plant.
- (c) The outdoor units shall be selected for delivering the required capacity at an ambient outdoor temperature as specified above. The entire system should operate on environment friendly refrigerant **R- 410a/32 or Eqv.**
- (d) The outdoor unit shall be pre-charged. Topping up of gas based on actual piping length shall be made on scientific basis with suitable monitoring mechanism available in the system itself and not any ad-hoc basis.

5. Condenser

- (a) The condenser coil in each module shall be sized for the full capacity of the module with **copper tubes** and aluminium fins.
- (b) The fins shall be coated / treated with chemicals/compounds to provide maximum resistance to corrosion. The condenser coil shall be capable of performing super cooling the liquid refrigerant.

6. Condenser Fan:

- a. The Condenser fan shall be propeller type fan designed to achieve high operational efficiency. The fan housing and air discharge grille shall incorporate features to achieve low noise levels.
- b. The fan shall be driven by a DC fan motor capable of operation at multiple speeds depending on load condition/ outdoor air temperature.
- c. The unit shall be capable of operating at further low noise level during night times by switching over to lower speeds. The noise level of a single outdoor unit module shall go down to at least **45dB** in such cases.
- d. The condenser fan and the casing shall be in such a way as to permit discharge of hot air in the upward direction. However, in case it is required to have a horizontal discharge, the fan shall have necessary static pressure to discharge the air through a short length of duct.

7. Installation:

- (a) The units shall be mounted on ribbed rubber pads for vibration isolation. The contractor shall supply the required charge of refrigerant, lubricant and other consumables, for commissioning and testing of the equipment.
- (b) All the equipment shall be thoroughly tested and checked for leaks. All safety controls shall be suitably set and a record of all setting shall be furnished to the project supervisor.
- (c) Providing and fixing **M.S./RCC structure and support for condensing unit with vibration isolator pad in-between support and structure** and vibration isolation suspender and pads for evaporating units shall be in scope of contractor.

8. Condensate Drain Piping:

All pipes to be used for condensate drain shall be PVC pipe conforming to **IS: 4985 - Class I** & all joints should be Gluing or solvent cementing as per manufacturer recommendation.

9. Thermostatic / Electronic type Expansion Valve

Thermostatic/ Electronic type expansion valve shall be provided in **DX type refrigeration** plant to modulate the flow rate of liquid refrigerant entering the evaporator in response to the extent of superheat of refrigerant gas leaving the evaporator, so that only a metered flow is ensured matching the load. The number of expansion valve shall be such that the specified accuracy of temperature control of the system can be achieved and that no valve is expected to operate below 35% of its rated capacity. The sizes shall be selected suitably so as to avoid hunting. Adjustable super heat control and external equaliser port shall be provided for each valve. Each expansion valves shall be easily removable for cleaning and adjusting.

10. Refrigerant Piping:

- a. All pipes shall be properly supported from roofs, walls, etc, vertical risers shall be supported at all floors with Rigid MS Channels and rubber pads OR similar resilient material shall be provided between the floor and the support channel. Where lightweight roofing are provided, the pipe supports should be provided from the floors and as directed by the Engineer in-charge.
- b. All pipes shall necessarily be clamped to the pipe supports with specially made pipe clamps. The clamps shall be made out of mild steel and painted with a coat of primer and final coat of black enamel paint. The clamps should induce stresses on the pipe and supports. For insulated pipes, an interposing insulating member made out of extra rigid Polyurethane Foam having a density of 64 Kg/cum. shall be provided between the pipe and the clamp.
- c. All refrigerant pipes and fittings shall be type '**L**' **hard** drawn copper tubes and wrought copper fitting suitable for connection with silver solder. The copper thickness of wall shall be 20G/ 22G (0.7 to 1mm).

- d. All joints in copper piping shall be swaged joints using low temperature brazing and/ or silver solder. Before joining any copper pipe or fittings, its interior shall be thoroughly cleaned by passing a clean cloth via wire or cable through its entire length. The piping shall be continuously kept clean of dirt etc. while construction of the joints. Subsequently, it shall be thoroughly blown out using nitrogen.
- e. After the refrigerant piping installation has been completed the refrigerant piping system shall be pressure tested using, Freon mixed with nitrogen at a pressure of 20 Kg per Sq. cm. (High side) and 10 Kg per Sq. cm (Low side). Pressure shall be maintained on the system for 24 hours.
- f. Pipe supports shall be made out of structural steels with sections selected to suit the diameter and weight of pipe being supported. The supports shall be painted with a primer coat of red-oxide and finished painted with two coats of black enamel paint. The pipe support spacing shall be as under:

PIPE SIZE	SUPPORT SPACING HORIZONTAL RUN	SUPPORT SPACING VERTICAL RUN
Upto 15 mm	1.25 Mts.	1.80 Mts.
20mm to 25 mm	2.00 Mts	2.50 Mts
32 mm to 125 mm	2.50 Mts	3.00 Mts
150 mm and above	3.00 Mts	3.00 Mts

Additional supports shall be provided at Bends, Valves etc. Support structures could be fixed on to the walls and concrete ceilings using Anchor Fasteners. Support should be full body threaded rod which level can be lowered or upward according to other services level found in between.

11. INSULATIONS:

The scope of this section covers the supply, installation, testing and commissioning of insulation for condensate drain piping, refrigerant piping, expansion tanks, sheet metal ducting, walls, ceilings & floors of AHU Rooms, sheet metal ducting, acoustic lining for supply air ducting etc., The material to be used for insulation purposes shall be as under:

Item to be insulated	Material to be used
Condensate, Drain Piping, Refrigerant Piping, Ceiling and Floor etc.,	Elastomeric Nitrile Rubber Insulation as specified.
Thermal ducting. Insulation for sheet metal	Elastomeric Nitrile rubber Closed Cell Foam mat with factory laminated aluminium foil.
Acoustic Ducting. Lining for sheet metal	Elastomeric Nitrile rubber Open Cell foam mat

12. SYSTEM CONTROLS:

- a. The requirements for maintaining the inside design conditions as specified in the tender specifications for the work shall be met by appropriate system controls and control elements. The system shall satisfy the requirements of both full load and partial load conditions. Details of complete control elements shall be indicated by in the tender.
- b. Where strip heaters are specified, maximum size of each heater bank shall not exceed **9 KW**, distributed in three phases of **3 KW** per phase.
- c. The strip heaters shall be controlled by a snap acting thermostat in case of temperature control requirement and by a snap acting humidistat for reheat control to maintain the specified RH condition.
- d. Where more than one bank of heaters is required to be provided for one AHU, thermostat shall be provided in each bank shall suitable for operation in stages.
- e. A safety thermostat (safety stat) shall be provided as high limit safety for each bank of heaters.
- f. The heater banks intended for reheating during monsoon shall form part of heaters required for winter heating (where winter heating is specified). Necessary change-over switch shall be provided as part of the system wiring to change their control by thermostats or humidistat as required.

13. Humidistat:

- a. Humidistat shall be provided with air handling unit for areas, which require humidity control. One humidistat shall activate the reheat coils in case the space humidity rises beyond the present limit. Another humidistat shall energize the humidifier when the humidity falls below the present limit. These humidistats shall also de-energize these devices when the desired humidity is reached.
- b. Humidistat shall be snap-acting type having humidifier/dehumidifier control from 20-80 percent relative humidity, with differential of 5 percent. Humidistat shall have nylon element with three bobbins, and removable knob to prevent tempering of set point.
- c. A humidistat must sense the relative humidity in the return air and shall give the on/off permissive to the heater directly/through the controller. Heater must necessarily be operating in automatic steps.

14. ELECTRICAL WORK:

GENERAL.

- a. Unless otherwise specified in the tender specifications, all equipment's and materials for electrical works shall be suitable for continuous operations on 415 V / 240 V + 10% (3 phase/single phase), 50 Hz. AC system. Where the use of high voltage equipment's is specified in particular works, all the respective equipment's shall be suitable for continuous operation on such specified high voltage.
- b. All electrical works shall be carried out complying with the Indian Electricity Rules, 1956 as amended to date. All parts of electrical works shall be carried out as per appropriate CPWD General specifications for Electrical works, namely, Part I (Internal) 2013, Part II (External) 1994 work, and Part IV (Sub-station), 2013 all as

amended to date. All materials and components used shall conform to the relevant IS specifications amended to date.

15. DRAWING OF WIRES:

The drawing of wires shall be done with due regard to the following precautions: No wire shall be drawn into any conduit, until all work of any nature, that may cause injury to wire is completed. Burrs in cut conduits shall be smoothen before erection of conduits. Care shall be taken in pulling the wires so that no damage occurs to the insulation of the wire. Approved type bushes shall be provided at conduit terminations. Before the wires are drawn into the conduits, conduits shall be thoroughly cleaned of moisture, dust, dirt or any other obstruction by forcing compressed air through the conduits if necessary. While drawing insulated wires into the conduits, care shall be taken to avoid scratches and kinks which cause breakage of conductors. There shall be no sharp bends. The Contractor shall, after wiring is completed, provide a blank metal/sun mica plate on all switch/outlet/junction boxes for security and to ensure that wires are not stolen till switches/ outlets etc. are fixed at no extra cost the contractor shall be responsible to ensure that wires and loop earthing conductors are not broken and stolen. In the event of the wire been partly/fully stolen, the contractor shall replace the entire wiring along with loop earthing at no extra cost. No joint of any nature whatsoever shall be permitted in wiring and loop earthing.

16. TERMINATION/JOINTING OF WIRES:

Sub-circuit wiring shall be carried out in looping system. Joints shall be made only at distribution board terminals, switches for socket outlets. No joints shall be made inside conduits or junction/draw/inspection boxes. Switches controlling socket outlets shall be connected in the phase wire of the final sub circuit only. Switches controlling socket outlets shall be connected in the neutral wire. Wiring conductors shall be continuous from outlet to outlet. Joints where unavoidable, due to any special reason shall be made by approved connectors. Specific prior permission from Engineer-in-Charge in writing shall be obtained before making such joint. Insulation shall be shaved off for a length of 15 mm at the end of wire like sharpening of a pencil and it shall not be removed by cutting it square or wringing. Strands of wires shall not be cut for connecting terminals. All strands of wires shall be twisted round at the end before connection. Conductors having nominal cross-sectional area exceeding 1.5 Sq. mm shall always be provided with crimping sockets. Tinning of the strands shall be done wherever crimping sockets are not available as per instructions of the Executive Engineer (Electrical). All wiring shall be labelled with appropriate plastic ferrules for identification. At all bolted terminals, brass flat washer of large area and approved steel spring washers shall be used. Brass nuts and bolts shall be used for all connections. The pressure applied to tighten terminal screws shall be just adequate, neither too less. Switches controlling socket outlets shall be connected to the phase wire of circuits only. Only certified valid license holder wiremen shall be employed to do wiring/jointing work.

17. MINIATURE CIRCUIT BREAKERS:

The MCB's shall be of the completely moulded design suitable for operation at 240/415 Volts 50 Hz system. The MCB's shall have a rupturing capacity of 10 KA at 0.5 p.f. The MCB's shall have inverse time delayed thermal overload and instantaneous magnetic short circuit protection. The MCB time current characteristic shall coordinate with XLPE cable characteristic. Type test certificates from independent authorities shall be submitted with the tender.

18. PERFORMANCE:

Should the above tests not comply with the limits and requirements as above the contractor shall rectify the faults until the required results are obtained. The contractor shall be responsible for providing the necessary instruments and subsidiary earths for carrying out the tests. The above tests are to be carried out by the contractor without any extra charge.

19. LOAD BALANCING:

The contractor shall plan the load balancing of circuits in 3 phase installation and get the same approved by the Engineer-in-Charge before commencement of the work.

20. COLOUR CODE OF CONDUCTORS:

Colour code shall be maintained for the entire wiring installation – red, yellow, blue for three phases, black for neutral and green for earth.

21. CONTROL WIRING:

- a. Control wiring in the plant rooms and AHU rooms shall be done using ISI marked PVC insulated and PVC sheathed, 1.5 sq.mm copper conductor, 250 V grade, cables drawn in ISI marked steel or PVC conduits. Alternatively, armoured multi-core copper conductor cables may also be used for the purpose. The control cables interconnecting the plant room and the AHU rooms shall be of multi-core armoured type only, and suitable for laying direct in ground.
- b. The number and size of the control cables shall be such as to suit the control system design adopted by the Air-conditioning Contractor.
- c. ISI marked steel conduit pipes, wherever used, shall be of gauge not less than 1.6 mm thick for conduits upto 32 mm dia and not less than 2.0 mm thick for higher sizes. All conduit accessories shall be threaded type with substantial wall thickness.
- d. Control cables shall be of adequate cross section to restrict the voltage drop.
- e. In the case of control wires drawn through steel conduits, the wire drawing capacity of conduits as specified under the CPWD General Specifications for Electrical Works (Part I) 1994 shall not be exceeded.
- f. Runs of control wires within the switchboard shall be neatly bunched and suitably supported/clamped. Means shall be provided for easy identification of the control wires.

- g.** Control wiring shall correspond to the circuitry/sequence of operations and interlocks approved by Engineer-in-Charge. In cold storage involving temperatures below zero deg. C, polythene cables shall be used instead of PVC cables.

22. DUCTS:

- a.** All ducts shall be fabricated either from Galvanised Sheet Steel (GSS) conforming to IS: 277 or aluminium sheets conforming to IS:737. The steel sheets shall be hot dip galvanized with MAT finish with coating of minimum 120 grams per square meter (GSM) of Zinc, GI sheets shall be lead free, eco-friendly and RoHS compliant
- b.** The thickness of sheets for fabrication of rectangular ductwork shall be as under. The thickness required corresponding to the longest side of the rectangular section shall be applicable for all the four sides of the ductwork.
- c.** All sheet metal connections, partitions and plenums required for flow of air through the filters, fans etc. shall be at least 1.25 mm thick galvanised steel sheets, in case of G.I. sheet ducting or 1.8 mm thick aluminium sheet, in case of aluminium sheet ducting and shall be stiffened with 25 mm x 25 mm x 3 mm angle iron braces.
- d.** Circular ducts, where provided shall be of thickness as specified in IS: 655 as amended up to date.
- e.** Aluminium ducting shall normally be used for clean room applications, hospitals works and wherever high cleanliness standards are functional requirements.
- f.** Ducts shall be fabricated at site or factory fabricated and shall be generally as per IS: 655 "Specifications for metal air ducts", unless otherwise deviated in these General Specifications.
- g.** All the ducts up to 600 mm longest side shall be cross broken between flanges by a single continuous breaking. Ducts of size 600 mm and above shall be cross broken by single continuous breaking between flanges and bracings. Alternatively, beading at 300 mm centres for ducts up to 600 mm longest side, and 300 mm centres for ducts above 600 mm size shall be provided for stiffening.
- h.** As far as possible, long radius elbows and gradual changes in shape shall be used to maintain uniform velocity accompanied by decreased turbulence, lower resistance and minimum noise. The ratio of the size of the duct to the radius of the elbow shall be normally not less than 1:1.5.
- i.** Flanged joints shall be used at intervals not exceeding 2500 mm. Flanges shall be welded at corners first and then riveted to the duct.

23. FRESH AIR INTAKES

- a.** Fresh air intake grills shall be made of extruded aluminium sections.
- b.** A flanged frame using RS sections shall be provided on front face to conceal the gap between the louvers and the adjoining wall face. Corners of frame shall be welded. The frame shall be made structurally rigid.

- c. Louvers made from extruded aluminium section shall be in modular panel form for ease of handling. These shall be free from waves and buckles. Vertical blades shall be truly vertical and horizontal blades shall be truly horizontal. Butt joints in blades shall not be accepted.

24. INSTALLATION OF METALLIC DUCT

- a. The fabrication and installation shall be in a workmanlike manner. Duct work shall be rigid and straight without kinks.
- b. All exposed ducts within the conditioned space shall have **slip joints**. Flanged joints shall not be used.
- c. All joints shall be airtight.
- d. Ducts shall be supported independently from the building structure and adequately, to keep the ducts true to shape. The support spacing shall be not more than 2 m. where ducts cannot be suspended from ceiling, wall brackets or other suitable arrangements, as approved by the Engineer-in-charge shall be adopted. Neoprene or other vibration isolation packing of minimum 6 mm thickness shall be provided between the ducts and the angle iron supports/brackets. Vertical duct work shall be suitably supported at each floor by steel structural members.
- e. Where metal ducts or sleeves terminate in woodwork, tight joints shall be made by means of closely fitting heavy flanged collars. Where ducts pass through brick or masonry openings, wooden frame work shall be provided within the openings and the crossing ducts shall be provided with heavy flanged collars on either side of the wooden frame work, so that duct crossing is made leak-proof.
- f. Duct connections to the ventilation unit shall be made by inserting a double canvas sleeve 100 mm long. The sleeve shall be securely bonded and bolted to the duct and unit casing.

25. FIRE DAMPERS:

- a. Fire dampers shall be provided in all the **supply air ducts** (where provided), return air passage in the air-handling unit room and at all floor crossings. **Access door** will be provided in the duct before each set of fire dampers.
- b. Fire dampers shall be **multi blade louvers type**. The blade should remain in the air stream in open position & shall allow maximum free area to reduce pressure drop & noise in the air passage. The blades and frame shall be constructed with minimum 1.6mm thick galvanised sheet & shall be factory fitted in a sleeve made out of 1.6mm galvanised sheet of minimum 400mm long. It shall be complete with locking device, **motorised actuator & control panel**.
- c. Fire dampers shall be **motorised smoke & fire dampers type**. It shall be supplied with spring loaded UL stamped fusible link to close fire damper in the event of rise in duct temperature. Fire damper shall also close on receipt of **fire alarm signal to cut off air supply instantaneously**.
- d. Fire dampers shall be CBRI tested & certified for 90 minutes rating against collapse & flame penetration as per UL 555-1995. (Under writer's laboratories)

- e. Fire dampers shall be compatible with the fire detection system of building & shall be capable of operating automatically through an electric motor on receiving signal from fire alarm panel.
- f. Necessary wiring from fire alarm panel up to AHU electric panel shall be provided by the department & further from AHU electric panel to fire damper shall be provided by air conditioning contractor.

26. ELECTRIC HEATERS:

- a. The fan/ blower motor shall be interlocked with heaters (where provided) such that power supply to heaters will be switched ON, only after the blower has been started and run to full (designed) speed.
- b. Where only the blower motor and not heaters is connected to standby generating set in any application, a timer shall be provided, such that the heaters may get energized, only after a period, after the blower is run.
- c. In the event of signal from high limit safety of heaters the power supply to the blower motor and the heater bank shall automatically and instantly be switched off.
- d. The power supply to AHU/Package AC shall be cut off on receipt of a signal from the Fire Alarm System.

27. REQUIREMENTS OF CONTROL ELEMENTS:

The system control elements comprise controlling elements such as thermostat and humidistat etc. as required for individual applications. The following shall be the minimum requirement for the control of the heaters.

28. THERMOSTAT

- a. Thermostats shall be electric fixed differential type as indicated below, with sensing element located in the return air stream (in the AC space only). All thermostats shall be supplied with the standard mounting boxes as recommended by the manufacturer. The profile, mounting arrangement and exact location of the thermostat shall be such as to suit the site.
- b. Snap-acting fixed differential heating thermostat for winter heating and monsoon reheat applications for putting on/off power supply to electric heating.
- c. Safety thermostat shall be provided for electric winter heating and reheat application for cutting off power supply to heaters in case air flow across heater is not established.

29. AIR-STAT/AIR FLOW SWITCH:

Air-stat or Airflow switch shall be envisaged within air handling unit containing electric heating or reheat coils to prevent heaters from energizing unless the air flow is established.

30. UNDERDECK INSULATION:

Underdeck Insulation with 50mm thick TF quality Expanded Polystyrene fixed to the slab with rawl plugs, covered with 22SWG GI chicken wire mesh and held at all joints with GI washers and tied with GI wire.

31. INLINE EXHAUST FAN:

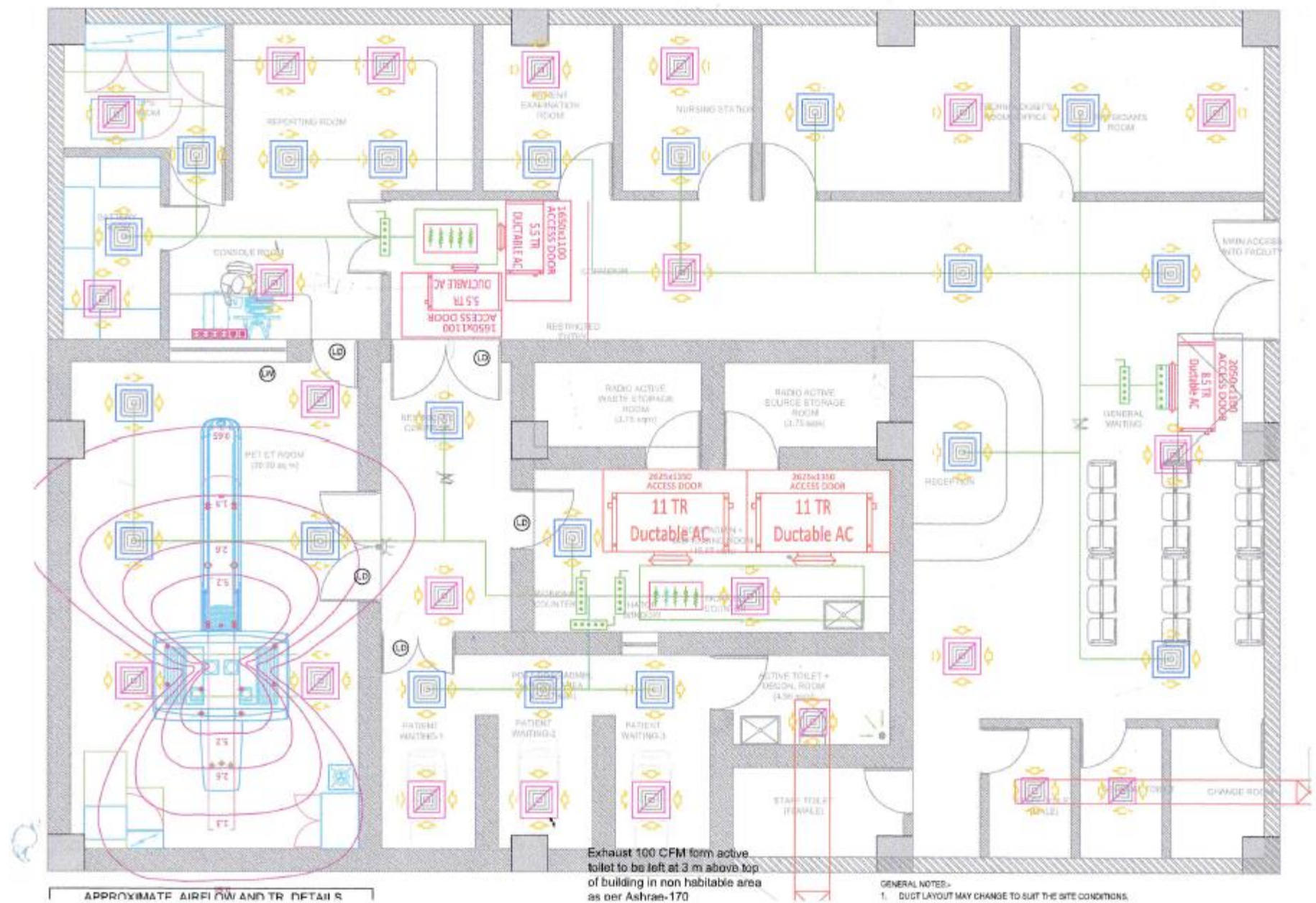
Cabinet type Inline exhaust fan complete with direct driven centrifugal fan following CFM capacity. Direct drive arrangement, heavy gauge sheet metal casing, rubber isolator mounts and other accessories, suitable for 220/240 volts, single phase, 50 Hz, AC supply etc. complete as required.

32. ACOUSTIC INSULATION:

Acoustic lining of supply air duct and plenum with 19 mm thick fire-retardant open cell Nitrile with 0.5 mm thick perforated aluminium sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications.

33. SUPPLY AND RETURN AIR DIFFUSERS:

Supply and return air diffusers shall be as shown on the drawings and indicated in schedule of quantities. The supply air diffuser shall be provided with removable key operative volume control dampers if specified. Aluminium supply and return air diffusers shall be powder coated with colour of client's choice, or shall be anodized aluminium.



HVAC LAYOUT FOR PET- CT ROOM

1. Compatible Supply Systems

Suitable for Operation on 415V, 3Phase, 4Wire, 50Hz Supply and
 Suitable for Operation on 240V, 1Phase, 2Wire, 50Hz for Control Wiring

2. Construction Details :-

- | | |
|-------------------------|--|
| a. Type | Flange in type |
| b. Thermal Protection | NA |
| c. Heater Casing | 16 Swg G.I. Sheet |
| d. Control Panel | 1.6 mm CRC Sheet |
| e. Panel Finish | Power Coating after Degreasing, Derusting
& Phosphating |
| f. Degree of Protection | IP : 42 as per IS/ IEC- 13947 |

3. Insulation

- | | |
|------------------|----|
| a. Material | NA |
| b. Cladding | NA |
| c. Heater Casing | NA |

4. Heating Elements

- | | |
|--------------------|---|
| a. Type | Tubular Type |
| b. Outer Sheathing | Stainless Steel (SS- 304) |
| c. Heating Coil | 80% Nickel & 20% Chromium Alloy Resistance wire
Helical Coil Fusion Welded to Steel Terminal Cold Pin. |

4. Protection / Safeties

- Primary Safety Thermostat (Stem type) for Each Bank (Adjustable type)
- Secondary Safety Thermal Cutout (Stem type) for Each Bank (Reset type)
- Air Pressure Differential Switch – Daspass
- Pot. Contact for AHU & Field Interlocking .

4. Wiring Details :-

- Power wiring with Fr- (Polycab) Copper Conductor Multistrand Wire
- Control Wiring with PVC Copper Conductor Multistrand Wires with Nubering Ferrules at each end for Identification.
- Identification Tag for Each Component.

5. Field Requirements (Not in Our Scope- To be Provided by Client)

- Mains Power Supply as Indicated
- Field Signal From Humidistat/ Temp./ DDC/ BMS (Digital)

6. Color Coding

- Mains Power Supply – R, Y, B, N Color
- Control Wiring – Red / Black

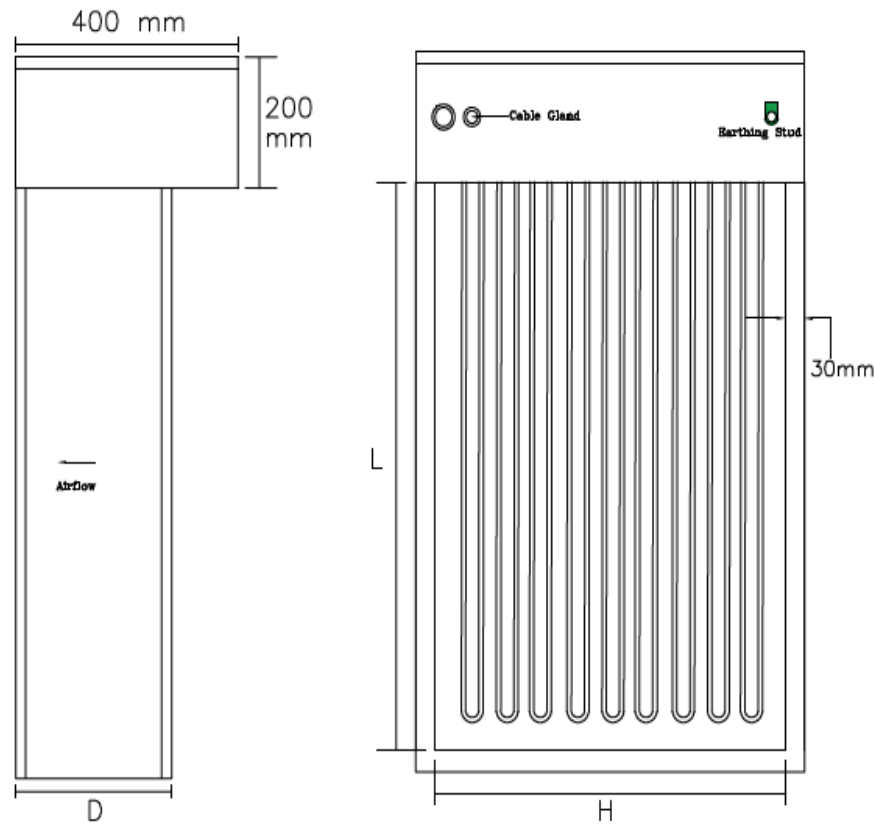
BILL OF MATERIAL

S. No.	Description	Description
1	Thermostats	Daspass
2	Thermal Cutouts	Daspass
3	A.P.D.S	Imported
4	Heating Element	Daspass
5	Terminals Blocks	Elmex

Heater control specifications

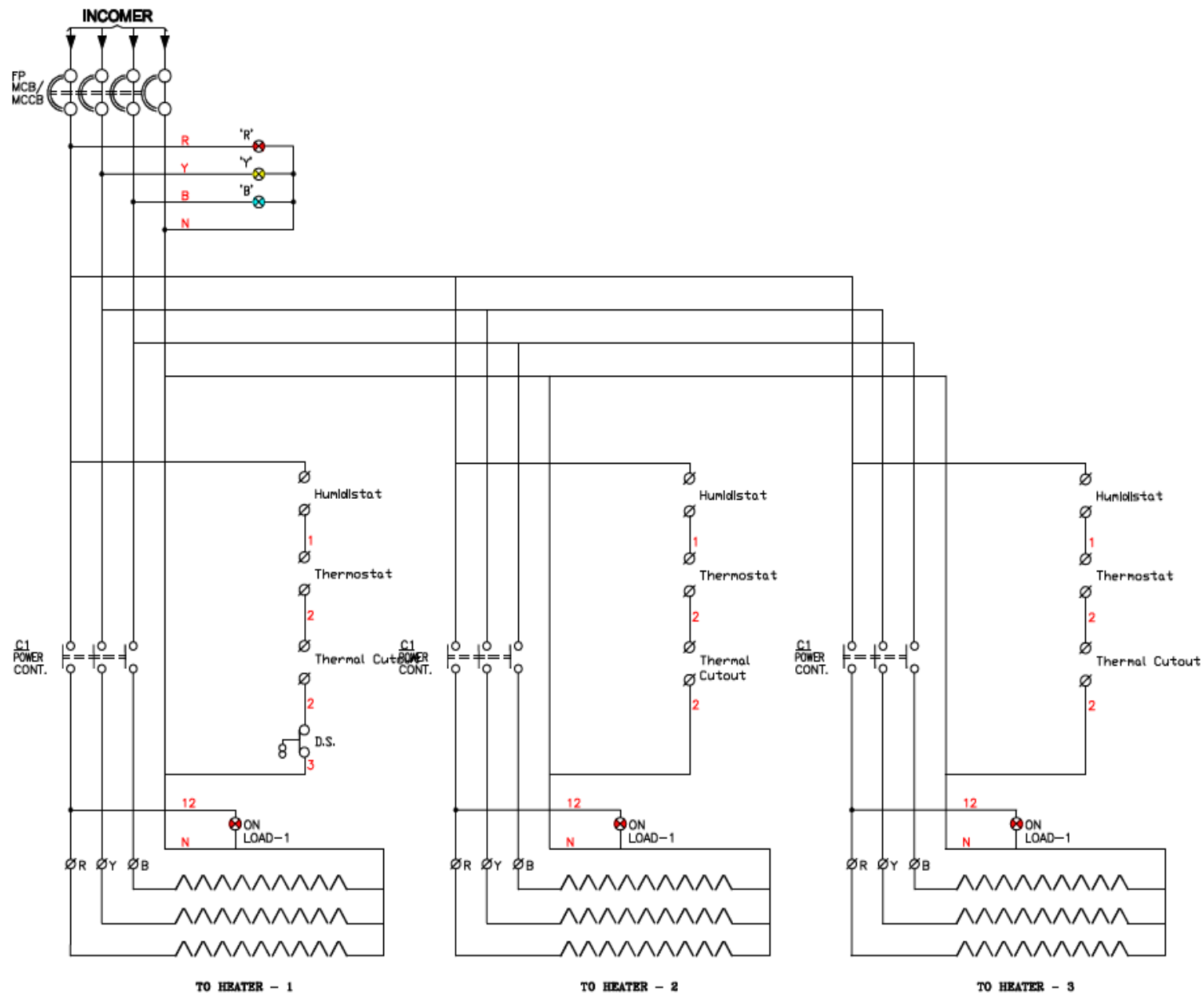
Heater Data Sheet

DATA SHEET



S.No.	Item	Description
1	Unit	"Daspass" Make Duct Heaters
2	Type	Flange in type
3	Installation	Horizontal / Vertical
4	Operating Voltage	415V/3PH/AC/50Hz (Star Connection)
5	Controls	1. MCB – L&T Make 2. Magnetic Contactors – L&T Make 3. Indicators Lamps 3. RH + Temp. Controller 4. Air Differential Pressure Switch 5. Thermostat (Stem type)/"Daspass" Make 6. Thermal Cutout (Stem type)/"Daspass" Make 7. Factory Internal Wiring with Copper Conductor & Best Quality Lugs. 10. Glanding / Earthing Etc.
6	Heating Coil	Made From Chrome Nickle Wire
7	Elements	Tubular Air Heating Elements "U/M" Shape/ SS Sheathed With G.I. Finns
8	Element Mounting	Detectable
9	Finns	G.I. Countinuous Finns OD 28mm
10	Element Sheating	Stainless Steel – 304
11	Enclosure	G.I. Enclosure

S.No.	Capacity	Volts	L	H	D	Bank	Qty
1	9.0 Kw	415V	800	400	200	3.0 Kw x 03 Bank	01 Nos



Heater Control Wiring Layout

LIST OF APPROVED MAKES

Sl.No	Description of Item	Approved Makes
1	DX units.	Blue Star, Voltas, Mitsubishi /Carrier Medea /LG or equivalent.
2	DX Double Skin Air Handling Units/csu.	Zeco/Citizen/Cary-Aire/Edgetech/Waves/Flaktwood or equivalent.
3	Nitrile Rubber/XLPE for duct Insulation.	Armacell, K-flex, Supreme, Paramount or equivalent.
4	Hard drawn copper pipe.	Rajco/ Mandev/ Metha Tube/Nissan/TOTALINE or equivalent.
5	Underdeck insulation.	Armacell, K flex, Supreme or equivalent.
6	Grilles & Diffusers & Fire Damper.	Premier Industries, airmaster, Systemair, Ravistar, Dynacraft or equivalent.
7	GI sheet	Sail,Tata,JSW,Bhushan,Jindal or equivalent.
8	Filters.	Cleanfilter/ dynafilter/Pyramid/s pectral or equivalent.
	Air Handling Units/Fans/Air washer/Kitchen Scrubber	
9	AHU fan section (Single Skin) for fresh air, Exhaust, Staircase & Lift pressurization	Edgetech / Stulz / Creative Air Tech or equivalent.
10	Cooling coil for AHU's	Creative Air Tech / Edgetech / Stulz / Flaktwood or equivalent.
11	Fan Coil Unit (with imported fan deck)	Creative Air Tech / Edgetech / Stulz / Flaktwood or equivalent.
12	Fan Coil Motor	Make or As per OEM.
13	Centrifugal Fan AMCA approved (Forward curved fan)	Kruger / Nicotra / Systemair or equivalent.
14	Centrifugal Fan AMCA approved (backward curved fan) Exhaust Fan	Nikotra/Comfrei/Kruger or equivalent.
15	Axial Flow Fan	Flaktwoods / Greenheck / Kruger / Nicotra / Systemair or equivalent.
	Electrical Equipment	
16	Electrical Panel Board / Motor Control Centre (Power Coated)	Power controls/ ABB/ Schneider Elec./ Star Electro fabrication or equivalent.
17	Duct Heater	Daspass or, equivalent.
18	Electric Motor (TEFC)	Siemens /Crompton /ABB/ Bharat Bijli or equivalent.
19	Starters / Switch gear	Siemens/L&T/ GE or equivalent.
20	Miniature Circuit Breaker (MCB)	Siemens/MDS Legrand/ Hager (L&T)/ ABB or equivalent.
21	Moulded case circuit breaker (MCCB)	Siemens/L&T/ GE power/Scheider Elec./ABB or equivalent.
22	Air circuit breaker (ACB)	Siemens/L&T/ GE power/Scheider Elec./ABB or equivalent.
23	Earth leakage circuit breaker (ELCB/ RCCB)	MDS Legrand / Hager (Larsen & Turbo) or equivalent.
24	Motor protection circuit breaker (MPCB)	Siemens/L&T/Scheider Elec./ABB or equivalent.
25	Push Button Starter	Siemens/L&T/Scheider Elec. /ABB or equivalent.
26	Auxiliary Relays / Contactors	Siemens/L&T/Scheider Elec./GE or equivalent.
27	Line Type Fuse	Siemens/L&T/GE or equivalent.
28	Timer	Siemens/L&T/GE or equivalent.
29	Terminal Block	Elmax or equivalent.
30	Voltmeter / Ammeter (Digital)	Automatic Electric / L & T / Siemens / Enercon or equivalent.

31	Indicating Lamps (LED Type) / Push Button	Siemens/ L&T/Vaishno or equivalent.
32	Single Phase Preventer (Current Base)	L&T/Minilec / Sneider or equivalent.
33	Overload Relays with built-in single-phase preventer	L&T/Minilec/Siemens/Group Schneider (MG) France or equivalent.
34	Protection Relay	Alstom/L&T/Siemens or equivalent.
35	Control Transformer/Potential Transformers	Precise/Gilbert & Maxwell/AE/Advance or equivalent.
36	Rubber Mats 1199 V, 6 mm thick (ISI aprvd)	Jyoti or equivalent.
37	Weather Proof Boxes (IP55)	Advance/Adlec/Milestone / Havells or equivalent.
38	MS Painted Cable trays	Ricco/Slotco/M.M Enterprises or equivalent.
39	Socket outlet (Industrial type)	Lexic/ Hager/ ABB or equivalent.
	Cable & Accesories	
40	Control Cables	Avocab/Polycab/Universal/KEI / CCI / Finolex or equivalent.
41	XLPE/ PVC Insulated Aluminium Conductor Armoured Power Cables	Avocab/Polycab/Universal/KEI / CCI or equivalent.
42	Communication Cable	Fusion/ Comscope/Contemps or equivalent.
43	Cable Gland Double Compression with Earthing Links	Power/Commet/Gripwell/Baliga/Lighting Ltd./ Dowell's Electromech or equivalent.
44	PVC Insulated Copper Conductor Stranded Flexible Wires	Finolex/National cables-NC/Polycab/Skytone or equivalent.
45	PVC Conduit & Accessories (ISI Approved)	Sharma Sales Corporation / Super Sales Corporation or equivalent.
46	Bimettalic Cable Lugs	Hax (Brass copper Alloy India Pvt Ltd)/ Dowell's (Biller India Pvt Ltd) or equivalent.
47	Lugs (Tinned Copper)	Dowell or equivalent.
48	MS conduit	BEC/ AGK/ MK or equivalent.
49	Ducting & Grills	
50	GI Sheets	SAIL / Jindal / Tata or equivalent.
51	Factory Ducts	Rolastar / Zeco / Ductofab or equivalent.
52	Grills/ Diffusers/ Dampers	Creative Air Tech / Dynacraft / Systemair or equivalent.
53	Flexible Ducts	ATCO / Sevenstar / Supaflex or equivalent.
54	Fire Damper	Creative Air Tech / Airmaster / Greenheck / Ruskin Titus or equivalent.
55	Actuators	Belimo / Honeywell / Johnson Control / Sauters / Siemens or equivalent.
56	Double skin plenum	Edgetech / ETA / Systemair / Zeco or equivalent.
57	Mixing box	Creative Air Tech / Airmaster / Caryaire / System air or equivalent.
58	Filters	AAF / Aerosol / Dynafilters / Spectrum / Thermadyne / Creative Air Tech or equivalent.
59	Fibre Glass Insulation	Kimko / Owens Corning / UP Twiga or equivalent.
60	Duct flange	Zeco/Techno fabriduct or equivalent.
61	Self-Adhesive Sealing Gasket for Ducts	Prima Seal/ Air flow/ Trocellen or equivalent.
62	Pipes & Fittings	
63	GI pipe Medium Class	Jindal Hissar / TATA or equivalent.
64	Flexible Pipe connection	Resistoflex / Kanwal or equivalent.
65	PUF Insulation	Polynate Foams / Rinac or equivalent.
66	Check Valves	Advance / C & R / Valtree / Honeywell or equivalent.
67	Balancing valves	Advance / Bell & Gossett /Valtree / Belimo /Honeywell or equivalent.
68	Gate Valve	Audco / Advance / ITAP / TFL / RB or equivalent.
69	Ball Valve	Audco / Advance / ITAP / TFL / RB or equivalent.

Note: The make approval must be taken from Engineer- In- charge/ Executive Engineer (AC&R) before installation.

Technical Bid (Eligibility Criteria)

The scanned copies of the following mandatory documents to be uploaded on e-Tendering Portal in the following format.

Sl.no.	Details/ Particulars	Uploaded (Yes/No)	Page No.
(A)	Performa For Earnest Money Deposit Declaration.		
(B)	Appendix 'A to C' duly filled in (Pages 13 & 15 ref.) and signed with stamp		
(C)	Certificates of Work Experience & Completion Certificate of Similar Work from Client not below the Rank of Executive Engineer or equivalent, as mentioned in Ser. No. - 4, Page No. - 8 refer under Eligibility Criteria		
(D)	Certificate of Registration for GST and acknowledgement, up to date filed return if required		
(E)	Attested Copies of PAN No.		
(F)	Copies of Balance Sheets.		
(G)	Copy of Affidavit. (As per page no 39)		
(H)	Copies of ESI Registration (enclose latest challan copy)		
(I)	Copies of EPF Registration. (enclose latest challan copy)		
(J)	The Bidder(s) should have their Registered Office/Branch in Bhubaneswar. If not, an Office should be opened in Bhubaneswar within 15 (Fifteen) Days of the award of Work. Details of Address Proof of Office located at Bhubaneswar should be given to EE(AC&R) .		
(K)	Declarations to be given by the Tenderer(s) (as per Page 07).		
(L)	Each page of the e-tender documents should be duly signed with seal otherwise the bid shall become invalid		

AFFIDAVIT

(To be submitted on Letter Head of the Company/Firm)

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-Tender Rules.

“I/We undertake and confirm that eligible similar works(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 Department, then I/we shall be debarred for bidding in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee”.

Business Address: -

Name:

(Signature of Bidder with Firm's Seal)

Place: _____

Dated: _____

Annexure – I
FORM OF PERFORMANCE SECURITY (BANK GUARANTEE)

1. In consideration of the Director, AIIMS, Bhubaneswar (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 an 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 forebear 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)

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

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

BETWEEN

Director, AIIMS, Bhubaneswar represented through Superintending Engineer, AIIMS, BHUBANESWAR,
....., (Hereinafter referred as the) (Address) "Principal/Owner", which expression shall
unless repugnant to the meaning or context hereof include its success or sand permitted as signs).

AND

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

"Bidder(s)/Contractor(s)" and which expression shall unless repugnant to the meaning or context hereof include its
success or sand permitted as signs)

Preamble

WHEREAS, the Principal/Owner has floated the Tender (NIT No **AIIMS/BBSR/ENGG/ACR-2021/PET-CT/NIT/12**

(here in after refer red to as **"Tender/Bid"**) and intends to award, under laid down organizational procedure, contract for:
**"Name of work: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT
ROOM AT AIIMS HOSPITAL, BBSR."** hereinafter 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 afore said both the parties have agreed to enter to this Agreement (hereinafter
referred to as **"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, inconsideration 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 endeavour 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)/Contract(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 wilful 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 vigour for a limited period as decided by the Principal/Owner.**

2. **Forfeiture of 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(s)/Contractor(s).

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(s) declare(s) 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(s) make(s) incorrect statement on this subject, he can be disqualified from the Tender processor action can be taken for banning of business dealings/holiday listing of the Bidder(s)/Contractor(s) as deemed fit by the Principal/Owner.

3. If the Bidder(s)/Contractor(s) 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 in to 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 sign edit. 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, Bhubaneswar.

Article - 7: Other Provisions.

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the **Bhubaneswar** of the Principal/Owner, who has floated the Tender.

- 2. Changes and supplements need to be made in writing. Side agreements have not be unmade.
- 3. If the Contractor(s) is/are 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 intensions.
- 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 - 8: 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:

PROFORMA OF SCHEDULES

SCHEDULE 'A'

(Reference to General conditions of Contract.)

Name of Work: **SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR,**

(a) Estimated Cost of Work: ₹ 24,36,382/- (Twenty-Four Lacs Thirty-Six Thousand Three Hundred Eighty-Two Rupees Only).		
(b) Performance Guarantee	=	<u>03% of Tendered Value</u>
(c) Security Deposit	=	<u>05% of Final Value</u>

SCHEDULE 'B'

GENERAL RULES & DIRECTIONS:

Officer Inviting Tender: - Executive Engineer (AC & R) , AIIMS, Bhubaneswar

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 = 50%

Definitions

See below

- | | | |
|---------|---|---|
| 2 (v) | Engineer-in-Charge | Superintending Engineering
AIIMS, Bhubaneswar |
| 2(viii) | Accepting Authority | Director
AIIMS, Bhubaneswar |
| 2(x) | Percentage on cost of materials and labour to cover all over heads and profit | : 15% |
| 2(xi) | Standard Schedule of Rates | - Central Public Works Department Schedule of Rates 2018 at Delhi with upto date correction slips |
| 9(ii) | Standard AIIMS Contract Form up to and including correction slip | - GCC for CPWD Works - 2014 as amended and |
| | (i) Time allowed for submission of Performance guarantee, 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 | : 07 Days |
| | (ii) Maximum allowable Extension with late fee @ 0.1% of Performance guarantee amount beyond the period provided in (i) above. | : 01 to 15 days |

Clause – 2.

Authority for fixing compensation under Clause 2 : Director, AIIMS, Bhubaneswar

Clause – 2A.

Whether Clause 2A shall be applicable : No

Clause – 5.

Time allowed for execution of work : **60 Days (after issue of work order).**

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: **Superintending Engineer, AIIMS, Bhubaneswar**
of work

Clause – 6A.

Whether Clause 6A shall be applicable : **No.**

Clause – 7A.

Whether clause 7A shall be applicable : **YES.**

Clause – 10B(ii).

Whether Clause 10B(ii) shall be applicable : **No.**

Clause – 10C. : **Not applicable.**

Clause – 10CA. : **Not applicable.**

Clause – 16.

Competent Authority for deciding reduced rates : **Superintending Engineer
AIIMS, Bhubaneswar**

Clause – 25.

Settlement of dispute & Arbitration : **Director, AIIMS, Bhubaneswar**

Clause – 36(i).

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 clause 36(i)	
							(Figures)	(Words)
For Agreement amount up to Rs150 Lakhs	(a)	Graduate Engineer OR Diploma Engineer	Elect/ Mechanical	Principal Technical representative	02 years for Graduate Engineer/ 05 years for Diploma Engineer	1	Rs 15000/-	Rs Fifteen Thousand only

Financial Bid (Schedule of Quantities)

NIT NO.: AIIMS/BBSR/ENGG/ACR-2021/PET-CT/NIT/12

Name of work: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AIR - CONDITIONING SYSTEM FOR PET - CT ROOM AT AIIMS HOSPITAL, BBSR.

Sl. No.	Description	Unit	Qty	Rates	Total Amount (Including GST)
1.0	Supply, installation, testing and commissioning of R32/R410a or Eq. Refrigerant type Ductable split unit with Indoor and outdoor units with Scroll Compressors, thermostat and all standard accessories and designed should be high ambient conditions etc. Electronic microprocessor pendant controller with digital display, vibration isolator pads, structural support for fixing IDU/ODU, safety devices including thermal protector, pressure relief valve, overload relay single phase preventer etc. Power wiring and thermostat wiring, high-low pressure cut out. suitable for 3 phase 415 ± 10% V, 50Hz, AC supply etc. complete as required. AHUs shall be complete with:- (I) Fan section with Statically & dynamically balanced Comefri / Kruger / Nicotra / Punker or equivalent make direct /belt-drive DIDW forward/backward curved centrifugal fan, TEFC squirrel cage induction drive motor. (II) Coil sections with 6-row DX type cooling coil. Face velocity not over 500 FPM. Seamless copper coils of plate finned compact tape with a minimum of air by pass. Copper tubes with smooth non-corrugated fins of aluminium. (III) Filter Sections with Fine Filters (90% down to 10 Micron), All filters should be washable type. Comprising heavy gauge construction with Echelon arrangement of filters, slides & end cap shall permit filter access at any end & compressing device hold filter snugly together. (IV) Sandwich insulated SS drain tray. (V) AHU mounted opposed blade aerofoil design low-leakage isolation (IL) or volume control dampers (VCD) of Aluminium with Nylon gears for supply & return air (VCD) for normal operation As applicable for each CSU. (VI) Corded Remote Control (VII) Commissioning of Sheathed Communication Cable in PVC Conduit between indoor unit to outdoor unit. (VIII) Min Set Point Temp. 18 deg C (IX) All necessary accessories etc.				
	(i) Cap: 11.0 TR (IDU 4400 CFM)	Nos	2		
	(ii) Cap: 8.5 TR (IDU 3400 CFM)	No	1		
	(iii) Cap: 5.5 TR (IDU 2200 CFM)	Nos	2		

2.0	SITC of Refrigeration Piping will have to be taken in the piping rack / Support individually connecting all indoor to outdoor units for the respective floor/area. Even necessary supports, fittings, valves & ref. joints where ever required will be included. Seamless heavy gauge Copper piping (complying to ASTM B 280) of following size duly insulated with 19 mm thk Nitrile Rubber Insulation. Nitrogen Pressure testing, Vacuuming and gas Charging with the following size as mentioned below. All external ref. pipe insulation shall be coated with star bond CR 30-36 thermal insulation canvass coating including Gas charging of refrigerant pipes.				
	(i) Refrigerant copper piping Liquid & Suction line with Nitrile rubberizes insulation for 11 TR Ductable unit.	Rmt	120		
	(ii) Refrigerant copper piping Liquid & Suction line with Nitrile rubberizes insulation for 8.5 TR Ductable unit.	Rmt	40		
	(iii) Refrigerant copper piping Liquid & Suction line with Nitrile rubberizes insulation for 5.5 TR Ductable unit.	Rmt	150		
3.0	Supply, Installation, Dressing with Bends, Tees and union etc. of PVC DRAIN PIPING with proper leak proof adhesive at joints duly insulated with 9 mm Nitrile rubber and BOPP tape of following size dia.				
	(i) 32 mm Dia PVC drain Pipe.	Rmt	60		
	(ii) 25 mm Dia PVC drain Pipe.	Rmt	140		
4.0	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round Ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				
	(i) Thickness 0.63 mm sheet	Sqm	190		
	(ii) Thickness 0.80 mm sheet	Sqm	40		
5.0	Supplying of 19 mm thickness duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50 mm wide and 3 mm thick self-adhesive nitrile rubber tape insulation complete as per specifications and as required.	Sqm	230		
6.0	Supply, installation, testing of Canvass connection for IDU Ductable Air- Conditioners.	Sqm	3		
7.0	Supply and fixing of Acoustic lining of supply air duct and plenum with 19 mm thick fire-retardant open cell Nitrile with 0.5 mm thick perforated aluminium sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications.	Sqm	40		

8.0	Supplying, fixing testing commissioning of supply air diffusers (4-way diffusers) of powder coated aluminium with aluminium volume control dampers with anti-smudge ring & removable core.	Sqm	4.5		
	(i) Diffusers with VCD (Neck size: 450mm x 450mm)				
9.0	Supplying, fixing testing commissioning of Return air diffusers (4-way diffusers) of powder coated aluminium without volume control dampers with anti-smudge ring & removable core.	Sqm	4.5		
	(i) Diffusers without VCD (Neck size: 450mm x 450mm)				
	(ii) Diffusers without VCD (Neck size: 120mm x 120mm)				
10.0	Supplying, Fixing, testing and commissioning of Fire dampers in supply air duct/main branch and return air path as and where required of required sizes i/c control wiring, the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications.	Sqm	2.0		
11.0	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	Sqm	4.0		
12.0	SITC of Back Draft Damper .	Sqm	2.0		
13.0	SITC of Finned Tubular heater of following capacity in three step control with airflow switch, Humidistat, Smoke detector with Alarm, safety thermostat and all other safety accessories for automatic ON & Cut off. Heaters shall be placed in the plenum box/Supply -Air duct with controller and panel.				
	(i) Heater of 9 kW.	No	1		
	(ii) Heater of 3 kW.	No	1		
14.0	Supply, installation, testing and commissioning of Automatic Change-over with control timer-Three Phase.	Nos	2		
15.0	Supply, installation, testing and commissioning of Cabinet type Inline exhaust fan complete with direct driven centrifugal fan following CFM capacity. Direct drive arrangement, heavy gauge sheet metal casing, rubber isolator mounts and other accessories, suitable for 220/240 volts, single phase, 50 Hz, AC supply etc. complete as required.				
	(i) Inline Exhaust fan for Toilet of 200 CFM (15 MMWG)	No	1		

	(ii) Inline Exhaust fan for Toilet of 500 CFM (15 MMWG)	No	1		
16.0	Supply, installation, testing and commissioning of Underdeck Insulation with 50mm thick TF quality Expanded Polystyrene fixed to the slab with rawl plugs, covered with 22SWG GI chicken wire mesh and held at all joints with GI washers and tied with GI wire.	Sqm	220		
	Electrical Items: -				
17.0	Supply, installation, Laying and testing of following sizes of 1.1 kv XLPE insulated, FRLS Aluminium Armoured Conductor, PVC inner sheathed, overall PVC sheathed cable in conformity to the technical specification and as per IS 7098.				
	(i) 3.5C x 35sq.mm	Rmt	30		
	(ii) 3.5C x 25sq.mm	Rmt	20		
	(iii) 3.5C x 16sq.mm	Rmt	30		
	(iv) 3.5C x 10sq.mm	Rmt	80		
18.0	Supply and drawing of following size ISI marked, FRLS PVC insulated copper conductor cable in the existing surface/ recessed steel/ PVC conduit with clamp as required.				
	(i) 3 core 4.0 sq.	Rmt	165		
	(ii) 3 core 2.5 sq.	Rmt	120		
19.0	Dismantling and shifting of CSU (4TR) with existing duct & CHW pipe line at Basement of Hospital Building to store Area. Cost should include all necessary activities like removing of supports, Eel. power cable etc. After dismantling, CHW line to be closed with dummy plate. As per site required.	Lot.	1		
		Total Amount (Including GST)			
In word:					

Name : _____

Business Address: _____

Signature of the Bidder: -

Date : _____

Place : _____

Seal of the Bidder _____

E-TENDERING INSTRUCTIONS TO BIDDERS

General

The Special Instructions (for e-Tendering) supplement 'Instruction to Bidders', as given in this Tender Document. Submission of Online Bids is mandatory for this Tender. E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. Suppliers / Vendors will be the biggest beneficiaries of this new system of procurement. For conducting electronic tendering, AIIMS BHUBANESWAR has decided to use the portal www.tenderwizard.com/AIIMSBBSR through an ASP, M/s. ITI Ltd., Bhubaneswar.

Instructions.

- 1. Tender Bidding Methodology.** Two Stage Online Bidding.
- 2. Broad outline of activities from Bidders prospective:**
 - (a) Procure a Class III Digital Signature Certificate (DSC).
 - (b) Register on the e-Procurement portal www.tenderwizard.com/AIIMSBBSR.
 - (c) Create Users on the above portal.
 - (d) View Notice Inviting Tender (NIT) on the above portal.
 - (e) Download Official Copy of Tender Documents from the above portal.
 - (f) Seek Clarification to Tender Documents on the above portal. View response to queries of bidders, posted as addendum, by AIIMS, Bhubaneswar.
 - (g) Bid-Submission on the above portal.
 - (h) Attend Public Online Tender Opening Event (TOE) on the above portal - Opening of Technical Part.
 - (j) Post-TOE Clarification on the above portal (Optional) – Respond to AIIMS, Bhubaneswar's Post-TOE queries.
 - (k) Attend Public Online Tender Opening Event (TOE) on the above portal - Opening of Financial Part (Only for Technical Responsive Bidders).

For participating in this tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the above portal.

- 3. Digital Certificates.** For integrity of data and authenticity / non-repudiation of electronic records, and to be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC), also referred to as Digital Signature Certificate (DSC), of Class III, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].
- 4. Registration.** To use the Electronic Tender portal www.tenderwizard.com/AIIMSBBSR, vendors need to register on the portal. Registration of each organization is to be done by one of its senior persons vis-à-vis Authorized Signatory who will be the main person coordinating for the

e-tendering activities. In the above portal terminology, this person will be referred to as the Super User (SU) of that organization. For further details, please visit the website/portal, and follow further instructions as given on the site. Pay Annual Registration Fee as applicable. (Rs 2000+ GST as applicable)

Note.: After successful submission of Registration details and Annual Registration Fee, please contact to the Help desk of the portal to get your registration accepted/ activated.

- (a) The Bidder must ensure that after following above, the status of bid submission must become – “Submitted”.
- (b) Please take due care while scanning the documents so that the size of documents to be uploaded remains minimum. If required, documents may be scanned at lower resolutions say at 150 dpi. However, it shall be sole responsibility of bidder that the uploaded documents remain legible.
- (c) It is advised that all the documents to be submitted are kept scanned or converted to PDF format in a separate folder on your computer before starting online submission.
- (d) The Financial part/BOQ may be downloaded and rates may be filled appropriately. This file may also be saved in a folder on your computer. Please don't change the file names & total size of documents (Preferably below 5 MB per document) may be checked.

5. Bid submission. The entire bid-submission would be online on the Tender wizard portal i.e. <https://www.tenderwizard.com/AIIMS, Bhubaneswar>.

6. Broad outline of submissions are as follows: -

- (a) Submission of Bid Parts (Technical & Financial).
- (b) Submission of information pertaining to Bid Security.
- (c) Submission of signed copy of Tender Documents/Addendums.

The TECHNICAL PART shall consist of Electronic Form of Technical Main Bid and Bid Annexure. Scanned/Electronic copies of the various documents to be submitted under the Eligibility Conditions, offline submissions, instructions to bidders and documents required to establish compliance to Technical Specifications and Other Terms & Conditions of the tender are to be uploaded.

The FINANCIAL PART shall consist of Electronic Form of Financial Main Bid and Financial Bid Annexure, if any. Scanned copy of duly filled price schedule (Section VII) for both packages are to be uploaded. If required, additional documents in support of taxes, quoted duties etc may also be uploaded.

7. Tender Processing Fee. You pay processing fee (0.1% of ECV + GST as applicable (Min. 750/- & Max 7500/- + GST as applicable)) through online (Credit card/ Debit card/ Net Banking), when participating in the e-tender.

8. Public Online Tender Opening Event (TOE). The e-Procurement portal offers a unique facility for 'Public Online Tender Opening Event (TOE)'. Tender Opening Officers as well as authorized representatives of bidder(s) can attend the Public Online Tender Opening Event (TOE) from the comfort of their office(s). For this purpose, representatives of bidders (i.e. Supplier organization) duly authorized. Every legal requirement for a transparent and secure 'Public Online Tender Opening Event (TOE)' has been implemented on the portal. As soon as a Bid is decrypted, the salient points of the Bids are simultaneously made available for downloading by all participating bidders. The medium of taking notes during a manual 'Tender Opening Event' is therefore replaced with this superior and convenient form of 'Public Online Tender Opening Event (TOE)'. The portal a unique facility of 'Online Comparison Statement' which is dynamically updated as each online bid is opened. The format of the Statement is based on inputs provided by the Buyer for each Tender. The information in the Comparison Statement is based on the data submitted

by the Bidders. A detailed Technical and / or Financial Comparison Statement enhance Transparency. Detailed instructions are given on relevant screens. The portal has a unique facility of a detailed report titled 'Online Tender Opening Event (TOE)' covering all important activities of 'Online Tender Opening Event (TOE)'. This is available to all participating bidders for 'Viewing/Downloading'. There are many more facilities and features on the portal. For a particular tender, the screens viewed by a Supplier will depend upon the options selected by the concerned Buyer.

Important Note. In case of internet related problem at a bidder's end, especially during 'critical events' such as – a short period before bid-submission deadline, during online public tender opening event it is the bidder's responsibility to have backup internet connections. In case there is a problem at the e-procurement / e-auction service- provider's end (in the server, leased line, etc) due to which all the bidders face a problem during critical events, and this is brought to the notice of AIIMS, BBSR by the bidders in time, then AIIMS, Bhubaneswar will promptly reschedule the affected event(s).

9. Other Instructions. For further instructions, the vendor should visit the home-page of the portal. The complete help manual is available in the portal for Users intending to Register / First-Time Users, Logged-in users of Supplier organizations. Various links are also provided in the home page.

Important Note.: It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups and minimize teething problems during the use of the said portal.

The following 'FOUR KEY INSTRUCTIONS for BIDDERS' must be assiduously adhered to: -

1. Obtain individual Digital Signature Certificate (DSC) well in advance of your first tender submission deadline on the portal.
2. Register your organization on the portal well in advance of your first tender submission deadline on the portal
3. Get your organization's concerned executives trained on the portal well in advance of your first tender submission deadline on the portal
4. Submit your bids well in advance of tender submission deadline on the portal (There could be last minute problems due to internet timeout, breakdown etc).

While the first three instructions mentioned above are especially relevant to first-time users on the portal, the fourth instruction is relevant at all times. Minimum Requirements at Bidders end Computer System with good configuration (Min P IV, 1 GB RAM, Windows XP) Broadband connectivity. Microsoft Internet Explorer 8.0 or above. Digital Certificate(s) Vendors Training Program Necessary training to each and every registered bidder under this portal shall be impacted by the ASP, M/s. ITI, Bhubaneswar, if required, before participation in the online tendering.

For any further assistance, please contact **Mr Swadesh Bal (07008064095/ 07377708585)**, Helpdesk-011-49424365
ITI email ID for mailing communication: - twhelpdesk404@gmail.com/twhelpdesk680@gmail.com/twhelpdesk605@gmail.com.